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Health Communication Management: The Interface between Culture and Scientific Communication in the Management of Ebola in Liberia

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Dedication

Dedicated to: Mrs. Elizabeth Torshie Sackey, Carl Hermann and Edwin Tabiri-Butler

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BBC	British Broadcasting Corporation
BCT v1	Behaviour change technique version 1
CIA	Central Intelligence Agency
CDC	Center for Diseases Control and Prevention
CM	Community mobilisation
CNN	Cable News Network
DHPU	Director, Health Promotion Unit
ECCM	Ecological collegial communication model
EE	Entertainment education
ELM	Elaboration likelihood model
EPPM	Extended parallel process model
ETUs	Ebola treatment units
EVD	Ebola Virus Disease
FGDs	Focus group discussions
GMO	Genetically Modified Organism
HBM	Health belief model
HIV	Human immune deficiency Virus
IFRC	International Federation of the Red Cross
KAP	Knowledge, attitudes and practices
KGB	Komitet Gosudarstvennoy Bezopasnosti (Committee for State Security, former USSR)
MOHSW	Ministry of Health and Social Welfare
MSF	Médecins Sans Frontières
MMD	Message and Materials Development subcomittee
NGO	Non-Governmental Organisation
NHPD	National Health Promotion Division, Liberia
PMT	Protection motivation theory
PPCT	Person-process-context-time
PPE	Personal Protective Equipment
SCT	Social cognitive theory
SENTAR	SENsation seeking TARgeting
TRA/TRB	Theory of reasoned action/theory of planned behaviour
US DoD	United States Department of Defense
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
USA	United States of America
WHO	World Health Organisation

Chapter 1

Communication and culture of the 2014/2015 West Africa Ebola outbreak

1.1 Introduction

Pivotal to the management of crisis situations in general, and epidemics in particular, is strategic and effective communication that is capable of containing a crisis in a relatively short period of time. Time is critical, such that any try and error approach in the process of communication cannot be entertained, especially for diseases that are highly deadly with risks for global health security. Communication must, therefore, be appropriate, and capably prompt rapid changes in behaviours or ensure compliance with recommended procedures/guidelines for the reduction of losses. The importance of communication in prompting behavioural changes under such circumstances is a question of the nature of the content of messages to arouse both intrinsic and extrinsic information processing in people. This was not the case for the 2014/2015 West African sub-region Ebola outbreak.

The 2014/2015 West African Ebola Virus Disease (EVD) pandemic claimed a total of 11,310 lives out of the 28,616 confirmed cases as of December, 2015 (WHO, 2016). The disastrous nature of the outbreak and the intricacies of the ineffectiveness of messages and communication approach to compel voluntary changes in health compromising behaviours were significant. The continued deaths of people, particularly in Liberia were contemporarily illogical and inexplicable when perceived from the conceptual behavioural theory frameworks often utilized in persuasive communication interventions. From the continuous deaths experienced, it goes without saying that the conventional health communication processes and concepts in message framing failed for reasons of their irrelevance or inapplicability to the context of the culture for the management of the Ebola. The simple reason that one could think of as being accountable was the absence of meaning making in the information shared

among the actors in the outbreak. In the light of this, a context specific communication framework accustomed to the process of communication of the people was needful for the creation of shared meaning in communication (Fairhead, 2015). However, its consideration for adoption only came in late after incidents and deaths had become unmanageable with the conventional and mass communication processes (Böhnisch, 2016 – field data).

The need to avert such occurrences necessitated this research which sought to identify, understand, explain, determine, design and predict a contextual framework that could persuasively impact behaviour change in a relatively short period of time when an outbreak is occurring. The assumption of this dissertation is that behaviours and decision making about the behaviours have their logical orientations in the culture[1] of a people. Rationality and processes of decision making are a matter of the context and socialisation processes involved in the development of a person that could be literally referred to as culture. Decision making and behaviours are, thus, culturally oriented and changing them in a communication intervention requires approaches that are consistent with the culture. The reason being that as noted by Edward T. Hall, "*culture is communication and communication is culture"* (Rogers, Hart and Miike, 2002, p. 9). Simply put culture influences communication and vice versa, especially in terms of meaning making. There is, therefore, the need to identify and understand the interface between culture and communication in cognitive processes to information processing and in persuasive communication.

A systematic process and qualitative data analysis process in grounded theory was adopted for the research and the dissertation writing. Commencing the process was the identification and analysis of the problem from the perspectives of the challenges to the Ebola communication management. This was comprehensively identified from the fundamentals of the process of communication to the communication itself and was assessed from the motivational factors underlying the behaviours within which the rationality of the behaviours could be understood for their inflexibility to change or insensitivity to the Ebola messages. The moderations of the behavioural motivators in

[1] Definition of culture is provided in section 1.5 and conceptualised within the frame of this dissertation.

the cognitive processes to information processing were considered for their intrinsic and extrinsic values to arouse information processing and persuade change. To explore the interface between communication and culture in cognitive processes of information processing and decision making, literature on behavioural theories, including anthropological theories from which the processes and determinants of behavioural enactment are predicted were reviewed in chapters two to four. Intention (also used interchangeably in this dissertation as motivation) was unanimously construed as proximal in determining behaviours in the literature. However, intention was also construed to have linkages with other factors in the determination of behaviours.

Modelling for the interrelationships among the communication and information processing variables to persuading or not persuading change on the Ebola was undertaken with the aid of the MaxMaps of the MAXQDA Pro 2018 qualitative data analysis software. The modelling revealed community mobilisation as an essential element that effectively moderated cognitive processes in information processing in persuasive communication in the context. The identified importance of community mobilisation relates to its functional attribute as a system and process as in the theoretical frame of a scientific communication process. By superimposing community mobilisation on the framework of the process of the basic scientific communication model a context specific functional analytical communication framework was modelled. The model developed had been dubbed ecological collegial communication model (ECCM); the name of which is reflective of the context, process, and commonality of purpose among stakeholders in an intervention upon which the success of an intervention is dependent on.

The dissertation has been organised around eleven chapters with chapter one being the introductory chapter. Included in chapter one is the research problem, the formulated question(s) from the problem, objectives of the research and definitions of the key terminologies of the topic within their disciplinary and research conceptualisation perspectives and the need for this research. As already mentioned, Chapters 2 to 4 are a review of literature. The review covers explanations on the reasons why the commonly adopted theories and constructs that underpin message design and

implementation of most persuasive health communication interventions are incapable of arousing cognitive information processing and behavioural changes, especially during the Ebola outbreak. From the identified lapses of the theories, knowledge about what has to be included in a model to make persuasive communication effective became evident for inclusion in models of future communication interventions.

Subsequently, the dissertation turns to empirical process for gathering information that confirms or disconfirms the findings of the literature in Chapter 5. In this chapter, the thorough process of the research and the data sets, namely ethnography, focus group discussions and key informant interviews are discussed. Chapter 6 is a contextual presentation of some of the cultural aspects as background to the topics of relevance to the dissertation and serves as a prelude to the analytical sections of chapters 7 to 9. Chapters 7 to 9 present and analyses the data in correspondence with the research questions. Extracting from the data analysis and literature review, Chapter 10 models a realistic communication framework that would be capable of persuading behaviour changes in a persuasive communication intervention, especially for collectivistic cultural context. Assumptions for the viability of the model have been provided likewise the procedures and necessary tool that has to be combined in its adoption for use without which implementation ineffectiveness cannot be ruled out. Emanating from the above discussions and model development are findings or recommendations for future research presented in Chapter 11. This closing chapter also provides limitations of the research that has to be considered in the review of this dissertation for future research purposes. Following this broad overview on the content of this dissertation, the next section turns to the background of the research from which the questions of the research will be posited for the conceptualisation of a conceptual framework for this research.

1.2 Conceptualisation of the research problem - the key factors of the Ebola outbreak

A myriad of causative factors have been outlined and discussed by scientists in the fields of anthropology, medicine, social psychology etc. for the rapid and uncontrolled

spread of the 2014/2015 West African Ebola Virus Disease (EVD) pandemic (WHO, 2016). At the international level, especially in the USA, the disease is classified as one of a security threat (Wilkinson & Leach, 2014) to the developed world because of its destructive and biological weapon characteristics; namely, the short timeline within which the body of a victim degenerates and decomposes, the human to human mode of transmission and the associated high mortality rate of about 55 percent (Del Rio, Mehta, Lyon & Guarner, 2014). *The Economist* (2016) even reported of a higher mortality rate of 60 percent within 2014 - 2016. According to Wilkinson and Leach (2014), the perception and branding of Ebola as an issue of global security threat prompted President Obama to send 3,000 US troops to Liberia with the mandate of building hospitals and establishing a regional command centre in the country.

The problems discussed in the various articles by experts and schools of thought in the field and among international organisations such as the Médecins Sans Frontières (MSF), World Health Organisation (WHO), and the International Federation of the Red Cross (IFRC) are the unsafe traditional practices associated with burial of the dead and caregiving (WHO, 2015; Alexander, et al., 2015; Drake et al., 2015; Brooks, 2014; Fairhead, 2014; Richards 2014; Omidian, Tehoungue & Monger, 2014;) and mistrust of experts and health institutions (Fairhead, 2014; 2015; Allen and Lacson, 2015). Other problems cited are lack of/poor weak basic infrastructural services (Agyepong, 2014; WHO, 2015; CDC, 2014; MSF, 2014; Summers et al., 2014; Wilkinson & Leach, 2014; Hewlett, Epelboin, Hewlett & Formenty, 2005); slow international support (at the early stages of the outbreak); and poor communication and lack of community involvement (WHO, 2015; Omidian, et al., 2014). Although, the occurrence of the disease was in three different countries, but bordering on each other, the pattern of transmission and spread remained the same or similar due to the similarities in the culture of the people of these three countries. Different disciplines analyse the problem differently either from the economic, political, or social angle. This dissertation, however, classifies and discusses the background to the Ebola Virus Disease under the broad theoretical headings of structural violence/ weakness, cultural models (practices), and inappropriate risk communication approaches. Cultural practices and risk communication as pertain to health communication management

would play a central focus in the analogy. The central investigative question of the dissertation is:

> What are the inherent interconnectivities between culture and communication and how can the interconnectedness be harmonised to promote attitude and behavioural changes in the management of diseases during epidemics?

In brief, conceptualising the above within the frameworks of health communication management and behavioural change, the theoretical interconnectivity question between culture and communication that would be addressed in the subsequent chapters of the dissertation will place emphasis on the integrated topic of cognitive processes to information processing and its relations to communication or information sharing and behavioural motivations. From this theoretical approach, the integrated question about the element(s)/ factor(s) that generate shared meaning between health communication and culture to enhance information processing and arouse intrinsic motivations for behaviour change will be considered. For the output of this research, this will imply the identification of the essential elements in a culture's systems of values, beliefs, norms and practices together within their meta-theoretical functional properties from which shared meaning on information could be created and superimposing it on the frame of communication to enable easy information processing in cognitions. Also implied in the shared meaning is the idea of common knowledge or understanding of an issue which in this case is diseases (in terms of their categorisation and management approaches) irrespective of the background of actors in a persuasive communication intervention. Generally, shared meaning it is assumed is key to information processing, irrespective of the technical nature of the information and information sharing processes. In view of this, the identification of the elements by which shared meaning in communication is created is imperative. The outcome of such a conceptual framework should be a system for the for reliable management of epidemics such as the Ebola.

Having briefly explained the theoretical approach to the question, the dissertation now turns to the in-depth discussions on the challenges of the Ebola communication management, which is also the background to the whole dissertation. The presentation is carried out along the lines of the different schools of thoughts referred to as theorists

that evolved to provide reasons for the pandemic status of the outbreak. Emanating out of the background will be the questions out which the objectives for the dissertation will also be derived, working definitions propounded and the need for the research justified. Each of these will be presented as a sub-section of this chapter, but foremost is the discussion on infrastructural weaknesses and its perceived contributions to the challenges of the Ebola management.

1.2.1 Structural violence

Generally, structural violence as actually coined by Paul Farm (Pathologies of Power, 2005, as cited in Hewlett and Hewlett, 2008) propose that "Africans suffer from Ebola epidemics because of global and national political-economic inequalities, histories of exploitation, corruption and poverty" (Garett, as cited in Hewlett and Hewlett, 2008, p. 28). According to the structural violence proponents (Sprengler, Erwin, Towner, Rollin & Nichol, 2016; Wilkinson & Leach, 2014; Topka, Kaufmann, & Zanker, 2015; Brooks, 2014), the structural deficiencies (inadequate protective equipment, admission wards and basic medicines in health facilities, poor and inadequate access to social infrastructure such as roads, electricity, and clean water) prevalent in most African countries are responsible for the recurrence and spread of Ebola since the first reported case in 1976 (Del Rio, et al., 2014).

Liberia together with Sierra Leone are vulnerable, low-income, and post-conflict countries with weak public health and healthcare infrastructure. This rendered the above countries helpless in the containment of the Ebola Virus compared to Senegal and Nigeria (Abramowitz, et al., 2015). Structural violence can be argued as a causative factor for the spread of the recent Ebola outbreak in West Africa, especially in Liberia, but that cannot be said to be the major reason for the rapid spread of the disease. The reason being that the major infections occurred in the urban areas of Monrovia, Liberia and Conakry, Guinea (Childress, 2015) with relatively good infrastructure and not the deprived rural communities. In addition, the Ebola Virus Disease (EVD) continued to spread among health workers even when personal protective equipment (PPE) was made available due to the improper use of the

equipment (Pandey et al., 2014). This called for education on the use of the protective equipment for the "experts". Furthermore, it is also a fact that depending on the knowledge of and complexity of a given disease, infrastructure availability alone may not guarantee the effective containment of the disease if human behaviour does not change in relation to the dynamics of the disease. Notably, traditional medicine has a history in the culture of the people of Africa and serves as a major option for treating the sick, especially the poor prior to the Ebola outbreak (WHO, 2015; Green, 1999). The reliable use of traditional medicine in disease treatment makes the problem of inadequate infrastructure for the rapid spread of the disease debatable.

Also, countries such as Uganda with a relatively similar infrastructure development and poverty levels like that of Liberia have experienced the outbreaks of the Ebola disease with successful management measures. For instance, the 2000 Ugandan outbreaks, also adjudged the deadliest (224 fatalities out of 425 reported cases; Spengler et al., 2016 p. 956) at the time, compared to preceding outbreaks was contained relatively quickly; within a period of three months (de Vries et al., 2016). The successful containment was attributed to involuntary behavioural changes induced by compulsorily instituted and enforced governmental measures that compelled behavioural adherences. What this implies is that the level of health infrastructure development in Uganda was not accountable for the containment of the Ebola in Uganda. Similarly, the successful control of Ebola in 2015, a year on after its onset was attributed to coercive actions of the leadership of the three most affected countries, but not to improvement in infrastructure or voluntary behavioural changes (Nyenswah, et al., 2015).

The above indicates that infrastructure was not the problem to the spread, but the knowledge, attitudes, and behaviours of the people as influenced by social norms and values. The decision of the Liberian President, Sirleaf Johnson to mandatorily continue with the cremation of the dead through the government's cremation policy (irrespective of the cause of death) was critical and commendable for effective crisis management in the short-term. However, the act of cremation by the government or public policy approach that restricted behaviours was opposed by the people due to its incompatibility with the cultural and religious beliefs of the people. This encouraged

the practice of secret burials, an involuntary act toward the policy and, hence, the spread of the disease (Allen & Lacson, 2015). Allen and Lacson (2015) noted that the cremation (referred to as "burning bodies" or "crimination", p. 17) of the dead (a loved one) instilled fear in the people which made the people to avoid seeking treatment at health facilities if Ebola was suspected; the result was an aversive yielding reciprocity to the policy.

Psychosocially, coercion, as Bandura (1986) notes, induces compliance. Nevertheless, coercion results in undesirable consequences of aversive yielding or resistance as a reciprocity of individual/societal safeguards to manipulative influences. People normally revert to old forms of behaviour at the end of a disease outbreak, if they are unable to rationally understand, learn, and identify their behaviours as the causes of the disease to necessitate personal convictions to change (Betsch et al., 2015). This is because the use of coercion to compel change imposes limits on freedom and self-regulation or self-produced influence (to be discussed in detail in chapter two) in self-efficacy; a cognitive measure necessary for arousing behavioural change. Efficacy, as referred here, "involves a generative capability in which cognitive, social and behavioural subskills must be organised into integrated courses of action to serve innumerable purposes" (Bandura, 1986, p. 391). The martial law approach also falls short of other important elements of behavioural change needed for effective crisis management in the long term; namely, listening to stakeholders and giving of useful and practical statements for self-efficacy to the public among others (Ulmer, Sellnow, & Seeger, 2007). Following, cultural dynamism that modifies cultural values and beliefs for collective and voluntary enactment is pertinent to sustainable behavioural changes in the long term than martial laws (Pellecchia, 2015; Shannon, 2015; Omidian et al., 2014; Alan, 2014). Specific to the Ebola, infrastructural deficiency as a general and an age old problem had insignificant or no impact on the spread of Ebola.

Furthermore, it must be noted that diseases are a result of human behaviour (Agyepong, 2014; Glanz and Bishop, 2010; Funk, Salathe & Jansen, 2010; Quah, 2001; Lieban, 1977). Diseases could, therefore, also be better controlled through behavioural changes emanating from the sharing of understandable and appropriate information with the affected. However, as noted by DiClemente (1989) and Fisher

and Fisher (as cited in Fishbein & Ajzen, 2010) knowledge alone is not adequate to initiate changes in behaviour. Essentially, information has to be attuned to other determinants that motivate people to perform behaviour, such as personal and social motivations of behaviour to influence behavioural changes (Fishbein & Ajzen, 2010). Communication and cultural harmonisation factors are, thus, central to disease control and successful crisis management of any type, irrespective of the level and quantity of infrastructure availability.

In sum, the difficulties that were encountered with the management of the Ebola in West Africa and Liberia in particular, is more of a lack of understanding on the interconnectivity between cultural and scientific information for promoting behavioural changes and not mainly an issue of structural violence. A system of health communication that is intermediate to both traditional and scientific practices and embodied in the knowledge and experiences of both practices is a necessary requirement for the identification and management of diseases. Additionally, the combined approach of the two areas of practice is essential for ensuring effective and efficient epidemiological disease management and not necessarily the availability of infrastructure.

1.2.2 Communication deficiency

Communication and information sharing for that matter is essential for any disease control efforts (Rimal &Lapinski, 2009). The importance of communication, however, is seen in its ability to generate "mutual creation of meaning" (Bennett, 2013, p. 1196) between and among persons or actors of a communication process. As such information that is rigid (technical in nature) would fail to achieve its intended purpose of knowledge sharing in a communication process (Jandt, 2007) since common meaning would not be created or shared. In behavioural change interventions as an example, the information will thus not be able to produce changes in for instance beliefs and attitude systems so that a no-learning effect ensues. Such situations limit disease control management, especially in the long term. In addition to information rigidity, dissimilar socio-cultural backgrounds affect meaning making in a

communication process and impact outcomes of information sharing in a communication activity. Generally, the socio-cultural background of persons affects their understanding of information because culture impacts perceptions and cognitive processes to meaning making in communication (Jandt, 2007; Rogers, Hart & Miike, 2002). For this reason, words or messages may have different meanings to different people and impact the outcomes of a communication intervention. Such differential socio-cultural and linguistic aspects of communication were cited as significant in the challenges of the 2014/2015 Ebola outbreak management by the sociological, anthropological, and communication schools of thought. Following is the conceptualisation of the communication deficiency problem to the Ebola management by the aforementioned schools of thought.

Ebola is both an environmental and cultural disease rooted in human behaviour of entrenched cultures with different facets of manifestation at any point in time (Alexander et al., 2015; Moore, 2014, Hewlett & Hewlett, 2008; Stokols, 1992). The containment of such a disease cannot be achieved only through biomedical information sharing or technological development, but also through concerted changes in socio-ecological behaviour which is often difficult if not impossible to change in collective cultures (Chandler et al., 2015). Therefore, educational messages transmitted to create awareness and recommend changes in cultural practices such as those responsible for the spread of Ebola needed to be pragmatic, culturally sensitive (Betsch et al., 2015) or implementable and free of technical jargons (Abramowitz et al., 2014). In closely knit, mythological cosmologic and less educated societies, where information from interpersonal sources (no matter their credibility) is valued above credible external information, information shared to change behaviours during emergencies have to be factual, consistent, and confirm inactions (Betsch, et al., 2015; MacLeod, 2014; Ulmer, Sellnow, & Seeger, 2006). Weaknesses inherent in public information sharing due to their contextual inconsistencies undermine message effectiveness and hinder disease control or management activities.

In Liberia, the rapid spread of the Ebola could to a greater extent be attributed to the weaknesses inherent in media messages that were seen to be inconsistent, contradictory, and impractical. For example, the initial messages placed emphasis on

the avoidance of eating bush meat (Wilkinson & Leach, 2014). According to Wilkinson and Leach (2014), although, the first transmission case was one of a bat to human transmission, the message was considered misleading and was met with suspicion by the people. Abramowitz et al. (2015) reported that advisory messages on the Ebola outbreak on caregiving were viewed as contradictory and impractical by research respondents. The messages according to Abramowitz et al. (2015) were at one time dubbed "Don't touch" and at another "touch but use plastic gloves" (p. 11). Such messages, Abramowitz et al. (2015) noted, did not also meet the immediate needs of the social milieu where generally, healthy individuals functioned as caretakers of the physically weak. The messages were deemed contradictory and complicated, making no learning and no motivational effect to change to be observed, even though the people knew they were suffering and had to do something to change their behaviours.

One can infer from the discussion by Abramowitz et al. (2014) that the messages on health communication on Ebola were not responsive to the people's cognitive, affective, and culturally dependent motivational backgrounds to enable effective processing of the messages and enhance behavioural change (Betsch et al., 2015). Accurate, practical, and culturally relevant information instead of the standardized public health messages (messages developed at national or international level without the involvement of the local people) was needed for learning and effecting of behavioural changes (Chandler, et al., 2014). As Ulmer, Sellnow and Seeger (2006) noted, "Simply experiencing a negative event is not sufficient for learning" (p.142). The event alone is not enough to change behaviour. Behaviour can only change when individuals choose to learn from an event. This learning requires individuals to modify/change their value systems (e.g. cultural beliefs), norms and attitudes so that, in turn, their behaviour is altered. Clear, consistent, and honest information sharing and coordination is a critical communication component for any crisis management but these were deficient during the 2014/2015 Ebola pandemic. In sum, one can say that of the five qualities (credibility, engaging, involving, understandability and motivational incentives in their respective first, second etc. numerical order) (Rice, & Atkin, 2012) that influence message design, the fourth quality of influential message design, namely understandability was lacking in the Ebola campaign.

Understandability of a message according to Rice and Atkin (2012) refers to the "simple, explicit, and detailed presentation of content that is comprehensive and comprehensible to the receivers" (p. 9).

Furthermore, communication efforts were hindered by the mistrust of the people in both the government and scientific community in the approaches adopted to containing the disease. The mistrust limited the effectiveness of information shared (Allen & Lacson, 2015; Fairhead, 2015, Tokpa, Kaufmann & Zanker, 2015). The outbreak of diseases is not a new phenomenon; neither is Ebola a new disease. Local people have always devised means to combat the spread of diseases with available local knowledge and resources (Hewlett & Hewlett, 2008). The application of local knowledge in combination with scientific knowledge in complex situations such as Ebola is what one needs for effective disease control in structurally weak countries. Additionally, trust, an input variable in communication theories (McGuire, 1989) is also important for crisis communication management (Longstaff & Yang, 2008). As noted by Griffen et al. (as cited in Longstaff & Yang 2008), "all attempts to distribute information will be in vain if the people receiving it do not trust the message or sender of the message" (p. 2) as experienced during the Ebola. During epidemiological crisis, high levels of uncertainty and insecurity are experienced among people due to lack of information, information complexity, and/or information quality (Ulmer, Sellnow, & Seeger, 2006). In situations of uncertainty and insecurity, value systems of all kinds are threatened culminating into attitudes of resistance, involving denials or defensive behaviours (Williams, 2012) and mistrust. Under such situations, acts of resistance and mistrust serve as a rational and psychological approach to coping or managing fears and negative feelings (Bergstresser, 2015; Kok, et al., 2014; Rice & Atkin, 2009).

Cognitively and rationally, people try to understand and deal with problems based on their past experiences of a recurring problem or from experiences of a similar nature, which are also related to cultural values/practices and backgrounds (Betsch, et al., 2015; Fishbein & Azjen, 2010). These experiences serve as immediate sources of knowledge and background information through an automatic reactivation process when current and persisting events exhibit properties or characteristics of known past events. Accordingly, Bandura (1986) notes that behaviour causation is a reciprocal

interaction between personal and environmental forces of which past experiences serve as propositional knowledge in thought processes for the appraisal of capabilities to act and endure the challenges associated with the performance of the behaviour. The thought processes informed by past experiences enables the individual to form perceptions about his/her abilities and perform behaviour. Thus, past experiences from cultural practices and values do influence actions greatly because as Bandura (1986) notes "past experiences contribute to the development of knowledge structures and self-functions that influence perceptions, thoughts and actions" (p.16).

Additionally, an explanation as to how experiences inform behaviour or actions is also discussed by the three processes of belief formation of Fishbein and Azjen's reasoned action framework. Namely, observational (direct observation of the outcome of a performed action), informational (accepting information from an outside source), and inferential (relies on belief relevant to the behaviour under consideration) beliefs (Fishbein & Azjen, 2010, p. 221). Belief in this sense represents information people have about behaviours (Fishbein & Azjen 2010). Rationality in this sense as acknowledged by Fishbein and Azjen's theory is not that of people, but of their actions which follows from their beliefs. Furthermore, Connor and Norman (2005) noted that, cognitively, the decision to implement a given health behaviour, for instance, is based on one's knowledge/health link (risk awareness) about the behaviour (e.g., vaccination or seeking health services), which also informs the type of choices that a person makes. From the foregoing, the mistrust of the people in the outbreak region was, thus, rationally based on their inferences of past observations and outcomes of actions/inactions and knowledge. Considering the history of the country, mistrust in the people is to be expected. Communication should have therefore been designed more transparently and culturally oriented bearing in mind the historical issues to prevent the re-evoking of past emotions and reluctances in adherence to behavioural change information.

In particular, during the 2013 - 2015 Ebola outbreak, the dimensions and level of mistrust among the people of Liberia increased (Allen & Lacson, 2015). The foundations of the mistrust have historical and religious underpinnings, but were also heightened by conspiracy theories (Allen & Lacson, 2015) of information and reports

from credible and highly educated scientists denying the sources and causes of the Ebola. For instance, in an article published by the *Liberian Observer* (2014), a local newspaper, Dr. Cyril Broderick, a renowned university professor and plant pathologist in Liberia, published an article dubbed "Ebola, AIDS Manufactured by Western Pharmaceuticals, US DoD?" in which he debugged the notion on the cause of the Ebola as emanating from bats and monkeys or bush meat. Broderick's conspiracy theory has it that, Ebola is a genetically modified organism for use as a manufactured biological weapon by the US Military. In his elaboration on the point of Ebola as a GMO, he wrote:

> Horowitz (1998) was deliberate and unambiguous when he explained the threat of new diseases in his text, Emerging Viruses: AIDS and Ebola - Nature, Accident or Intentional. In his interview with Dr. Robert Strecker in Chapter 7, the discussion, in the early 1970s, made it obvious that the war was between countries that hosted the KGB and the CIA, and the 'manufacture' of 'AIDS-Like Viruses' was clearly directed at the other. In passing during the interview, mention was made of Fort Detrick, "the Ebola Building," and 'a lot of problems with strange illnesses' in "Frederick [Maryland]." By Chapter 12 in his text, he had confirmed the existence of an American Military-Medical-Industry that conducts biological weapons tests under the guise of administering vaccinations to control diseases and improve the health of "black Africans overseas." The book is an excellent text, and all leaders plus anyone who has interest in science, health, people, and intrigue should study it. I am amazed that African leaders are making no acknowledgements or reference to these documents (Broderick, C. 2014).[2]

The use of credible individuals for sharing information is not always beneficial to behavioural changes and has to be re-thought through in communication.

Another conspiracy theory held it that Ebola was a profit-making venture between the pharmaceutical industry and health officials. It was said that the Centres for Disease Control (CDC), USA had patented the virus in order to make great gains out of it.

[2]Sourced from http://www.liberianobserver.com/security/ebola-aids-manufactured-westernpharmaceuticals-us-dod on 26.06.2016

Notions were also circulated that human organs of patients were extracted and sold; cremation was, thus, used to conceal the dismemberment of the body (Abramowitz & Omidian, 2014; Belford, 2014; Omidian, et al., 2014). Others reported that the virus was engineered by the global elites to create a New World Order to rule the rest of the masses through quarantines, travel bans, and martial laws (Feuer, 2014). Conspiracy theories and the sources of such information in the media, thus, played a big part in misinforming and deepening mistrust in the people.

The writing and sharing of such messages in the mass media be it factual or propaganda has the capacity to command great followers even among the elite and build attitudes of disbelief, mistrust and hatred, just because of the credentials of its author(s), especially where s/he is considered to be fair-minded (Allen & Lacson, 2015). The believe that Ebola was a Western manufactured disease was responsible for the chasing out of researchers and some international support teams by the youth in some of the affected communities (Fairhead, 2014). The driving out of such assistance and support teams was based on the premise that the support teams were bringing Ebola to the people (Fairhead, 2014). Disbelief and misinformation were identified by Allen and Lacson (2015) in their research as contributing to the spread of the disease in Montserrado County at the initial stages of the outbreak. Three underlying reasons that were given by the research respondents for disbelief were namely, 1) similarities in symptoms of the disease common to the area; malaria (fever) and cholera (diarrhoea and vomiting); 2) beliefs in supernatural causes (to be discussed under cultural practices) and; 3) beliefs in conspiracy theories that circulated locally through interpersonal sources (word of mouth), local newspapers, or the Internet that Ebola was a man-made virus and/or a money-making scheme.

Politically, there exists mistrust in the government, making it unpopular even before Ebola broke out. The teams of medical scientists, health workers, and researchers who went in at the early stages of the outbreak did not also adequately communicate information on their activities with the communities. The withholding of information from the people aggravated the level of mistrust for the government in the management of the epidemic as there were beliefs among the populace of connivance between the government and the research teams to spread the disease (Fairhead, 2014). Rumours

became rife and excelled over facts and rationality as a natural reaction of human beings in situations of uncertainty.

Uncertainty and mistrust are not problems of the poor, but partly a result of limited communication (to be discussed in detail at later chapters of the dissertation). For instance, the US with its high intellectual society was not immune from the problems of inaccurate information and irrationality when the disease was transported into the country with two cases of health worker infections. Suspected individuals were quarantined as a control measure. However, the reaction of the population to the epidemic became one of politicisation and mistrust in the government as Kaci Hickox, one of the two infected individuals, broke her quarantine unofficially without medical clearance. Her case aroused panic and discussions on the spread of Ebola in the US (Bergstresser, 2015). Bergstresser discusses the US problem with Hickox as one of a "broader national failure in public health communication" with its placebo effect on attitudes and behaviour, which she identifies with the lack of trust in information disseminated through official sources. The writer also reports that a *New York Times* article of October, 2014 questioned the actions of scientific experts even in the US where it created anxiety and a broader phenomenon of public mistrust in the populace. Mistrust is, thus, not a problem of education, wealth, and institutions. It is about facts and ethics of communication by experts. Basically, mistrust enhanced the spread of rumours among the populace and building of resistance to the Ebola response teams as well as the denial of other experts to communities (Fairhead, 2014; 2015).

Amidst the rumours, messages on the EVD transmitted were seen to be couched in pictures and words of fright, thereby, failing to appeal to the conscience and behavioural changes of the people. Communication that is rooted in high levels of fear appeals fail to achieve the desired impact to effect behavioural changes (Kok et al., 2014). Fear appeals according to Mongeau (2013) increases the perceptions of threat on a message and motivates one to look for ways to avoid the threat either through fear control (defensive actions such as message avoidance) or danger control (problem-solving actions). However, fear appeals do not necessarily lead to behavioural changes if it is not balanced with efficacy factors. Mongeau (2013) noted that where fear appeal is high and assessment of one's ability to perform recommended avoidance action is

low, message audience engage in fear control by avoiding messages or fail to effectively process the message cognitively. Furthermore, Leventhal and Nerenz (1985) noted that fear appeals do not in the long-term impact attitudinal, intentions, and behavioural changes if specific approaches to dealing with the threat are not provided.

Empirically, continuous fear appeals fail to appeal to the conscience of the individual and the public in particular, since one gets accustomed and resilient over time to frightful scenes and develops attitudes of denial to manage the fear. Statements that create extreme fear are ineffective in changing entrenched minds in people (Abramowitz, et al., 2015) and negatively affect persuasive communication. The WHO (2015) labelled such messages as "public health messages that fuelled hopelessness and despair".

Similarly, Abramowitz et al. (2015) reported that in the study on the views of the people about the Ebola, community leaders mentioned that prevention was among the best practices or approaches listed for the management of the Ebola rather than the use of fear appeals. Among the recommendations made by respondents for the containment of the epidemic was training methods that would make public health messages more palatable and effective (by use of local languages, videos, door-to-door education or billboards). Overreliance on fear as an input in the communication approach impacted negatively on the persuasive outcomes resulting in an inverted U relationship between input and output, as referred to by McGuire (1989) in his input/output communication/persuasion model. What was needed was practical information to deal with cultural behaviours responsible for the transmission such as caregiving which was lacking. Accordingly, one of his research respondents remarked, "we have heard the messages but we do not know how to practicalize them" (Abramowitz et. al., 2015, p. 8).

Additionally, Omidian et al. (2014) in the findings of their focus group discussions on the perceptions of Ebola reported that all the interviewed groups complained of difficulty in understanding the government messages on the disease because the language used were technical in nature. English was the language used, which is,

however, not the basic language of the people, hence, the inability of the messages to achieve the necessary impacts even when acceptance for the reality of the disease was gained. Thus, the unappealing nature of the messages indicates a problem with health communication which was associated with the incomprehensibility of the messages. As a result, some output variables in the communication framework namel; storage, yielding, and information retrieval variables suffered. This raises questions about the relationships in the measures used in the communication which were not overlapping, thereby creating the distant measure fallacy problem of error in the communication. In this wise information provided through communication campaigns need to be clear (Seytre as cited in Osterholm et al., 2015), as well as accurate and devoid of frightening statements or pictures which can deepen mistrust and become less effective in the long run (McGuire, 1989). To this end, the problem of absence of interconnectivity between communication and culture could be said to be responsible for the mistrust and resistance to behavioural changes that fuelled the spread of the Ebola.

To conclude, the above communication deficiencies expounded could be said to be associated with a multiplicity of factors in communication; namely, information comprehensibility, credibility and consistency among others. Invariably, the discussions expose the failure of persuasive communication interventions to capably integrate information processing and meaning making variables for effective behavioural change arousals in the target audience(s) of a communication activity. From the above discussed communication factors in relation to the management of the Ebola outbreak, one can deduce the challenges of communication from the complexity of its disciplinary and interdisciplinary interrelationship with cultural factors as sets and subsets of each for meaning making in cognitive processes of information processing. Theoretically, the provided challenges of communication could be described in form of the signs and symbols of communication as an art and a process in information processing; identity influences on information sharing and trust building in the concept of social identity; and behaviours and their formation from the totality of systems prevalent in the environment of the person for meaning making and information processing. These perceived communication deficiencies in the Ebola management, attests that communication as a science and art is non-exclusive in the arousal of information processing and meaning making in cognitive information

processing of persons and people. Hitherto, in epidemiological situations communication has to be perceived and approached accordingly for the achievement of the desired outcomes.

1.2.3 Cultural models (values and practices)

The African culture strongly upholds the values of family members giving care to the sick and the provision of a befitting burial for the dead (Chandler et al., 2014; Fairhead, 2014; Baloyi, & Makobe-Rabothata, 2013; Hewlett & Hewlett, 2008). Unfortunately, the cultural values of caring for the sick and burial practices associated with the dead, an age-old tradition and art of expressing one's emotions to a departed kin, friend or neighbour became the main mechanism for the transmission and rapid spread of Ebola at its onset with disastrous consequences. Globally, besides serving as a moment for the expression of one's emotion to the departed soul and its family members as well as the paying of last respect to the dead, funerals also serve as a form of social interaction by bringing people from all walks and corners of life together. Typically, in Africa, funerals serve as important occasions for family members to come together and discuss family issues on land and heritage, settle disputes and undertake other transactions (Pellecchia, 2015). In addition, it serves as an occasion for fundraising to offset the expenses incurred by the family for the funeral and burial ceremony of the dead.

The significance of funerals and burials is explained by the African conception of death (state of transition from visible to invisible world) which is embedded in the African's perception of the world (King, as cited in Baloyi & Makobe-Rabothata 2013). These perceptions have philosophical, epistemological, and ontological foundations which inform the cultural system of the people in the performance of burial practices for the dead. According to Baloyi and Makobe-Rabothata (2013), the African's perception of the world has four dimensions;

- Cosmology (structure of reality); grounded in interdependence, collectivism and harmony with nature.

- Ontology (the nature of being and reality); recognition of spiritual bases of nature, one's existence and the universe
- Axiology, primary importance of human to human interaction as a value system
- Epistemology, system of truths and methods for revealing and understanding truth or generating knowledge.

Given the African philosophy and interpretation of death as the beginning of a new life (Baloyi & Makobe-Rabothata, 2013), burials for the dead will always, though subject to modifications adhere to practices believed to be befitting within the cultural context of given African groups, irrespective of epidemic outbreaks, because of its importance in the value system of the people (Richards, 2014).

1.2.3a Death and funerals

In West Africa, irrespective of status of the dead in society and cause of dead, certain rituals have to be performed to ensure the successful transcendence of the dead into the spiritual world of the ancestors. Failure to observe the procedures and sacrifices are believed in some tribes to lead to the eternal wandering of the spirit of the dead, who will angrily torment and undermine the well-being of the family (Fairhead, 2015). Various rituals such as washing and dressing the corpse, and lying next to/hugging, kissing, and touching the dead (Omidian, Tehoungue, & Monger, 2014; Hewlett & Hewlett, 2008) are practiced. Besides, some local rites also require touching the corpse for interrogation to discover the cause of death (natural death or sorcery) (Faye, et al., 2015; Bellmann, 1975). Other common practices include dining on the tomb of the dead by the grave diggers (Fairhead, 2014; 2015). These age-old traditional beliefs and customary practices or rituals were not suspended as the Ebola Virus struck the West African sub-region. A WHO Report (2014) noted that a number of secret societies after washing corpses bathe mourners or anointed others with the rinsed water from the corpses. Some prominent members of these secret societies understudied were said to have slept for days next to a highly infectious corpse believing that the powers in

the dead (especially for one of a higher order within the society) would be transferred to them. Through the adherence to such practices of the culture, family members continued to wash and dress the dead innocently without protective equipment, thereby exposing themselves to the infectious bodily fluids of their loved one(s). The main reason for the adherence was the avoidance of wrath incurrence from the dead.

Despite the scientific irrationality in the cultural practices, one cannot completely rule out that the rituals are wrong. The practices have scientific/rational underpinnings, which are, however, not understood by scientists to enable them to make meanings out of them and accordingly align their activities to the practices in the organisation of health communication programs. These cultural practices of remembering and honouring the dead, though risky, could be understood and explained scientifically by studying the political and organisational structure of African rural communities, especially the Kpelle in Liberia (See, Bellmann, 1975) and their cultural models for interpreting and healing diseases (see Green, 1999), which have worked in the past. Anthropologist such as Bellmann (1975), Hewlett and Hewlett (2008) and Fairhead (2015) explain some of the meanings of these cultural practices and why they continued during the epidemic.

Describing some rituals performed for the dead, Fairhead, (2015) citing the works of Bellman (1975), Germain (1947, 1984), and Holas (1958) provided a detailed account for the three countries of Sierra Leone, Guinea, and Liberia. His account provides an understanding of the importance of the rituals to the various ethnic groupings. According to Fairhead's description on Guerze/Kpelle traditions of Liberia based on Holas' account, funeral practices for an adult involves the washing of the body with warm water and soap (Ha wa), followed by covering the body with a white and non-patterned blanket. The touching of the dead is the prerogative of only initiated men and post-menopausal women who can touch the corpse without exposing themselves to danger. On the day of the burial, a second ritual of washing takes place and includes the re-clothing of the dead. This ritual is symbolic of wealth and the separation of the dead from the earth. Basically, the purpose is to help maintain the dead as an ancestor and thereby prevent the dead from being reclaimed as a spirit of the land. In the case of leading figures of the men's society (called Zogomou), the regional Zogomou head

must attend, examine the corpse to understand the cause of the death. The body would then be washed and placed naked in a hammock and showcased around the village, whilst those carrying the corpse fearfully ask "who will buy him?" The son or nephew is responsible for the purchase through the payment of a cow. Failure to pay would result in his death, except for the standing in of a chief as a form of intervention. The dead is then buried near one of the trees with known curative properties in the sacred forest. This partly explains the silent but fast rate of human-human infections, fuelled by doubts, rumours, and misinformation. The practices though divinatory in nature are symbolic for the transmission of transient information among the people. It could also be understood from the traditional psychology and communication models which are indirectly used to transmit information of economic and social importance among the people.

Furthermore, an understanding of the practices and behaviour of the people could be considered in terms of the perceptions of the world and meanings of death within the African context as has been briefly discussed above. In the African culture, death is not the end of life but a state of transition from the present world to the world of the unknown or spirit world, where one enjoins one's ancestry. Baloyi, and Makobe-Rabothata (2014) defined death as, "a natural transition from the visible to the invisible or spiritual ontology where the spirit, the essence of the person, is not destroyed but moves to live in the spirit ancestors' realm" (p. 235). Death is, therefore the beginning of another phase of life interconnected with the life of the living. The spirit realm in most African traditional belief systems is here on earth and not heaven (Baloyi & Makobe-Rabothata, 2014) or hell as in Christendom.

African traditional belief systems are unique, but, generally, they have it that the dead can bring blessings (wellbeing) or curses (suffering including sicknesses) on living family members and even the community if the proper rights for their relocation, dwelling, and status attainment (art of recognition and authority) in the spiritual world of their ancestors are not properly performed (Little, 1949; Schwab, 1947). For instance, among the Kpelle of Liberia, ceremonies performed focus on soliciting the spirit not to return to harm the living (Schwab, 1947), but to use their power to aid the living in their activities (Fairhead, 2015). Bellman (1975) noted that "spirits often

come to town to kill their own children in order to achieve a higher position in the spirit world by being able to rely on others who are of lower status than themselves" (p.132). For instance, unexplained deaths within a family are often associated with the living dead who come to kill their own in order to attain a status in the village of the dead.

The village of the dead is also structurally organised as that of the living. Fairhead (2015) notes that, it is the fear aspect of the wrath that the dead can invoke on the living that makes the adherence to the transcendence rituals very important even in the midst of the Ebola. Owing to such traditional beliefs and practices, mass burials and cremations as a safe and reliable method for ensuring the better management of corpses became a hindrance to the reporting of the sick to the appropriate health authorities because they were considered as non-dignifying and culturally unacceptable (Nielsen, et al., 2014; MSF, 2014). As a result, people hid the dead and secretly buried them, despite the communication activities carried out to educate the people (Faye et al., 2015).

The enculturation, transmission, and sustenance of rituals of fear limit the forces of scientific rationality, but serve as a form of coping or regulatory mechanisms in the society. Notwithstanding the above, it could also be said that the continuation of the rituals was valid as they have been successfully implemented and served their purpose in the past without problems. This is affirmed by Triandis (2002) who notes that "culture consists of ideas about what has worked in the past" (p. 3). It is, therefore, rational that such practices would continue, though proper information sharing aligned to the regulating of environmental issues could have ensured their modification during the Ebola outbreak, since culture is dynamic. The dynamism of culture is accounted for in Hewlett and Hewlett (2008) and post- Ebola actions of traditional healers in Liberia (Daillo, 2016). On the study of the 2003 Ebola outbreak in Uganda, a traditional healer insisted that Ebola was a disease of sorcery, but this traditional healer requested for gloves and other disinfection materials from their research team in order to protect himself from infectious patients (Hewlett & Hewlett 2008). The inconsistent behaviour of the traditional healer is a counter-attitudinal action to the traditional

healer's threatened values and self-image which in social psychology and in the work of Sherman and Gorkin (1980) is explained by the concept of attitude bolstering.

Following the concepts of attitude bolstering (see Bodenhausen & Gawronski, 2013) and cognitive dissonance (see Graham, 2011; Sherman & Gorkin, 1980), one can say that the threat to the image of the traditional healer will make him continue to deny the scientific assertion to the causes of Ebola to reduce dissonance. Nonetheless, constructive dialogue could elicit cognitive evaluations as a persuasive means to invoke attitudinal and behavioural change (Rosselli, Skelly & Mackie, 1995) in such persons. Constructive dialogue according to Rosselli, Skelly and Mackie (1995) involve fact-based information, including content-based processing routes (quality of message content that induces qualitative arguments), as well as emotional appeals (not necessarily fear). Accordingly, messages that provide traditional healers the opportunity to reflect argumentatively on their values is likely to cause future rational modification in attitude and behaviour. In so doing traditional healers would understandably or self convincingly inculcate scientific approaches (adoption of hygienic treatment measures) to their values in the treatment of patients. Thus, the mediation of communication and culture at their point of interconnectivity is essential to behavioural change and disease control.

Traditional healers can be said to be rational and ready (though not easily because of the self-image problem) to modify their actions and society as a whole if communication is dialogued and acculturated through the retention and production processes of enactment. This may be achieved within Bandura`s (1986) observational learning framework of the social cognitive theory. Observational learning also referred to as abstract modelling is, whereby, an observer extracts the common attributes exemplified in modelled diverse responses and combine them into rules for generating similar structural properties (Bandura, 1986). Observational learning and the parent topic of social cognitive theory will be discussed in more details in chapter two of the dissertation.

In the above discussions on death and funerals some insights have been provided on the processes involved in funerals generally and the role they played in the spread of

Ebola, not excluding their significance in the values and practices of the people. Although funerals were central in the transmission of the spread of Ebola, other cultural values and practices such as caregiving were also cited as significant in the spread of the disease. As a significant cultural value which is not only unique to the Liberian culture one may question the validity in the claims of caregiving as pivotal in the spread of Ebola. The following sub-section 1.2.3.2 will detail out caregiving in relation to the challenges it posed to the management of Ebola. The discussion is addressed from a rhetorical and philosophical discursive frame in order to ensure a proper understanding of the dynamics of caregiving in disease transmissions and control.

1.2.3b Caregiving

Caregiving is a natural and ethically responsible value and act in societies, especially, in collective cultures. Caregiving also became a victim of blame during the 2014/2015 Ebola outbreak. The act of caregiving according to Lund (as cited in Allen, 1999) entails the "very basic tasks of daily living such as dressing, walking, bathing toileting, and feeding, as well as grocery shopping, transportation, housework, preparing meals, managing finances, and administering medicine" (p. 5). Traditionally in Africa, family members (even the educated African with his/her "acculturated individualistic micro-culture") are responsible for the care of the physically weak - be it in the hospital or at home, including the aged. Caregiving as a social norm ("the common and accepted behaviours for a specific situation"(Schultz, Tabanico & Rendón, 2008, p. 386); or "the rules and standards that are understood by members of a group, and that guide and/or constrain human behaviour without the force of laws" (Cialdini & Trost, 1998, p. 152; Göckeritz et al., 2009)) and traditional practice in Africa has less to do with poverty or health infrastructure availability.

Caregiving is embedded in the African traditional perspective of the human person in relation to the structure of the universe as a communal interaction (Ogbonnaya, 1994) and the collective nature of the African culture (Betsch et al., 2015; Hofstede, 2011; Airhihenbuwa & Webster, 2004; Airhihenbuwa, 1995). This perception is translated

into the cultural values, norms and belief systems of the people. Africans, thus, conceive a person as a community grounded on the perception of the world as a community of interaction or communitarian (Ogbonnaya, 1994). The community is, therefore, within the person and not vice versa, which Obnonnaya (1994) refers to as the persona-community. The person is the embodiment of the community for promoting social equilibrium or harmony by honouring one's obligations to the "person selves"- community.

The positive act of caregiving practiced during the Ebola underlies the cultural sense of responsibility, solidarity, and selflessness in the African tradition as a way of promoting social harmony to help solve a problem of concern to society. In health psychology, caregiving as practiced in collective cultures is a form of social support. Conceptually, caregiving according to Lazarus & Launier (as cited in Gurung, 2014) can be understood as a form of coping mechanism that people use to tolerate stressful events. As a coping mechanism caregiving moderates and mediates the health and well-being of the people in reaction to stress, thereby promoting social harmony. The relational dynamism of the people in its cultural dimensions of caregiving were not exploited and appropriately communicated during the epidemic outbreak, making it to wreak havoc during the epidemic. An understanding and exploitation of the sense of communalism -"… commitment to interdependence, community affiliation, others and the idea of we" (Nwosu, as cited in Zaharna, 2016, p. 198), could have ensured the maximum cooperation of the people in the fight against Ebola.

Caregiving in the African collective system is an issue of morality which is the same as the term ethics in an individualistic system and has little to do with religion. For instance, to the Akans in Ghana morality implies human welfare of the society or doing good to others and not to a deity (Omonzejele, 2008). The failure of the people to discontinue with the provision of care for a sick relation or loved one during the Ebola would have constituted a violation of moral standards liable to social censures of varied forms. Social censures may include labelling a person as a witch and other forms of stigmatisation with dire socio-psychological consequences, not to mention the economic implications of the loss of a bread winner due to negligence in caregiving.

In terms of social psychology, the actions of the people had cost-benefits implications within the framework of social cognitive theory with respect to self-approval versus social censure in the light of risky situations and cannot be ruled out as non-scientific. Social cognitive theory is a causal model that explains the psychosocial functioning of people (Bandura 1988, p. 276). In the light of the social cognitive theory, the caregiving behaviour could be classified as rational. This is because the people in spite the risks cognitively assessed the implications of outcomes and expectations of caring for the sick within personal and collective wellbeing aspects. The considered variables in cognitions of caregivers may have involved 1) the ability to fend or support themselves in the absence of a bread-winner (perceived self-efficacy; judgements of what one can do with whatever skills that one possesses as per Bandura, 1986), and 2) the values and expectations of society of what is approved of and sanctioned by the society - the culture (Hofstede, 2011). From these considerations, the degree of influence of culture as a social censure in the behaviours (defiance to messages of not touching the sick and sending them to a health facility) to cognitive information processing could be explained and understood within some theoretical frameworks. The understanding, for example, is obtained when considered and addressed within Hofstede's uncertainty avoidance dimension of culture (Hofstede, 2011).

Uncertainty avoidance is a "society's tolerance for ambiguity; indicated by the extent to which a culture programs its members to feel either comfortable or uncomfortable in unstructured situations; situations that are novel, unknown, surprising, and different from usual" (Hofstede, 2011, p. 10). Cultures with high uncertainty avoidance scores minimize unstructured situations by "strict behavioural codes, laws and rules disapproval of other opinions, and a belief in absolute truth; there can be only one truth and we have it" (Hofstede, 2011, p. 10). Such characteristics were observed during the Ebola outbreaks. The cognitive processes and its costs and benefits analysis (consciously or unconsciously) of home-based vs. health facility-based care explains the continuous home-based caregiving of the sick that was medically discouraged during the Ebola outbreak. The behaviour of the people was, thus, a reciprocal of thoughtful processes.

Additionally, the characteristic of communalism as a mechanism for solving problems in Africa which include collective responsibility and cooperation (Allen, 1999) does also provide explanation for persistent caregiving for the sick at home. Collective responsibility is a traditional obligation, especially during crisis be it at the micro or macro level. One African expression that attest to and expresses the traditional value of collective responsibility is the expression "the child's hands are too short to reach a high shelf, but the elder's hands are too big to enter into a narrow gourd" (Zaharna, 2016, p. 199). For instance, medical professionals in the performance of their duties during the outbreak were seen to have acted inappropriately as they showed compassion by rushing to attend unprotected to patients who collapsed in the waiting rooms, thereby, getting themselves infected with the virus (WHO, 2015). In the execution of the professional duties of caring for the sick, these health care workers were, nonetheless, unconsciously overwhelmed by the traditional value of collective responsibility. Such actions are not understandable, not even to scientists because of their limited knowledge on communication, anthropology, gerontology, history and psychology and their interplay in crisis management, hence, the condemnation of the culture of the people as fuelling the spread of the epidemic.

Theoretically, caregiving in the context of communication science can be better understood by analysing the models of individualism/collectivism (Hofstede, 1980), methodological holism and, especially, Ritzer and Gindoff's methodological relationalism (as cited by Krog in Zaharna, 2016). Krog (as cited in Zaharna, 2016) contextualises methodological relationalism from the African context of learning "to read interconnectedness" (p. 195). Though relevant in discussions for explaining culture and behaviours, thorough discussions into these theories fall out of the scope of this dissertation. However, a brief on the theoretical explication of both Hofstede's individualism/collectivism model and methodological relationalism will be discussed.

Hofstede's (1980; 2001; 2011) individualism/collectivism model is a taxonomy of the dimensions of national culture, which he grouped into six dimensions. The model was initially developed to address the issue of cultural influences on values at the workplace, but has also been used in understanding the influences of cultural differences and their psychological processes in health communication (Betsch et al.,

2015). The dimensions are namely, power distance, uncertainty avoidance, individualism, masculinity, long term orientation, and indulgence versus restraint as an understanding of an organisational culture. Although, Hofstede groups culture into those of the individual and those of the group, his analysis of culture places emphasizes on the society. Collectivism he noted is "the degree to which people in a society are integrated into groups" (Hofstede, 2011, p. 11). In individualist's society "ties between individuals are loose: everyone is expected to look after him/herself or immediate family" (Hofstede, 2011, p. 11). On the other hand, in collectivists society "people from birth onward are integrated into strong, cohesive-groups, often extended family (with uncles, aunts and grandparents) that continue protecting them in exchange for unquestionable loyalty and oppose to other groups" (Hofstede, 2011, p. 11). Some characteristics of the collectivist societies mentioned by Hofstede are the "We"-consciousness and maintenance of feelings of shame that arouse in transgression to social norms. Collectivism implied is synonymous to interdependence (Betsch et al., 2015). The above characteristics, for instance, typical of many African societies, manifested themselves during the Ebola outbreak because of the functional relationships that exist among people.

Relationalism (Zaharna, 2016) "focuses on actual relations between the persons within the collective" (p. 195). The relations within the collective also influence functional behaviours performed within the broader society. Within these perspectives caregiving during the Ebola outbreak could have been scientifically analysed, dialogued, and communicated on commonalities or functional values of relationalism in collectivism and social cognitive theory. In this wise, an all embracing and appropriate health communication framework could have been developed for changing behaviours of the people and containing the disease in the countries that were affected by the outbreak.

From the aforementioned theories, it could be concluded that the challenges of care giving on the Ebola communication management and information processing in particular is philosophically associated with the psychological and social benefits that caregiving provides for the wellbeing of social systems. This implies that caregiving as a universally upheld value for the wellbeing of families and societies in general may continually be a hindrance to communication interventions of any epidemic outbreak

owing to its relevance for the functioning of social systems. As such, reliable and affordable caregiving options for the sick, including knowledge on professional caregiving should be considered for recommendation in a persuasive behaviour change communication. Furthermore, the probable caregiving options may have to bear characteristics with traditional forms of caregiving for given cultures to enable acceptance and ease of implementation.

Having referenced the need for caregiving options to bear characteristics with traditional caregiving forms, it is pertinent at this juncture to direct the discussion on caregiving specifically from its practice and preferential dimensions. This is as per the care and treatment seeking behaviours of people in the study area of the research and the challenges that the preferences posed for the Ebola communication management. The discussion is provided in section 1.2.3c below within the perspectives of ethnomedicine.

1.2.3c Reliance on traditional healers

Reliance on traditional healers was also cited as having hampered containment efforts and amplified the spread of the 2014/2015 Ebola pandemic. Traditional healers were the first points of contact at the onset of the disease and are also preferred over the health facilities (WHO, 2015; *Deutsche Welle*, 2014). The preference for traditional healers is basically because of the embedment of traditional medicine in African traditions and the availability, accessibility and reliability of traditional healers. According to Green (1999), 80 percent of health services in Africa are provided by traditional healers. Traditional healers and medicine as a tradition will not change with modernity. This is because traditional healing has been sustained partly due to its embodiment in cultural values and norms of the people and partly because of its availability, acceptability, and affordability (Airhinhenbuwa, 1995). For instance, 70 percent of Ghanaians use traditional medicine even though health centres are available to a large number of the population (Abdullah, 2011).

A closer consideration of traditional healing methods show that traditional healing is efficacious just like the biomedical medicines for some ailments and has been used since time immemorial in Africa and Asia. For instance, one Sampson Baffoe of Logan Town, Monrovia, confirmed to *Deutsche Welle* (2014) that he often uses the services of traditional healers when sick because from his experience and knowledge all the medicines are from leaves or roots; they have been used by their forefathers and have also proven to be beneficial.[3] Generally, even in the 21st century the urban and educated African rely heavily on traditional/indigenous medicine in the treatment of common ailments and resort to Western medicine (biomedicine) as a last resort (Gurung, 2014). For instance, Green (1999), referring to the works of Bibeau et al. (1980) and Fassin and Fassin (1988), mentioned that traditional medicine is an important component of the life of Africans. Owing to that urbanisation (an indicator of wealth, education, and economic growth) has not even seen to a decline in the reliance of the African on indigenous medicine. Rather indigenous approaches have undergone modification to include biomedical approaches. Traditional remedies for treating the sick include, "tree bark, leaves, nuts, juices, roots, and parts of domestic and bush animals" (Buseh, 2008 p. 191; Hewlett & Hewlett, 2008). Isolation of the sick from the rest of the community is also practiced (Hewlett & Hewlett, 2008). Success stories exist for remedies for many ailments and conditions such as deadly poisonous snakebites, respiratory ailments, abdominal pains and menstrual cramps and for high fevers.

In Liberia, traditional procedures may include magic, fasting or dieting, bathing, massage, and surgery. Blood application on the skin of patients to cure illnesses is also used by some traditional healers (Diallo, 2016). This practice became disastrous as the Ebola virus struck the country in 2014. The reasons for the scale of the calamity as caused by the traditional practices was because the disease was not known and had symptoms of already known diseases coupled with the denial of the reality of the disease. This made many to resort to traditional treatments instead of conventional medicine or biomedicine. As a result, some traditional healers who were treating Ebola patients from the local knowledge and approach, in the end died from Ebola just like

[3] Sourced from http://www.dw.com/en/traditional-healers-help-or-hindrance-in-the-fight-against-ebola/a-17834465 on 14.07.2016

their patients. A traditional healer, Zwana L. Dunnah of a village (Garmaymu), 50 kilometers away from Monrovia had this to say in an interview with the IFRC on the role traditional healers can play after post Ebola recovery. *"Some traditional healers died because they believed they could cure everything. But Ebola was completely different from the other diseases we treated before."* (Daillo, 2016). Having acknowledged that Ebola is different from other ailments, his post Ebola approach to healing has been modified to include the submission of an attest from health facilities of their Ebola status before treatment. This indicates that traditional healers acknowledge that there are limits to the healing powers or capabilities of traditional medicine just as biomedicine has limitations for healing certain illnesses.

Furthermore, there are different healers/specialists for different ailments which can be classified accordingly as in the biomedical sciences ranging from paediatricians, gynaecologists to orthopaedic and sorcery (Hewlett & Hewlett, 2008). Hewlett and Hewlett (2008) also mention that there are different cultural models for healing adopted by each specialist. Bellmann (1975), an American anthropologist who was initiated into the Poro Society of the Kpelle speaking people of Liberia, studied the group and their cultural models of healing. He recounts of different types of healers as there are illnesses. According to him, anyone can become a Zo (a healer), but one must show proof of knowledge and power which among the Poro society is referred to as "to know oneself" (Bellmann, 1975, p.40; Schwab, 1947). Accounting on how one can acquire medicine and powers to become a Zo, Bellmann provided a vivid account in a conversation with one of the secret societies head, Mulbah – a Snake society Zo, on how the man became a Zo. In his narration, he talked of going to stay for seven years in a different town other than his own, where he joined the Snake society there and learned all the medicines and purchased the head (fetish object containing the major leaves of the society) of the medicine by paying a price for it. He went on to narrate that anyone can purchase the head but one must know oneself. Knowing oneself, according to Bellmann, is "to have knowledge not only of the medicines shared by every Snake society, but also has his own as well" (Bellmann, 1975, p. 40).

The above narration shows that traditional medicines are learned, through apprenticeship, either by handing it over to a kin or interested members of the society.

This is comparable to the study of pharmacology at the university. Traditionally, the local people also acknowledge differences in medicines for different ailments. Interestingly, these traditional healers of the Poro society are also structurally organised in terms of their relationship with each other for the control and management of conflicts, just like the various pharmaceutical associations of the Western world – more details be can read from Bellmann's *Village of Curers and Assassins*, 1975 and Schwab's *Tribes of Libeiria's Hinterland,* 1947. In a related discourse with a fellow local apprentice, Bellmann indicated that it was admitted and stressed that no one can claim to be the repository of all medicinal knowledge– "…. You must never say that one Zo has more medicines than another, you only say that he knows. While one Zo knows some of the medicines, another knows other medicines; but you cannot say that one Zo's medicines are stronger than another. Have you ever heard of a Zo making a Porong (Poro) bush all by himself?" (p. 41).

Traditional healers experiment with their medicines on new ailments to ascertain their efficacy just as the testing of new drugs first on rats and then on humans in the Western world. From the discussions above, it is erroneous to misinterpret the preference for and use of traditional healers during the Ebola as backward or lack of scientific knowledge on the part of the people. The behavioural practices displayed are explainable if analysed within an ecological perspective framework. Theoretically, sense-making methodology, initially termed sense-making approach deals with how humans make sense of reality in the midst of discontinuities – gaps; information or knowledge within the concept of communication as a dialogue (Dervin, 1989). The main idea of the approach is related to cognitive processes of human beings and "…how people define and bridge gaps in their everyday lives" (p.77). It provides a scientific basis to understanding the rationale behind the reliance on traditional healers. In moments of need, people rely foremost on personal cognitive resources, followed by sources close to them. Credibility and expertise of a message source does not matter most in terms of the information, except the information proves unhelpful in its application. This is because people treat information as a means to an end and not as an end in itself (Dervin, 1989). If the means to the end has been proven worthy, it would continue to be relied on. This is what was experienced in the case of the Ebola outbreak.

The rationality in the preference of traditional healers over conventional medicine is also explainable in terms of the ecological accessibility of traditional healers and their pharmacological resources (tree barks etc.) to the people. There are also economic advantages of traditional healers over conventional medicine. This significantly contributed to the preference for traditional healers though the belief system was also a factor. Liberian's have a complex view of health and illness which is embedded in the belief systems of the numerous tribes in the country (Buseh, 2008). Belief systems have been maintained over centuries and are inextricably woven in the people and their perceptions on illness. The complexity with which health and illness is viewed is not understandable to non-indigenes. This is, however, not to say that there is just one belief system held by all in the country. There are differences, but as Buseh (2008) notes, there are unique characteristics and commonalities in belief systems that span across the tribes. One of the common beliefs is that "one's well-being reflects the strength and quality of one's connection to ancestral spirits" (Buseh, 2008, p. 192). This entrenched belief is reflective of the dependence of the people on traditional healers as first point of call when sick. The dependence also has linkages to the historical issues associated with infrastructure development in the country and the prevalent ecology of the country, where the natural environment (forests) provides the raw materials needed for making medicines.

Furthermore, the healing process(es) adopted by the traditional healers also makes them preferable to modern medicine. The process of preparing traditional medicine (some) in the presence of patients provides a first-hand experience which builds a sense of trust in the healers. Unlike the traditional medicine, the process of medication in conventional medicine is restricted to prescriptions with instructions on their administration. The individual processes involved in preparing the medicine remain unknown to the patient and does not promote observational learning and trust. Traditional healing in Liberia according to Osujih (as cited in Buseh, 2008) is one that incorporates a more person-centered approach in the healing process. This offers a form of observational learning within the framework of social cognitive theory compared to modern health care, making it also to be more attractive among the people. Descriptions of traditional healers by respondents of a research conducted by Green (1999) on the choice of treatment and faith in traditional medicine in Zambia,

indicated that traditional healers were referenced as “sympathetic, more likely to keep confidences and more accessible than modern health workers” (p.168) by the survey participants. It could be admitted from the above that traditional healing practices have practical use for learning and trust building that is interwoven in the African culture and that of the Liberian for that matter.

Misunderstandings of the international community on traditional medicine as a form of environmental science and ecology in particular which is modelled in belief systems for the understanding of human interactions, perceptions and management of the environment of the people also impacted the management of the Ebola. The misunderstandings contributed to the poor communication that saw to the spread of Ebola. Additionally, the misunderstandings are responsible for the lack of consultation and collaborative efforts between scientists and traditional healers. The belief among scientists that care delivery that is not grounded on a scientific approach is “quackery” (Liverpool et al., 2004 as cited in Buseh, 2008, p. 194) affected the approach (one-way mass mediated transmission) and content of communication messages used in the Ebola campaigns. More often than not, communication campaigns according to Dervin (1989) and Devin and Frenette (2001) are organised with the conception of communication as transmission and not dialogue. Thereby information become the preserve of some observers, dubbed, “experts” that has to be transmitted to a non-knowledgeable audience (“empty bucket” or “information poor” (Dervin, 1989, p. 72 and p. 74 respectively). The problem from their perspective stems from the conception of information-as-description instead of information-as-construction, which calls for dialogue in communication.

Information-as description means that it “has a known, testable descriptive relationship with reality and can be separated from observers” (Dervin, 1989, p.72). Information-as-construction assumes that “information is created by human observers, is inherently a product of human self-interest, and can never be separated from the observers who created it” (Dervin, 1989 p. 72). Thus, if stakeholders dispassionately or objectively learned from each other (through dialogue; sense-making), shared and communicated openly, the containment of Ebola could have been a success within a relatively short period of time. Lower mortality rates would, therefore have been recorded. For

instance, biocultural models exhibit characteristics of information-as-construction that makes them useful tools for communicating behavioural changes (Hewlett & Hewlett, 2008). Knowledge and understanding of these biocultural models could have been explored, adjusted, and incorporated in the Ebola educational campaigns to enhance Ebola information sharing and communication during the outbreak.

In the above subsections, the discourse on the respective challenges to the management of the 2014/2015 Ebola outbreak have been presented. This dissertation however, will focus more on communication frameworks within the dynamic theories of psychology, persuasion and behavioural change and their interface with dimensions of culture for the understanding of approaches to effective and sustainable epidemic management by scientists or experts in unique collective cultures. Consideration will all the same be given to the issues inherent in the discourse of evolutionary cultural anthropology and its contributions to health communication management.

1.3 Research objectives

Having analysed the causes of the rapid spread of the Ebola Virus Disease in Liberia within the context of communication and culture, the overall aim of the dissertation is, thus, to a) discover and understand the interrelatedness and zone(s) of convergence between scientific communication and culture and b) develop an applicable culturally sensitive or ecological paradigm that builds on other paradigms of communication to support and improve epidemic health communication management such as the Ebola in complex social settings. The specific objectives are to

- To understand the socio-cultural patterns prevalent in Liberia and their interconnectivity with the health behaviours of the people,
- To discover the sources of information and knowledge on health-related issues, especially Ebola in Liberia,
- To ascertain the content and nature of messages transmitted on the Ebola Virus Disease and understand the role these messages played in shaping the

perceptions and behaviours of the people in relation to health communication messages in general and Ebola in particular,

- To describe the new patterns of culture(s) that might have evolved in the communities and among the people as a result of the Ebola outbreak and understand the pattern of these changes in reshaping the culture of the people in the future,
- To understand how scientists communicate and manage health issues in epidemic situations and the challenges faced by scientists in communicating health information to people under specific cultural settings,
- To develop a conceptual framework that will add to the body of knowledge on theories underpinning the social diffusion models for behavioural changes and the expansion of scientific communication in intervention measures for epidemiological outbreaks.

1.4 Definitions

Following the background to the problem of the research, a working definition of the main words in the topic of this dissertation, namely health communication and culture will be considered. The working definition is a summary of the relevant definitions from literature of the two terms. Health communication is derived from the words health and communication, which are also areas of individual scientific disciplines. However, the theory of health communication is derived from communication, making it necessary to understand the meaning of communication.

Communication has been variedly defined by many authors. The most significant and acceptable definition which would also serve as the basic definition for this research is the interactive view of communication conceived by Cronen, Pearce and Harris. According to Cronen, Pearce and Harris (1982) communication is “a process through which persons create, maintain, and alter social order, personal relationships, and individual identities” p. 64 (as cited in Boylorn & Orbe, 2016; Heath & Bryant, 1992, p. 30). From their perspective communication should concentrate on how humans

attempt “to achieve coordination by managing the ways messages take meaning” and contended that “persons collectively create and manage social reality” (Heath & Bryant 1992, p. 30). Thus, a structure or functional system must be that through which reality can be made and meanings shared or created. The emphasis of the definition is on the processes used for creating meanings through interaction, which will serve as an input into the working definition of this study.

Pearson and Nelson (1991) define communication as “the process of understanding and shared meaning” (as cited in Schiavo, 2014, p. 6). Impliedly communication in which the communicating parties do not share a common meaning (to the information) or one party is unable to understand the other is no communication; as such messages shared in a communication must be understandable.

Health communication with its root in communication has been defined variedly by a number of authors and organisations such as Schiavo (2014), Thomas (2006), and Centers for Disease Control and Prevention (2010). According to Thomas (2006), health communication as extracted from the *Health People 2010 guidelines* “encompasses the study and use of communication strategies to inform and influence individual and community knowledge, attitudes and practices (KAP) with regard to health and healthcare” (p. 1). The field represents the interface between communication and health which is increasingly recognized as a necessary element for improving both personal and public health.

The Centres for Disease Control and Prevention simply defines health communication as “the study and use of communication strategies to inform and influence individual and community decisions that enhance health” (CDC as cited in Schiavo, 2014: 6). This definition is limited because it is inconsistent to the tenets of communication as a two-way dialogue. The definition does not acknowledge the importance of health behaviours as rooted in culture. Health communication interventions designed on the basis of this definition which only provides information to the target individual or community cannot achieve the required outcomes if cultural factors are not incorporated into the interventions.

Schiavo (2014) elaborately defines health communication as:

> "a multifaceted and multidisciplinary field of research, theory and practice concerned with reaching different populations and groups to exchange health-related information, ideas and methods in order to influence, engage, empower and support individuals, communities, healthcare professionals, patients, policymakers, organisations, special groups and the public so that they will champion, introduce, adopt or sustain a health or social behaviour, practice or policy that will ultimately improve individual, community and public health outcomes" (p. 5).

Explicit to Schiavo's definition is its emphasis on the objectives of any health communication activity; to engage, empower, and influence individuals and communities. Mention is made of actors and the exchange of information in the definition. Nonetheless, the relational framework between and among actors in terms of engaging connotes one in which a knowledge gap exists between a privileged few and the masses which has to be bridged through a one-directional system or top down approach to communication. The definition could be said to be deduced from the approaches to health communication. It is comprehensive and exposes the widely used strategies to health communication interventions globally. Culture as an integral part of health which interacts with communication vis-à-vis the interactive use of culture to achieve communication outcomes is not highlighted in the definition, hence the failure of some interventions, especially those requiring urgent short-term changes in behaviour.

From a health psychology background, Matsumoto (as cited in Gurung, 2014) defines culture as "a unique meaning and information system, shared by a group and transmitted across generations, that allows the group to meet basic needs of survival, by coordinating social behaviour to achieve a viable existence, to transmit successful social behaviours, to pursue happiness and well-being, and to derive meaning from life" (p.10). This definition brings to the fore the essence of culture not only as classificatory mechanism of people and their ways of living, but also expatiates on the reasons for the actions – survival and well-being, found within or among people of a

given culture. Survival and wellbeing being basic to human existence is essential for understanding behaviours among a group of people.

Wolcott (1994) in his attempt to show that culture as a form of education is acquired and not transmitted writes that culture was first defined by Tylor in 1871. He defined culture as "…that complex whole which includes knowledge, behaviour, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" (Tylor, 1871 as cited in Wolcott, 1994, p. 1725). Culture according to Geertz (as cited in Christians and Nordenstreng (Eds.) (2014 p 148) is "a historically transmitted pattern of meaning embodied in symbols, a system of inherited concepts expressed in symbolic form by means of which men communicate, perpetuate and develop their knowledge about attitude towards life". Quoting Bennett (1980), Faniran writes that "in the most general sense of the term, culture consists of the patterned relations among the basic beliefs, values, and behaviours that organise social interaction and communication" (as cited in Christians and Nordenstreng 2014 p. 148). Thomas (2006, p. 60) also writes that "culture encompasses the values, norms, symbols, ways of living, traditions, history and institutions shared by a group of people. Cultural traits he mentioned affect the ways people perceive and respond to health messages and materials, and are intertwined with health behaviours".

Based on the above definitions, the working definition for the key terms in this research will be as follows;

Health communication management: a system(s) of interactive processes for coordinating communication strategies to explain, inform, exchange and improve health related knowledge, attitudes and practices for the achievement of a desired state of well-being or objective(s). In a more contextual perspective, health communication is referenced as a functional system for sharing and persuading change on health compromising behaviours in the population/people.

Scientific communication: the framework (mass media /entertainment-education) for understanding, communicating and explaining health phenomena or sharing of health information with the public aimed at changing health compromising behaviour.

Emphasis here is on communication that systematically informs, explains and makes information understandable and conformable/acceptable to the knowledge/practices of a target audience to intrinsically motivate and persuade the target audience to identify or align itself positively or favourably to the information. Thus, scientific communication on health is one in which health communication is considered as a process able to access and apply the approaches to information sharing, including knowledge on a health phenomenon in a given environment to elicit alternative health enhancing behaviours and promote good health.

Culture: the process of patterned relations of beliefs, values, traditions, behaviours and institutions that fundamentally determine the forms and organisations of social interaction and communication in relation to public health issues. More precisely, culture is considered as the meanings or ways by which reality is explained, understood and accepted by a group of people or person and by which life decisions revolve.

Having provided the working definitions that should guide the understanding of discussions of the dissertation, the next section formulates the questions to be addressed.

1.5 Questions formulation

The research questions will first be formulated by analysing the definitions of public health communication and how it informs and impacts on health communication, as well as their underlying theories and psychosocial models used in health communication.

Thomas (2006) defines communication as "the transmission, or exchange of information and implies the sharing of meaning among those who communicate" (p. 1). Pearson and Nelson (as cited in Schiavo, 2014), on the other hand, define communication as "the process of understanding and sharing meanings" (p. 6). Central to the two definitions is the parameter shared meaning, which is essential for communication to be successful. Thus, communication in which the parties do not

share a common meaning cannot be said to be communication. Health communication has also been defined variedly using the attributes of what health communication is supposed to achieve as outlined in Schiavo (2014). Namely; inform and influence; motivate individuals and groups; change behaviour; create understanding and increase in health knowledge/ empowerment; information exchange; and engaging. Some of the above attributes are also manifested and complimented with other elements in the process of information transmission and processing on the definition of public communication campaigns. However, the attribute of information exchange (two-way dialogue on ideas, techniques and knowledge between senders and receivers – Schiavo, 2014) is often absent in most health communication programs, which is reflective of the one-directional nature of information sharing. The reason can be attributed to the perceptions and attitudes held by the senders (source) of information as "a reservoir of health knowledge." The credibility aspect of the information source as an essential variable is over-emphasized, thereby making limited room for sharing and learning from both ends of the communication system.

Public communication campaigns according to Atkin and Rice (2012,) is the "purposive attempts to influence behaviours in large audiences within specified time period using an organised set of communication activities and featuring an array of mediated messages in multiple channels generally to produce non-commercial benefits to individuals and society" (p. 1). The above definition suggests the existence of a knowledge gap which has to be bridged through a one-directional planned process of information or knowledge transfer. The definition reflects Dervin's (1989) information model of information-as-description which assumes a separation between the observed (audience) and the observer (message source); a top-down approach to information transmission. This perception which is rather the common approach used in most disease prevention programs at the macro-level pre-supposes that knowledge on preventive health and behaviour is the prerogative of a few elite professionals. Such pre-supposition and campaign approach irrespective of the channel used is subject to failure (Dervin, 1989; Dervin & Frenette, 2001) if the goal of the campaign is aimed at changing behaviours underpinned by collective beliefs, values, and norms. The reason being that opportunities for both the observer (sender) and the observed (receiver) to make meanings out of each other's perceptions and learn from it for the

common good of all is not provided. The outcome is that the audience also develops defensive behaviours as they feel dominated and controlled in the one-directional communication approach.

Hitherto, health communication/campaigns tend to be mostly grounded on McGuire's input/output matrix on communication; the theoretical foundations of which is aimed at changing behaviour, and from the social cognitive model which focuses on cognitions as influences of behaviour and behavioural change; "…influential causal contribution of thought processes to human motivation, affect and action" Bandura (1986, p. xii). The information processing matrix examines resistance as an outcome to persuasion by considering the variables and factors necessary for communication to be successful. McGuire (1981) communication/persuasion model (input/output matrix) provides the popular conceptual framework for explaining how the various aspects of information function or interrelate within the communication process to effect changes in attitudes and actions. The model is shown in figure 1.1 below.

INPUT: independent (communication) variables **OUTPUT**: dependent variables (Response steps mediating persuasion)	**SOURCE** Number Unanimity Demographics Credibility	**MESSAGE** Type appeal Type information Inclusion/omission Repetitiveness	**CHANNEL** Modality Directness Content	**RECEIVER** Demographics Personality Lifestyle	**DESTINATION** Immediacy/delay Prevention/cessation Direct/immunization
1) Exposure to the communication					
2) Attending to it					
3) Liking, becoming interested in it					
4) Comprehending it (learning what)					
5) Skill acquisition (learning how)					
6) Yielding to it (attitude change					
7) Memory storage of content and/or agreement					
8) Information search and retrieval					
9) Decoding on basis of retrieval					
10) Behaving in accord with decision					
11) Reinforcement of desired acts					
12) Post-behavioural consolidation					

Figure 1.1: McGuire's input/output matrix (original) (McGuire, as in Rice and Atkin, 1989, p.45)

The framework shows the approach to construct the communication (input variables) and the fundamental information processing stages that the target audience must undergo for the desired change to occur (output variables). The theory assumes that the effectiveness of any campaign is subject to the existence of a systematic sequence of steps as outlined in the matrix, the absence of which communication will not result in the intended change(s). The inputs are the independent and manipulative variables that aid in the achievement of the desired impact of the communication, whereas the outputs are the dependent factors by which the impacts can be measured. The input variables source, message, channel, receiver, and destination and their respective subdivisions need to be well managed for communication to be effective.

The proper management of the input variables is necessary to avoid the presence of "noise" within the transmission process, thereby ensuring that the sender and receiver encode and decode the message rightly and initiate the necessary change actions. According to the matrix, persuasion and its attendant behavioural changes involve communication of new information from an external source. Alternatively and radically, as McGuire (1989) noted, persuasion can also occur from within (self-persuasion). This involves the activation of already existent information in the cognitions of the person with supportive information, which heightens the salience on the core issues of the existent information forming the person's belief through the raising of questions about related beliefs. Thus, persuasion involves not only the communicating of new information, but also the activating or recall of acceptable existing ones necessary for the required change to occur.

In the 2014/2015 Ebola Virus Disease containment, cultural practices in the form of traditional burials, caregiving, and traditional healing limited the effectiveness of the public health communication efforts owing to the perceptions and values the people have for these practices. The persistence of these cultural practices in the midst of the dangers of the epidemic can be attributed to weaknesses in some input variables, the classic one-directional conception of information sharing and the failure to activate local knowledge (e.g. quarantines) to disease control. The way in which communication is mostly defined (one-directional; sender to receiver and not bidirectional) was evident in perceptions and conduct of international health experts

who contributed in the conception and design of the broadcasted health messages. The credibility of health experts as reliable information sources was not effective to persuade attitude and behaviour change because of the command and control nature of the communication approach. This approach did not allow for the integration of local knowledge and expertise in message design. Nonetheless, in a crisis of the nature of the Ebola, the one-directional approach to communication at the initial stages could be argued as being rational and appropriate given the morbidity and mortality levels reported. However, there was a need for modification and change in the approach as the main courses of the spread were identified to be those associated with cultural values and norms. But the perceptions of source variable (scientist/experts) as being the "reservoir" of knowledge and information on the containment approach hindered the incorporation of local/anthropological knowledge for the maximum achievement of the health communication goal of persuading the people to change their behaviours. The attractiveness of the source was partial.

Additionally, the message variables with respect to the delivery style (language), types of appeals (high levels), and information types (emphasis on "what" rather than "how") were considered inappropriate by the people. The messages did not interact harmoniously to evoke comprehension and skill acquisition in the information processing matrix. This is because the messages were judged as being technical and incomprehensible to the lay person and could not adequately persuade the people to change their attitudes and behaviours. Among the channel factors (media) audio verses visual, spoken verses written words etc. were conceptually utilized but did not necessarily make the people to respond positively by yielding to the messages and change their behaviours. A critical look at receiver factors also shows that the educational characteristic of the people was inadequate to enhance comprehension and agreement in the content of information and search for information for storage and retrieval. The last but not the least, destination factors deals with target behaviours (cultural practices) to be addressed in communication with respect to the duration of expected impact (short verses long term) and ideological issues to be changed (specific or whole system of ideologies) or change in existing belief systems. The inability of communication to target specific ideological and belief systems, owing to the cultural peculiarity (collective and entrenched) of the outbreak region evoked limited impacts

on responses to Ebola communication. Thus, responses needed to ensure long term behavioural change reinforcement and consolidation was not attained.

McGuire (1989) admitted the shortcoming of the input/output matrix as being unable to evoke the responses in the information processing matrix sequentially as outlined because audiences may look for shortcuts in decision making. Nevertheless, the conceptual framework is very much context-specific (O'Keefe, 2004). It has limited functionality when adopted for persuasive health communication in cultures, where collective beliefs, values, and norms are generally upheld and protected. Therefore, the functionality of the model does not easily render easy for general operationalisation in collective cultures. It could be said to be a context specific framework to personal/individual health communication. Additionally, given the admission of the validity of the model on self-persuasion theory (persuasion from within through the activation of already existing information - McGuire, 1989), persuasion anchored only to new external information which excludes existing latent cognitive ones as depicted by matrix is likely to achieve only minimum impact. An understanding of the interplay and interconnectivity between culture and scientific information within the model and its operationalisation in the social learning theory would make McGuire's persuasive communication matrix more responsive to health communication management in collective cultures.

From the discussions on a popular persuasive communication model often used in health communication interventions and its application to the Ebola communication strategies, one discovers that the input/output matrix is partially predictive of behaviour change. Additionally, the input/output matrix is essential in helping to understand communication as a process made up of different stages. However, the outcomes of communication in the model, being the intension to change behaviour works better at the individual level and in the short-term. Inadvertently, the model does not render itself easily to implementation in situations where behaviours are rooted in values, are enacted collectively and require long term changes. Thus, health communication goal achievement is not maximized when the model is used in developing health communication interventions in collective cultures, especially during epidemic outbreaks or crisis management. The exclusive utilisation of the

concept of the model without combining it with other persuasive behaviour change concepts such as the social learning theory, protection motivation theory, theory of reasoned action approach etc. limits the adaption of McGuire's model to geographical regions of the West. The limitation is found in the model's inability to help in explaining and generating understanding on how cognitive and environmental issues, as well as anthropological aspects of behaviour interrelate with standard scientific procedures to inform and determine behaviour.

In collective cultures, health communication that is premised on a participatory compatibility commons of communication/operative commons[4] process or approach to public health communication would be more reliable and sustainable in promoting behavioural change and disease containment than a one-directional health communication process. Identifiable and commonly held context-based meanings on the dimensions of beliefs, values, norms, and perceptions of disease between scientific experts and local experts (traditional knowledge sources – healers) are keys to disease control in collective cultures.

Cognisant of the shortcomings of the popular health communication framework above which informs all kinds of health communication interventions and the problems that fuelled the spread of Ebola, the dissertation posits that:

> in collective cultures, a dual interrelated and multi-staged health communication approach focusing on the interplay of the dynamics of scientific and socio-ecological dimensional context of disease control is more efficacious and sustainable in promoting attitudes and behaviour change for pandemic disease containment.

The research assumes that if scientists/health experts and the general public share a common culture (perspectives/ notion, values and norms) of an identified disease and communicate the containment of the disease based on the principle of the identified cultural commonalities and dynamics of the disease, management of the disease will

[4] Implied here are variables common to both sender and receiver in the information system.

be effective compared to where divergent views of the disease are held and communicated inaccurately, inconsistently, and insensitive to culture;- communication convergence dialogue to diseases. This principle assumes that information alone is not enough to change behaviours toward a disease, rather:

- the identification of the disease in conjunction with cultural patterns of disease management and good communication about the disease in a scientific and culturally acceptable manner embodied in cultural motivations and persuasions (outcomes of interest as both in the individual and the society in aggregate) that ensures the implementation/initiation of actions will curb or control the disease.

- The superimposition of culture and scientific information of the disease into a common disease unit/function embodied in the cultural models of disease can promote effective cues of action central to any disease control, if scientific information is shared accurately, consistently, and in a culturally sensitive manner.

In health communication and disease control efforts, the interaction between the cultural models and the biomedical models of a disease and the unification of the models into a coherent whole that enhances health communication management in disease control is therefore essential.

The research questions

The World Health Organisation (WHO) has published general guidelines (Annex 2: WHO Outbreak Communication Guidelines, WHO/CDS/2005) (WHO, 2008) on communication for the outbreak of epidemics of all kinds, including the Ebola Virus Disease. The guideline is developed on and in reference to risk communication literature, which lays emphasis on processes of information exchanges and the need for dialogue between the communicator and the message recipient as an approach to effective communication. However, the guidelines are strongly developed on the medical decision-making approach (values of available treatment options are mainly

determined by personal values and preferences of the decision maker, Betsch et al., 2015). Additionally, risk communication borrows from various disciplines of communication, psychology, sociology, anthropology, and political science with the focus on information presentation, strategic messaging, and persuasion as constituents to effective communication. It borrows from theoretical models such as theory of reasoned action and planned behaviour (Ajzen & Fishbein, 1980), extended parallel process model (Witte, 1992), and the heuristic-systematic model (Griffen, Neuwirth & Dunwoody, 2002). The risk communication literature includes the need for communicators to address cultural issues in risk communication, but the details on how this should be done (process) and what cultural variables should be considered are vaguely or simply mentioned and not discussed. Although, risk communication provides a useful scientific overview to effective communication, it is also more limited to organisational crisis than to public health.

The overdependence on risk communication literature by the WHO in the preparation of the guidelines for communication during epidemics is rational. However, it is likely to be offset with difficulties in terms of behavioural changes because the complexities and dynamics involved in behavioural change are not thoroughly discussed in risk communication. The WHO (1997) technical guidelines on Ebola did not have a section on communication except for the brief mentioning in part of the inclusion of cultural elements, local beliefs in health education, and ensuring close community cooperation under section 3.2 - Surveillance. This shows that much focus of the work on epidemics controlled by the WHO focuses more on the biomedical aspects than on culture and communication. The 2005 guidelines, published over a decade before the recent Ebola pandemic, does incorporate cultural factors in communication during emergencies. The effectiveness of the guidelines seems to be region specific (works better in the Western world than in the developing world). Stakeholders including health workers, policy makers, and the media have been trained and advised to adhere to the guidelines to enhance or reduce the spread of the disease during outbreaks.

Despite the knowledge and use of the guidelines for communication during the Ebola, lifestyles did not change to ensure the control of the disease within a relatively short period of time.

1) Can the problem be blamed on the absence of medical anthropologists in outbreak efforts or on the risk communication framework which does not detail out cultural discussions in detail in the guidelines? Specifically, the analytical question to address here is what communication management system was used for communicating Ebola information and how was it used to organise the communication process and outcomes?
2) Given the scientific basis, credibility, and accuracy of the information found in the guidelines and the call on control teams to ensure information accuracy and the inclusion of appropriate cultural elements and beliefs in health education campaigns, the question one may ask is why were the guidelines unable to help in the rapid containment of the 2015 Ebola pandemic? That is, a) what were the contents of message design for the Ebola intervention program and b) what motivated the people to abide by or reject the messages conveyed in the campaigns and why were they motivated
3) Did the information available in the guidelines inform and guide the messages used by the media in Ebola intervention campaigns and how were they able to persuade behavioural changes? Simply put, what were the content and design of the Ebola awareness programs? Analytically, the question will explore what cultural indices/elements were exploited and how they can be incorporated in biomedical public health communication program
4) what was the common grounds between scientific communication and culture in the Ebola communication management?

Other sub-questions within the above that this research will seek to answer are;

- How culturally appropriate were the messages?
- What were the understandings of the people on the messages and how were the messages interconnected with cultural values, beliefs, and norms.
- What motivated the people to abide by or reject the messages conveyed in the campaigns and why were they motivated?
- How were entertainment education used as a social diffusion model in communication under situations of mistrust and uncertainty to effect behavioural changes?

The research questions above arising out of the discussions have been formulated along the guidelines provided by the WHO in the intervention and disease control measures for all kinds of epidemics which were also referred to in the case of the Ebola. The utilisation of the guidelines is for the understanding of the effectiveness of the Ebola campaigns in the context of culture and communication by experts for disease control management.

1.6 Justification

Taxonomy of literature on health communication abounds, but the majority deals with negative individual lifestyles that have with time increased in magnitude making them to become public health concerns. Most of the existing literature covers health communication for health problems associated with nutrition (Atkin and Marshall, 1996, as cited in Salwen and Stacks (Eds.), 1996; Glanz, Rimer & Viswanath (Eds.), 2008; Conner & Norman, 2015), smoking and alcoholism (Atkin & Marshall, 1996; Glanz, Rimer & Viswanath (Eds.), 2008; Conner & Norman, 2015); drug abuse (Atkin & Marshall, 1996), vaccinations (Glanz, Rimer & Viswanath (Eds.), 2008; Conner & Norman, 2015) and HIV/AIDS (Atkin & Marshall, 1996; Conner & Norman, 2015). Studies on Ebola and communication have been carried out, but on a limited scale. The most vivid publication on Ebola is the works of Hewlett and Hewlett (2008). However, given the professional background of the scholars, the analogy of the whole publication was anthropologically biased with little mention of communication discussed from an anthropological perspective. Fairhead (2014) and Leach (2014) among others have done studies on the recent Ebola outbreak. The emphasis of their works just like the work of Hewlett and Hewlett (2008) provides insight into an understanding of the challenges and reaction of the people from the anthropological discipline. The theoretical or conceptual underpinnings on the behavioural motivations in the outbreak are, however, not mentioned in the discussions for the identification of constructs, methodology, and their relationship with behaviour that has to be targeted in interventions (Michie & Prestwich, 2010).

A closely related work on Ebola, culture and communication has been published by Allgaier and Svalastog (2015) in the Croatian Medical Journal. The discussion of the paper focuses on the efficiency of communication being dependent on local context issues (local knowledge, beliefs, and communities adapted to treatment plans as per local needs and environments instead of standard biomedical approaches). The paper is a follow-up on the recommendations already made in the works of Hewlett & Hewlett and Fairhead. It can also be referred to as empirical generalisations and explanations to reasons for the ineffectiveness in the Ebola communications with little or no testable academic theories or concepts. Communication inefficiencies were discussed along the line of social media as channels for the spread of rumours and misinformation, including conspiracy theories that hampered Ebola communication efforts. The paper is silent on conceptual or theoretical frameworks upon which a research has to be organised.

The absence of a conceptual framework for understanding the integration of local contexts in communication does not permit the systematic verification of the interrelationships within variables, their determinants, and outcomes. Nothing was discussed theoretically or empirically on the interactivity between culture and scientific communication. The discussion was more of a recommendation for the inclusion of cultural issues without mentioning even the specific type of cultural components to be included in health communication to make communication effective. The inability of the paper to address detailed theoretical issues can be justified on the limited number of published pages (four) making up the whole article. The number of pages invariably limits the amount of scientific knowledge and analogy necessary for a comprehensive scientific work. Thus, the paper does not render itself to scientific verification by others simply because no theoretical concepts or framework was discussed to facilitate the understanding of the mechanisms that promote change which has to be defined and developed to improve theory (Michie & Prestwich, 2010).

Similar to the work of Allgaier and Svalastog (2015), but more scientifically addressed, is the review paper of Betsch et al. (2015). Culture-sensitive communication according to the authors is; “the deliberate and evidence-informed adaptation of health communication to the recipient’s cultural background in order to

increase knowledge and improve preparation for medical decision making and to enhance persuasiveness of health promotion" (Betsch et al., 2015, p. 3). The premise of the article is that "the congruency between the recipients' cultural characteristics and the respective message will increase communication effectiveness" (p. 1). The focus of the paper is on the interplay between medical decision making and health promotion vis-à-vis the information or message and cultural background of the information recipient. Medical decision-making approach (values of available treatment options are mainly determined by personal values and preferences of the decision maker) (Betsch et al., 2015) was discussed as the approach often used in health promotion, which hinders the effectiveness of health intervention programs. The limitation of the medical decision-making approach is that it relies on the assumption that there is no other best alternative to treatment except that preferred by the decision maker and can be biased.

The adoption of such approaches to communication aimed at persuading the recipient limits the effectiveness of health communication. This is because in the development process of the person, some knowledge is informally acquired either through personal experiences or references existent in the cognitions of the person which motivates and guides actions. Thus, the authors call for a match between health communication and cultural differences to enhance the effectiveness of health promotion programs. The proposed approach to communication is the use of factual information based on medical science (e.g., treatment and preventive measures) as the basis of information while behaviour, social, and communication science process is adopted to message and information design.

The argument of the paper is that the effectiveness of communication assessed by message comprehension is an issue of the way in which cultural differences are taken care of in the message framing or design which determine the message effect (changes in attitudes, intentions, and behaviours). The function of information processing in message effect is, therefore, moderated by individual and cultural differences of the recipient. Using McGuire's input/output matrix information processing to communication, cultural differences will have to be considered in the channel, message, and receiver inputs to induce the output steps two (2) and three (3) for

comprehension and the subsequent steps to occur which the paper refers to as the cultural infrastructure of the message (Betsch et al., 2015).

Furthermore, the paper discusses the effectiveness of communication as the interplay of decision making and culture based on the cultural congruency hypothesis. The paper also emphasizes the importance of developing a structure for including evidence-informed cultural values and beliefs in health communication. The model used, however, is not the popular information processing model to communication, but still shows how culturally sensitive information achieves the aim of health communication (changes in attitudes and behaviour to lifestyle that impacts on the health of the individual). Additionally, the paper outlines the psychological models of culture and discusses the theoretical concepts in perceptions of health, attitudes, and risk as a function of culture and calls for more evidence-based research for culture-sensitive health communication. Nonetheless, considering the given definition of cultural-sensitive health communication, the focus seems to be more directed at the individual than the group and to standard day-to-day health communication than to the health communication of a pandemic nature. The inclusion of cultural information (treatment and preventive measures such as isolation) in communication which is also factual and useful is considered in the process to communication. The tendency of this conception can limit the effectiveness of the approach when adopted in communication programs for groups who exhibit ego-defensive characteristics of behavioural changes. The need to extend the feasibility of the approach in collective cultures is timely.

Emphatically, the authors noted that although there are recommendations for the inclusion of evidence based culturally sensitive communication, there is currently no model that integrates cultural theories with health behaviour theories and behaviour change (Betsch et al., 2015) for the prior prediction of the effectiveness of communication strategies across cultures. Thus, this dissertation will be useful as a supportive work to culture-sensitive approach to communication and disease control with reference to both collective and individual cultures. The supportive work would be in the area of showing how interest outcomes in the collective manifest in cognitions to persuade or motivate behaviour individually and collectively, both in individualistic or collective cultures.

Another publication on cultural approach to health communication is the work of Brown, Nasiruddin, Dao, and Halabi (2015). The central reference of the publication was on the use of pop culture or music on social media for educating the people on Ebola and the prospects it has over traditional information channels. Similarly, other information one finds appraises the importance of social media in information dissemination. A more recent study is that of Fung et al. (2016), which considered social media and its importance for public health practitioners. Eleven (11) articles from six (6) social media databases were collected and evaluated using standardized form. The paper emphasizes the channel aspect of communication and does not enable one to understand how the information used in the channel is processed to evoke behavioural change.

Trad, Jurdak and Rana (2015) as their contribution to the literature on Ebola communication write about the use of SMS texting as a communication approach to help Ebola patients to be able to locate a health facility for treatment. Extensive information on how to organise communication on Ebola can be found on the project website of Health Communication Capacity Collaborative (HC3) (Health Communication Capacity Collaborative, 2015). The HC3 is a five-year, USAID funded global project designed to strengthen the capacity of developing countries in the implementation of the state-of-the-art social and behaviour change communication (SBCC). The numerous researches on the use of social media in health communication show the new trend in communication as aligned to modern communication media. The literature, given the nature of the project is more on toolkits for implementing behaviour change activities and not a framework for a scientific research which should show the relationship between constructs and how the refinement of variables in the constructs would lead to corresponding changes in behaviour to inform intervention design. Though literature on Ebola communication is available, the literature does not answer the questions on the aspects of culture and communication and their commonalities for effective communication.

The novelty of this dissertation is the use of the scientific approach (theories/concepts) to the understanding of culture and communication on the recent Ebola pandemic. For

instance, the need for the development of context specific communication is emphasised by Alexander et al. (2015). The authors observed and concluded in the "key learning issues" that essential to the effective management or control of disease outbreaks is the development of context specific information gathering and communication tool(s). "Information collection and communication remain a challenge in resource-poor settings and specific strategies and tools will need to be developed to allow rapid identification and response within the context and constraints identified in the local environment" (Alexander et al., 2015, p. 20). Although discussed mainly from the environmental and health science perspectives, the findings are of utmost relevance in persuasive communication in general. Given that no such study has been conducted in detail for the understanding of the interconnectivity between scientific communication and culture in the management of epidemics such as the Ebola makes this research worth undertaking.

Moreover, leading anthropologist working in Sub-Saharan Africa such as Hewlett and Hewlett (2008) and Fairhead (2014) have openly called for the incorporation of anthropologist and cultural models to disease management programs. The clarion call made, especially by Hewlett and Hewlett almost a decade before the recent outbreak, has not been heeded. The absence of research in this direction is responsible for the general pattern of difficulties encountered in the management of Ebola each time an outbreak occurs. As the first comprehensive research of its kind, this dissertation would contribute to understanding and expanding the knowledge base about social diffusion models and their appropriate integration in health-related campaigns by scientists for the better management of Ebola outbreaks in complex cultural systems.

Furthermore, the dissertation would add to the body of scholarly works on health communication management by designing a practical and realistic conceptual framework for health communication on sporadic and complex epidemiological diseases, such as Ebola.

Above all, the research is a topic of international relevance to policy makers and institutions such as the WHO owing to the nature of the transmission chain of the disease and its associated socioeconomic and political implications. Additionally, the

research would enable international institutions to better understand and appreciate the process and intrigues of culture and scientific communication for the making of appropriate policies and reshaping of intervention measures. For instance, the WHO would be able to re-design precise and realistic culturally-appropriate intervention measures for disease control by moving away from its broad and general prescriptive intervention guidelines that is evoked and modified abstractly, for all kinds of reported epidemics.

1.7 Conclusion

Following from the dissertation background, objectives and questions as well as working definitions, the focus of the dissertation will consider health behaviour as mediated and motivated by cognitive processes of group values and norms in social identity. Within this, cultural systems or social structures function as institutions to positively determine, affect and effect behaviour in health communication interventions for the conceptualisation of the functional relationship between communication and culture.

To identify and understand the framework within which health communication interventions are approached and conceptualised in the frame of this dissertation, the preceding chapter will discuss some of the relevant broad theories of behaviour change used in health communication to the understanding of behavioural rationality or motivations. Some of the selected theories are operationalised in the frame of the Ebola outbreak to check for contextual application consistencies and generalisation. Additionally, the modelling of the concepts is to enable the theoretical understanding to behavioural motivation dynamics in information processing within the complexities and interrelatedness of psychology, sociology, anthropology, and communication in behavioural motivations (realities) and behaviour change approaches. In so doing, a multidisciplinary perspective or meta-theoretical approach to the Ebola epidemic would/could be conceptualised and modelled for generalisation and effective health communication in collective cultures.

Chapter 2

Theoretical frameworks consistent with the 2014/2015 Ebola outbreak health communication approaches – A discourse

2.1 Introduction

In this section the various theoretical frameworks consistent with the various communication approaches adopted in the management of the 2014/2015 Ebola outbreak are discussed. Explicitly, it must be noted in the introduction to the discourse that the communication approaches of the 2014/2015 Ebola outbreak were, from the initial to the mid outbreak phase[5], not consciously based on or aligned to a specific scientific or theoretical communication framework[6] (Boehnisch, 2016 – field data), hence, this discourse. The need for the discourse is to provide a theoretical background for understanding the complexity and weaknesses of the various communication models often adopted in health communication and their misfit to different social systems and specifically the context of this research.

Health communication theories and interventions have been greatly influenced by psychological theories that explain and predict the pattern of health behaviours and social marketing approaches (McLeroy, et al., 1988). Health behaviours is "any activity undertaken by a person believing himself to be healthy for the purpose of

[5] According to the Ministry of Health and the Incident Management Unit for the Ebola Outbreak, the Ebola communication underwent different stages/phases that correspond to epidemic trends or outbreak timeline- see graph of the outbreak timeline in the Appendices. Three main phases of the outbreak are seen between March 2014 – May, 2015, the fourth phase, could be considered to be the containment stage, thus limited or low to zero transmission, to the date (9 June, 2016) of declaration of the country as Ebola free. This information was made known to me during the field data collection.

[6] The above was explicitly stated by two of the key informants (Rev. John Sumo, Director, Health Promotion Division, Ministry of Health Liberia and Hon.Tolbert G. Nyenswah, Deputy Minister of Health and Head of Ebola Incident Management System and Coordination Unit, Liberia).

preventing disease or detecting it at an asymptomatic stage" (Kasl and Cobb, 1966, as cited in Conner & Norman, 2015, p. 2) and Rosenstock (1974, p. 349). The underlying assumption of the psychological conceptual frameworks to the study and prediction of health behaviours is that "…causes of death is due to particular behaviour patterns and that these behaviour patterns are modifiable" (Conner & Norman, 2015, p. 1). Premised on the above assumption, psychological health behaviour change models emphasize the importance of cognitions or thought processes in the centrality of behavioural causation although thoughts interrelate with other variables to determine behaviour.

Social cognitive models are causal models of behaviour which help in the understanding and prediction of health behaviours by showing the relationship between the performance of health behaviours and health outcomes. Socio-cognitively, human behaviour is said to be a function of the interaction of cognitive, other personal, and environmental factors (Bandura, 1986). The interaction of the three determines behaviour in form of capabilities. Likewise, anthropology uses cultural parameters in the interpretation/explanation and prediction of health behaviours by focusing on cultural variables (social values, norms, beliefs etc.) as foundations of thoughts that determine and affect health outcomes. Though cross-cutting or overlapping in nature health behaviours and outcomes are analysed differently by different disciplines which also informs the approach adopted in health behaviour change intervention efforts. Critically, one can say that thought processes in the performance of behaviours are what the different disciplines tackle in their theories of health behaviours.

Following, the theoretical models characteristic of the communication approaches (intervention approach) adopted during the Ebola outbreak, their predictive applicability, and the associated behavioural patterns that were elicited are described and discussed. The models in the intervention approaches are broadly discussed under the three major thematic areas of psychological models, ecological/cultural models, and communication or information theory, with this chapter devoted solely to the psychological models.

2.2 The psychological / behaviour science models

The psychological models, also termed social cognitive models, that are widely used to predict health behaviour changes are the health belief model, the dissonance theory/social cognitive theory, the theory of planned behaviour/theory of reasoned action, the protection motivation theory, the elaboration likelihood model, the health action process approach, the trans-theoretical model of change (stage models), and the precautionary-adoption process. Of these models, only the much researched and applied whose characteristic foundations were present in the 2014/2015 Ebola communication framework are considered and operationalised below. These are the health belief model, the protection motivation theory, the social cognitive theory, and the theory of planned action or reasoned action. The selection resonates from their predictive capability to change behaviours as identifiable in the intervention measures utilised to psychosocially motivate and direct behavioural changes and their functional relation in the information gathered during the field study. In the following, the basics of these four models will be introduced.

2.2.1 Health Belief Model

The health belief model (HBM) is the foremost of all models developed in health behaviour change studies, originating in the 1950s and 1960s (Schiavo, 2014; Gurung, 2014; Rosenstock, 1974) and developed to explain preventive health behaviour (Rosenstock, 1974). The model has also been applied widely in the 1990s on risky behaviours to health including those of HIV/AIDS studies (Abdissa, Lemu & Nigusse, 2014; Schiavo, 2014; Zhao et al., 2012; Baghianimoghaddam et al., 2010; Mattson, 1999).

The HBM as a predictive behaviour change model functions as a decision-making model characteristic of the value-expectancy theory where decisions are made under situations of uncertainty to avoid negative outcomes in values or reduce threat (Kirscht, 1974; Maiman & Becker, 1974; Gurung, 2014). The model aims at the provision of new information on risky health behaviours in order to minimize risks

(Schiavo, 2014; Pechmann, 2001). Central in the model is the idea of information or knowledge as an essential variable to changing behaviour. Knowledge is seen as one of the important prerequisites essential for behaviour change, although knowledge alone is insufficient to behaviour change (Schiavo, 2014). The lack of knowledge is responsible for unhealthy behaviours or lifestyles (Singhal & Rogers, 1999; O'keefe, 1999; MOHSW Liberia, 2016). The HBM was unconsciously (from research data, message design was not necessarily informed by a theoretical framework) adopted in the early phases of the 2014/2015 Ebola outbreak to elicit behavioural changes.

In the model, the performance of an action by an individual to change a behaviour and prevent disease is subject to the perceptions/beliefs that the individual holds in relation to his/her likelihood/possibility of contracting the disease (perceived susceptibility or subjective risks); how serious the disease is considered to be (perceived severity); benefits that would be gained from taking action to reduce susceptibility to or prevent the disease (perceived benefits); barriers that may impede efforts at taking action in the light of weighing the costs against the benefits (perceived barriers), and triggers or prompts that move the individual to take action (cues to action) (Rosenstock, 1974; Abraham & Sheeran, 2005; Schiavo, 2014; Gurung, 2014).

The explanation and relationship among the various dimensions of the model is provided in figure 2.1 below.

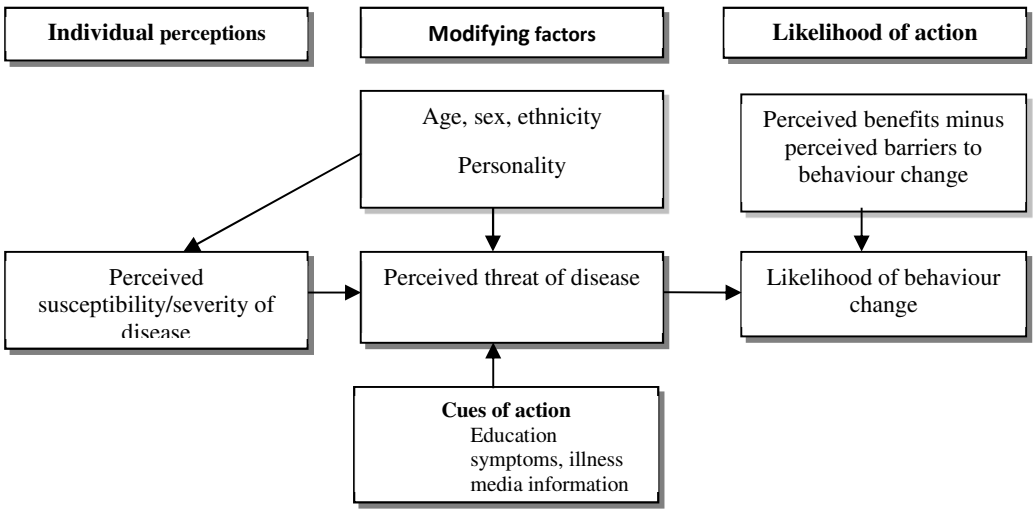


Figure.2.1: Health belief model: Extracted from Rosenstock (1974) and Baum et al. (1997)

From the model, the decision to change a health compromising behaviour is subject to the beliefs about the threats of a disease and beliefs in effectiveness of behaviours that need to be performed to reduce the threat. Important to the enactment of action in a particular direction is the subjective weighing of costs of alternative actions to be performed against perceived benefits in terms of outcomes. Given the subjectivity in nature of perceptions to which the barriers and benefits are assessed, an appropriate cause of action would be activated if adequate knowledge on the perceived threats and severity of the disease is available and/or obtained from health education and media information. The complexity of the other modifying variables in the model, especially cultural norms and practices are not explicitly discussed.

Conceptually, during the 2014/2015 Ebola outbreak, the perceived susceptibility to the disease was initially low although the severity of the disease was high as expressed in the mortality rates as well as the associated stigma attached to the disease. The lower perceptions of susceptibility were because communication or information sharing on the cause of the disease was contrary to the knowledge of the people in terms of their historical experience. The cause of the disease was said to emanate from monkeys and bush meat which has since time immemorial served as dietary purposes and sources of income in the life of the people (Sáez, Kelly & Brown, 2014). A causal-ecological/reality relationship gap was created in the cognitions of the people that limited information processing and failed to trigger or motivate action. Additionally, the symptoms of the disease in terms of fever, headache, and vomiting exhibited existing patterns of locally known diseases.

The association of the causes of the disease infection to known sources of nutrition and symptoms ("ecological causation of disease") weakened the perceived susceptibility of the people although the degree of severity of the disease was high. Cognitively, people questioned why these past and present nutritional sources should suddenly become a problem (Sáez, Kelly & Brown, 2014) leading to information inconsistencies in the cognition of the people which could be referred to as knowledge-awareness gap. The weighing of the benefits of bush meat (disease source) vis-à-vis the barriers to the sustenance (health - dietary and economic - income) saw to the

subjective perceptions of the benefits of not consuming bush meats outweighing the costs. The historical role of bush meat in the culture of the people surfaced in the information processing on the interconnectivity between their lifestyle and its disease causation capabilities in the cognitions of the people (Sáez, Kelly & Brown, 2014). This raised doubts and reduced self-efficacy in the people.

Furthermore, the cues to action, public campaigns (health education) and media information essential for triggering action by raising awareness on the disease emphasized the high mortality rate aspects of the disease to the detriment of the possible recovery possibilities. The overdependence on messages (cues to action) that emphasize deaths to induce fear and increase perceptions of susceptibility and severity was unable to increase the perceptions of threat to the disease and motivate behaviour change. This could be attributed to the complexity in the cultural factors in form of social support/collective efficacy and self-efficacy in the social and organisational context of health-related behaviours that mediated the information processing and behaviours of the people. This accounted for the inability of the HBM approaches to cause behavioural changes although the degree of perceived susceptibility and severity was high. Thus, HBM as a communication framework for planning and designing health communication may not be effective to explain and predict behaviour adequately in situations where behaviour is primed on broadly held and collectively enacted values and norms. HBM may predict individual behaviours both in the short and long term, but is limited in the understanding of and prediction of group behaviour motivations and information processing in cognitive processes.

Another psychological theory eminent in the Ebola communication fear-driven framework for eliciting information processing efforts to persuade behaviour change was the protection motivation theory. Protection motivation theory was similarly utilised like the HBM but focused on the functional relationship in the variables of fear to mediate attitudes and behaviour.

2.2.2 Protection motivation theory

The protection motivation theory (PMT) is aimed at identifying the main variables that stimulate fear appeals (Rogers 1975; Norman, Boer, Seydel & Mullan, 2015). PMT is an extension of the works of Hovland, Janis and Kelly (1953) who proposed that three variables stimulate fear appeals: 1) the magnitude of noxiousness or severity of an event; 2) the conditional probability that the event will occur if no adaptive change in behaviour is undertaken or if the present behaviour is not modified; and 3) the availability and effectiveness of recommended coping responses to reduce or eliminate the noxious event (Hovland, Janis & Kelly, 1953; Rogers, 1975; Norman et al., 2015). Rogers (1975) extended the model by adding that each of the variables will initiate a corresponding cognitive mediation process that will influence the intention to form behaviour. Appraisals on the severity and likelihood of the occurrence of an event with beliefs in the effectiveness of recommended actions underline the causation of protection motivation. Figure 2.2 below shows the interactive and mediatory processes of cognitive processes on protection motivation.

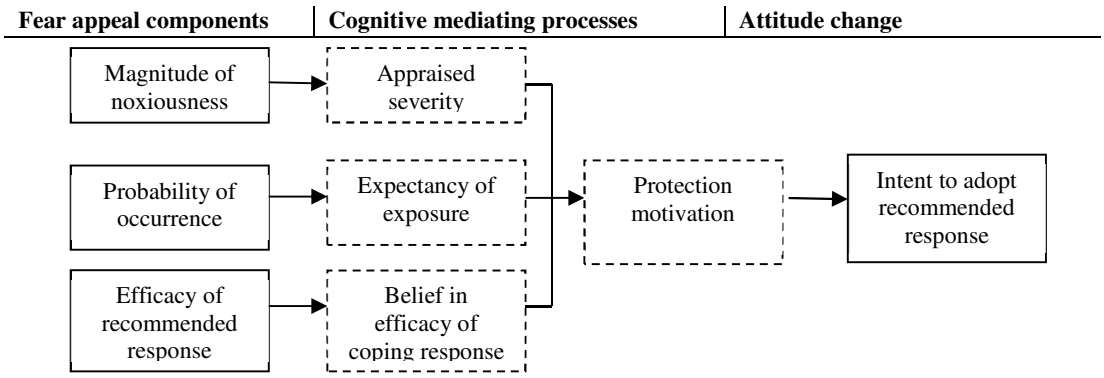


Figure 2.2. Source: Rogers (1975, p. 99). Schema of the protection motivation theory

Intention/motivation to form behaviour is stimulated by the cognitive processing of information about the event in the frame of the three variables that interactively evoke perceptions/beliefs on the severity, vulnerability, and response efficacy of an event and motivate the intention to form behaviour. Impliedly, internal and external factors moderate information processing cognitively for perceptions to be formed (see figure 2.3). Attitude change according to Rogers (1975) is not a result of fear (emotional state), but is caused by the amount of protection motivation aroused by cognitive

evaluative processes. However, the role that culture plays in the cognitive processes as pertains to culture as an identity and intrinsic motivator in the embodiment of a person that mediates the thinking processes are not explicitly explained.

The PMT was modified and expanded in 1983 to provide a general theory on persuasive communication and the underlying factors that initiate cognitive appraisal processes for the understanding of fear appeals (Conner, McEachan, Taylor, O'Hara, & Lawton, 2015). A fourth factor that mediates cognitive processes, self-efficacy (adapted from Bandura's theory of social cognitive theory, see the following subchapter) was added (Witte, 1992; Conner et al., 2015). The modified concept indicates the broader sources of information (environmental and intrapersonal sources) that initiate the coping process and provide an exposition of the operative modes of coping in the cognitive processes (Maddux and Rogers, 1983 as cited in Conner et al.; 2015).

Figure 2.3 below shows the interactions among the factors that mediate cognitive processes and the corresponding behaviour change response that would be produced.

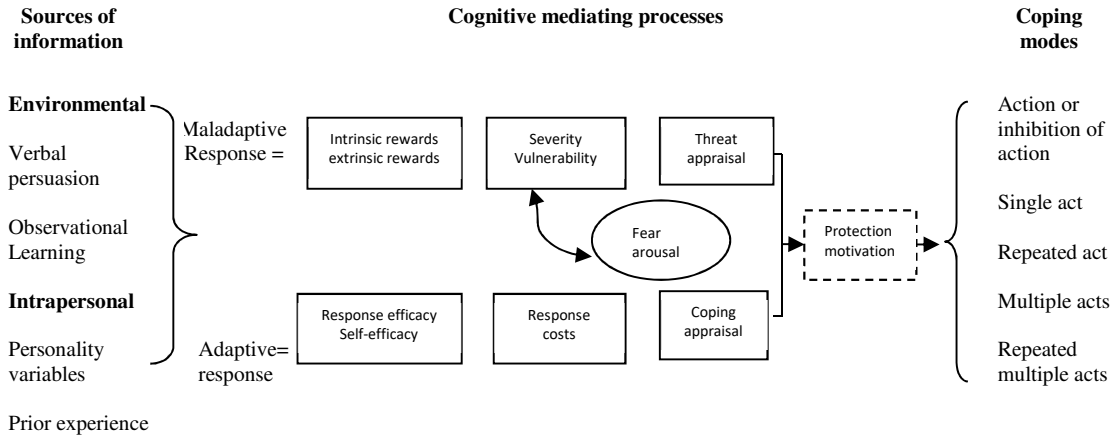


Figure 2.3. Source: Rogers (1983). Revised and extended cognitive mediation processes in PMT

Protection motivation is initiated by two cognitive processes: Threat appraisal and coping appraisal. Fear intervenes in threat appraisal on the severity of the event and one's vulnerability to influence perceptions on the level of the threat. Perceptions on

the level of threat may inhibit maladaptive responses (risky behaviours), but intrinsic (e.g., pleasure) and extrinsic (e.g., social approval) rewards may increase the probability of maladaptive responses. Coping appraisals (ability to cope and prevent the danger) in the cognitive processes consider the variables of efficacy of the response to remove the threat and the ability to perform the recommended behaviour. Coping appraisals focus on the sources and factors that increase or decrease the probability of adaptive responses.

Protection motivation is elicited when perceptions of severity and vulnerability outweigh rewards from maladaptive responses and when perceptions of efficacy response and self-efficacy outweigh that of response costs of adaptive behaviours (Conner et al., 2015). Thus, the strength of the threat and the ability to cope has to be high to mediate protection motivation in the prediction of the performance of a protective behaviour. Valid as this relationship maybe in contexts where the person is defined in the collective and self-efficacy is measured in terms of the subjectivity of social support, coping analysis in cognitive processes will override the perceptive variables of severity and susceptibility in response costs. Intentions then become subject to what the masses in the immediate environment subscribe to. Explanation to the strength of self-efficacy to moderate and limit response cost and induce adaptive behaviours can be extracted from the extended parallel process model (EPPM) (to be discussed). From the EPPM, the influences of individual differences (experiences, culture and personal characteristics) to threat and efficacy evaluations of a message are explained which shows the limits in the generality of fear appeal outcomes to persuade change in a population (Witte, 1992). Owing to the individual differences and context specific situations high efficacy and high threat may not always elicit cognitive appraisal and increase protective motivation.

Operationalising PMT and the 2014/2015 Ebola outbreak communication, the outbreak communication at the onset adopted fear appeals as an approach to evoke perceptions of severity and vulnerability with the aim of arousing and directing actions toward protection motivation. However, the corresponding feedback was that of maladaptive response (denial of the disease) and maladaptive coping responses (reliance on and performance of religious rituals to cope with fear). Maladaptive

responses were generated because in the cognitive processing of the response efficacy and self-efficacy, cultural values (extrinsic rewards – social support) mediated strongly on the appraisals of the response efficacy (don't touch, don't wash the dead etc.). The expectations in extrinsic rewards also lowered self-efficacy (ability to endure curses believed to be invoked by the dead on the living for failing to honour the dead and withdrawal of social support by society to family members who fail to honour the dead). Threat appraisals outweighed and neutralised coping appraisals in the cognitions of the people.

Conceptually, the probability of adaptive response was strongly mediated by extrinsic rewards as a functional relation of response costs than by perceptions of severity and vulnerability. This is probable as response costs were appraised as a factor of extrinsic rewards (social approval) in self-efficacy and not in response efficacy, an intrinsic motivator thereby making response costs to outweigh response efficacy in coping appraisals and inhibit adaptive responses.

At the mid outbreak phase, the involvement of preferred community leaders/members for health communication gradually increased perceptions on response efficacy and self-efficacy due to the mutual trust that exist between the people in the community to elicit protection motivation[7]. Community communication systems mediated the variables of threat appraisal and coping appraisal in perceptions more strongly because behaviour is culturally stimulated and defined in the cognitions of people. Culture also intrinsically persuades the enactment of behaviour. Threat and coping appraisals within the Ebola framework of PMT were a function of environmental or contextual factors that mediated response efficacy and self-efficacy in coping appraisals to increase or decrease the probability of adaptive responses.

According to Lieban (1977) and Green (1999), culture mediates perceptions of vulnerability to a threat, response efficacy and self-efficacy (ability to initiate and sustain an action) in the cognitions of people by giving meaning to the causes of disease (e.g., Ebola is a curse caused by sin) and defining the effective behavioural

[7] Details of the outbreak phases and responses of each phase could be referred to in Appendix A.

responses to diseases (e.g., performing certain religious exercises). This manifested in the 2014/2015 Ebola outbreak, where adherence to cultural values strengthened extrinsic rewards over other variables in the appraisal of threat and coping in the formation of intention. Compatibility of culture with efficacy response, therefore, impacts intention to motivate behaviour (Uskul, Sherman & Fitzgibbon, 2009). For instance, when response efficacy (benefits - do not touch, do not wash the dead etc.) of persuasive communication to the Ebola was not compatible with the culture of washing the dead and touching of the sick, behaviour remained unchanged even though perceptions of response efficacy was high (effective) and intention to form behaviour was high. This was attributed to the fact that response costs (barriers - emotional distress from negligence of the sick and its interpretations coupled with the consequent denial of social support from the community) outweighed self-efficacy and enhanced maladaptive coping responses. The lower perceptions of self-efficacy emanate from the strength of collectivism and social interdependency (characteristics of culture) as a factor that defines and mediates perceptions of self-efficacy. Self-efficacy as a variable is difficult to change (Conner et al., 2015), especially in societies where the individual capability is defined and measured in relation with social support as in 2014/2015 Ebola outbreak regions.

Consequently, understanding and incorporating the variables that mediate response efficacy and self-efficacy, specifically collective efficacy to maladaptive coping responses in PMT as noted by Witte (1992) in her EPPM may be necessary when PMT is adopted as the theoretical framework for persuasive communication to Ebola. The viability of PMT in this situation will be due to its ability to relate to the intrinsic motivations of behaviour.

The EPPM improves on the weakness in the PMT. Specifically, EPPM improves on the initial theory by showing the functionality of fear in cognitive processes to the acceptance or rejection of a message. However, EPPM has its broad framework in Leventhal's parallel process model (not discussed in this dissertation) which distinguishes between danger control and fear control processes (Witte, 1992). According to Witte (1992), the PMT plays down on the role of fear as a central variable in the theoretical framework in cognitive processes to persuasion, amidst failing to

show how threat and coping appraisal interact. Based on this, the EPPM defines and expands on the processes by which fear control motivates maladaptive behaviours.

The EPPM argues that the action(s) of a target audience taken upon exposure to a message in an intervention is a subject of the evaluations associated with the perceived threat (susceptibility and severity) and perceived efficacy (response efficacy and self-efficacy) of the intervention (Witte, 1992). The persuasiveness of a fear appeal message to change behaviour (message acceptance) or maintain behaviour (message failure) is related to the evaluations of the message by the individual. Message evaluations involves danger control or fear control processes. In the control of danger to the perceived threat, the recommendations of the message is enacted on or complied with to avoid/minimize danger, whereas in the fear control the message and its recommendations are denied or avoided (defensive avoidance) (Witte, 1992; Dutta-Bergmann, 2004).

When the threat is high and efficacy is appraised as low (inability to stop the threat), fear control or defensive avoidance is adopted to cope with the threat (Witte, 1992; Witte & Allen, 2000; Dutta-Bergmann, 2004). Thus, emotional processes are evoked in fear control processes to cope with the fear but not the danger. The emotional process is automatically or unconsciously activated after the threat/efficacy appraisal and is intensified by fear. In situations where the threat appraisal exceeds the efficacy appraisal, a fear appeal message will elicit a maladaptive response because the strength of the threat outweighs the efficacy. The degree to which fear would influence cognitive processes (danger control processes) is dependent on individual characteristics such as level of anxiety, coping skills, and self-esteem.

Theoretically, the EPPM explains the impact and places fear or emotion as central and not a peripheral variable in cognitive process in information processing. Although individual characteristics are noted to affect differences in the level of adaptive responses in individuals, the model is not explicit about the sources of emotion as a variable in the interactive process between threat and efficacy appraisals for ensuring their appropriate identification and integration/manipulation in an intervention. Culture as an ecological influence that shapes emotions in the development of the

person is still absent in the model. Notwithstanding, the contribution of the EPPM to the understanding of emotions as a central variable in the motivations and rationality of behaviour as pertained during the 2014/2015 Ebola outbreak could be understood and explored in a multi-disciplinary communication model to epidemic control.

In so far as, the EPPM shows the moderations of fear as central to information processing and adaptive responses, the ecological dimensions of the fear as an emotional variable in the activation of message processing and adaptive response could be linked to the characteristics or components of a message. Herein, the components of message being referred to are the content (comprehensibility), source and mode of transmission to arouse emotions and promote information processing to a persuasive message. The elaboration likelihood model (ELM)[8] as a theory related with the above model may enhance explanations into the interactions between danger control and fear control responses as ecological foundations to behaviour in persuasive information processing, especially on health. Subsequently, the dissertation would for purposes of relevance and suitability explore the merits of the theory for integration into the motivational aspects of emotions in persuasive or health communication.

2.2.3 Theory of planned behaviour/reasoned action

The theory of reasoned action (TRA) was formulated by Fishbein and Ajzen in the 1970s to predict behaviour and the outcomes of behaviours. TRA is based on the relationship between attitudes and behaviours with respect to the attitudes that people hold toward behaviour. Central to the theory of reasoned action is intention as the motivational factor that influences behaviour.

In health communication the theory is regarded as an influential theory (communication is used to influence beliefs and support behavioural intentions) and is used for program evaluations (Schiavo, 2014). According to Schiavo (2014), TRA serves as a tool for analysing the reasons behind actions of people and for identifying

[8] Elaboration likelihood model will be discussed in detail under information processing theories

variables that may change attitudes toward behaviour as well as enable the segmentation of audience to involve in a program.

Figure 2.4 shows the relationship between the variables and how they influence behaviour.

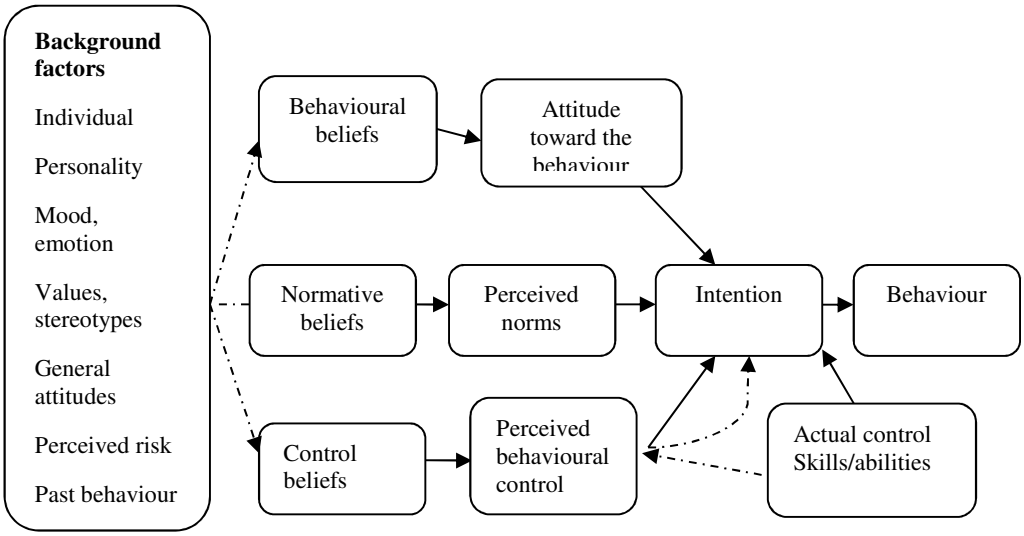


Figure 2.4 Modified and extended version of TRA/TPB approach. Source: Fishbein and Ajzen, (2010, p. 22).

Intention is the main predictor of behaviour and is preceded by the formation of attitudes, perceived norms and perceived behavioural control from beliefs, with attitudes and perceived norms being the two major direct variables that contribute to intention formation. Depending on the nature and strength of the attitude, perceived norm and perceived behavioural control, the intention is made to either perform or not to perform the behaviour. A given behaviour, however, is operationalized out of intentions only when actual control (required skills and abilities as well as facilitating inputs that aid action) is perceived to facilitate action. Thus, actual behavioural control serves as a mediator between intention and behaviour. The authors explained in the model that intention is the single primary factor that determines behaviour, but relevant personal factors in terms of skills and abilities and constraints and opportunities available serve as motivational factors that aid the performance of behaviour.

Behaviours are performed because the individual intends to perform the behaviour based on the attitude towards the behaviour, social pressure (subjective norm) that approve or disapprove the behaviour, and perceptions of control over the behaviour mediated by the skills, resources and nature of barriers that act as potential constraints to the performance of the behaviour. Much as the operationalization of intention is based on the actual control one has to perform behaviour, the strength of the intention has a subjective probability which plays an important role for the actualisation of behaviour. If intentions are weak, the actualisation of behaviour is weak even in the presence of skills and resources to implement behaviour. On the other hand, when intention is strong, efforts are made to even overcome barriers to the performance of behaviour through the search for alternatives. Thus, beliefs (information) though basic to the formation of intention are not in the frame of the construct the direct primary determinants of behaviour. Rather intentions directly determine behaviour. In reality, however, in terms of motivations, intention is not adequate to persuade behaviour. Nonetheless, within TRA, Ajzen (1991) writes that intentions could produce behaviour only under conditions of volitional control (deciding at will to perform or not to perform the behaviour by the person), thereby stressing the importance of the willingness of the person in the enactment of behaviour. Volitional control limits the application and prediction of behaviour in the original model under complex situations. This limitation is addressed by the modification of the model to theory of planned behaviour (TPB) by which actual control and its impact on perceived behavioural control is incorporated for the better prediction of intention and behaviour in the model.

According to Fishbein and Ajzen (2010) the model, though criticised as assuming a rational approach to behaviour, does not assume rationality (logical approach) to decision making but rather emphasize that behavioural intentions involve reasonable and spontaneous decisions based on beliefs concerning the behaviour.

Conceptualising the model in the framework of health communication on the Ebola outbreak to identify and understand the influences of intentions and its predictive capability to behavioural changes, one could describe the strength of the intention to change behaviour as weak. The weakness of the strength of intention to change

behaviours is manifested in the refusal to adopt safe burials, continuous touching of the sick and dead and the secret burials that continued in the initial to mid phase of the outbreak (March – October, 2014) despite the various messages shared to discourage risky behaviours. Behavioural beliefs showed that deliberative processes on the consequences of outcome expectancies from changes in behaviour or actions (not providing a befitting burial including the washing, touching and praying for the dead and not caring for the sick) was cognitively interpreted as not loving or rejection of one's relations or ancestors.

Culturally, failure to honour the dead is believed to invoke a curse on the individual or society (punitive outcome), making any curse invoking acts to be avoided or rejected in its totality. The outcome expectancies from the advocated behaviours that has to be changed created a negative or unfavourable affect (attitudes) state in the people, thereby weakening intentions and the enactment of new behaviours. Contextually, it can be argued that the influence of attitudes over intention was strongly mediated and regulated by subjective norms (culture) than by behavioural beliefs (individual attitudes). However, from the model, subjective norms refer to opinions of important others (individuals) and not groups/systems/structures.

Empirically, subjective norms rooted in normative beliefs (religious beliefs, social values, and norms) if explored and substituted in perspective of groups/structures/systems could strongly explain and predict intention and behaviour better than attitude in the 2014/2015 outbreak owing to the prevalent cultural characteristics (collective) in the outbreak regions, where behaviour is defined within collective actions. This is because the sense of wellbeing inherent in attitudes of the people in the affected countries is defined by the state of collective harmony (Ushl, Sherman & Fitzgibbon, 2008). Collective harmony is an intrinsic motivator in the society that affects the formation of intention and enactment of behaviour in most situations.

Group values and norms strongly mediate individual values and norms in collective societies as the individual is a subset of the group and behaves to conform to and identify with the group to achieve harmony. For instance, belief systems (in its strictest

term) according to Bandura (1986) provide a structure, direction, and purpose to life. The individual's behaviour is motivated and regulated by normative beliefs even when deliberative processes are undertaken singlehandedly by the individual under conditions of high volitional control and in situations where attitudes toward intention is favourable. Subjective norms influence and override attitudes in the formation of intention in collective cultures because the sense of wellbeing is defined by the value for collective harmony. Invariably, perceived behavioural control is also strongly mediated by subjective norms. The reason is that, in collective cultures, subjective norms also takes on the form of social support that functions as actual control in cognitive processes on intentions to which the individual is disposed to and either facilitates or inhibits behaviour. Thus, in the outbreak regions intentions and behaviour were strongly determined by normative beliefs and subjective norms rather than by attitudes and perceived behavioural control.

Generally, the application of the model with references to the compatibility principle as per the variables of action, context, target and time limits the degree of predictive reliability of the model in behavioural prediction. Contextual measures of an action are directed by the dynamism in the myriad of social factors that directly define and form beliefs upon which intentions and behaviour are dependent. As such, to address behaviours whose intentions are strongly influenced by group actions, the prediction of behaviour may not be accurate under the model except measurement values are attached to the dimensions in the model to indicate their significance to intention and behaviour.

Theoretically, the model could functionally identify the strength and degrees of influence of attitudes, perceived norms and behavioural control for the analysis of the reasons for actions or behaviour causation as well as the identification of beliefs to target in a health communication intervention. In geographical contexts, intentions (readiness or motivation to take action), is a function of normative beliefs as strictly defined by groups and where respected individuals (subjective norms) determine intentions, the subjective norms function as structures or systems that determine values and norms. The complexity of human nature in social systems where intentions are determined and influenced among others by culture and ecological factors or where

intention and behaviour is group defined, the literal application of the framework as focused on the person (individual) would be strenuous and challenging and cannot easily predict behavioural change. This is because the model does not regard the strength of persons (socio-structural systems or culture) as a major and primary determinant of intention by the individual in the subjective evaluation and formation of intention for the prediction of behaviour. Subject to the above, predicting behaviour in health communication in collective cultures has to consider and emphasize on components of normative beliefs and subjective norms that mediate and regulate behaviour in the collective or in terms of systems and not of individual persons only.

2.2.4 Social cognitive theory/ social learning theory

Bandura's social cognitive theory or the social learning theory is premised on the assumption that human behaviour is motivated and regulated by thoughtful processes involving a consideration of beliefs in one's ability to perform an action (self-efficacy), expected outcomes of the behaviour, and the intended goal (Bandura, 1986). The interaction of the three factors determine whether a behaviour will be performed or not. Self-efficacy and outcome expectancies are the direct causation or predictors of behaviour (Luszczynska and Schwarzer, 2015). Changes in any of these three will influence a change in the others (Schiavo, 2014). In health communication, the theory helps to understand the mechanisms and factors that ensure information retention and reproduction by a person, as well as those that motivate a person to perform a given behaviour (Schiavo, 2014).

Information on self-efficacy is derived from four sources, namely enactive attainment, vicarious experience, verbal persuasion, and physiological state. Successful personal accomplishments enable one to gain mastery in the performance of behaviours which self-assures a person of his/her abilities and enhance self-efficacy. The opposite is the case for failures which weaken self-efficacy. Physiologically, the state of a person also influences self-efficacy beliefs by impacting on cognitive appraisal that arouses either fearful or dysfunctional emotions perceptively on the ability to perform behaviour successfully or unsuccessfully. For instance, stress, ill-health, and fear communicate a

sense of incapability on self-efficacy beliefs in thought processes that may cause persons to lowly perceive their capabilities.
Outcome expectation, on the other hand, is judgements or perceptions of the likely consequences that will be produced from the behaviour, hence, the consequence of an act, not the act itself (Bandura, 1986).

Operationalizing the 2014/2015 Ebola outbreak health communication within the framework of Bandura's theory it could be argued that the intention to form behaviour was favourably motivated and regulated by outcome expectancy and goals than by self- efficacy at the early to mid-outbreak phase of the epidemic. Explanation for the strong influence of outcome expectancy and goals over self-efficacy could be attributed to the mechanisms (including source of information) that define and influence self-precepts contextually as a collective-efficacy in collective societies and the absence of system-level opportunities (adequate material and financial resources) to facilitate individual actions.

In the outbreak region, judgements or thought processes about the individual's ability is appraised by dwelling on the broader context of societal or community goals and outcome expectancies (collective efficacy) that suppress self-efficacy beliefs because communities function as coping mechanisms in the face of difficulties. Self-efficacy alone is inadequate to cause behaviour generally in such societies. The mediation of external factors impacts on perceptions of self-efficacy and weaken the strength of self-efficacy in the regulation of behaviour change. For instance, at the onset of the outbreak, people did not belief in their ability to change behaviour because conspiracy theories had it that Ebola is a curse from the gods for the wrongdoings of the people and government (Boehnisch, 2016). Generally, curses are believed to be remediable through religious rituals to which the individual have little control to influence without going through a medium (traditional healer or spiritualist). Thought processes on the belief in the ability to exercise control and change behaviour was not interpreted within human and individual capabilities and account for the reliance on religious leaders and healing centres during the outbreak due to the uncertainty involved in the outbreak and its communication processes.

Notwithstanding, the role of the dynamics of self-efficacy (self-referent thought, action, and affect – Bandura, 1986) in the intention to change behaviour cannot be completely ruled out. This is because at the peak of the outbreak, when the continuous compliance with social values resulted in heavy losses of lives, including those of respected and prominent community leaders, individuals were griped with fear (emotional reactions - affect) and re-thought their behaviours. Individuals resorted to the use of simple methods such as the use of plastic bags to protect themselves from infection and complied with messages from community members and leaders that discouraged behaviours responsible for the spread of the disease. Accordingly, the positive results of such actions motivated others (vicarious learning) to belief in their ability to take personal actions in the face of outstretched and limited government resources and support to ensure personal/community protection. Self-efficacy as sourced from vicarious learning was strengthened, but not without emotional arousals and internal collective actions to contribute to behaviour change later on in the outbreak.

Based on the above discourse, identifying and understanding the source of information on cognitive processes of self-efficacy is important for health communication in areas where external factors strongly interplay on self-appraisals and the intention to form behaviour. The focus on vicarious learning is essential but fairly interplays with societal outcome expectancies and goals (collective efficacy) to strengthen intrinsic motivation and promote behaviour change. Theoretically, the social learning theory provides a cognitive approach to the understanding of behavioural persuasion, but also has emotional arousals aspects inherent in its central tenet of vicarious learning. However, the emotional arousal aspects to behavioural motivations are not very much stressed on in discussions on behaviour change in persuasive communication due to the psychological biasness of the discussion of causative factors of behaviour to thought processes.

Contextually, the shift in the single emphasis on cognitive information processing through information sharing during the 2014/2015 Ebola outbreak to the arousal of emotional aspects through music (art and culture) increased intrinsic motivation to persuasive communication and behaviour change than the cognitive approach of

information sharing only (Boehnisch, 2016). The integrated approach enabled culture to interplay with scientific knowledge and persuade behaviour change. Thus, persuasive communication is context based. Given the context, persuasive communication has to be capable of arousing both cognitive and emotional motivations in the person by considering hidden drivers of intrinsic motivation in the context. In health communication and in the SCT framework entertainment education (discussed in the communication sub-section below) may serve such purpose to enhance persuasive communication to change behaviour. However, a discussion on the identification of variables such as fear appeals in persuading behaviour change will be considered.

2.3 Summary

In this chapter four (health belief model, theory of planned/reasoned action, protection motivation theory, and social cognitive theory) of the commonly adopted psychological theories that inform message design and implementation of most health behavioural change interventions have been reviewed. To reiterate, no specific framework was consciously decided on for the Ebola communication. Owing to that the characteristics of the information shared and the patterns of behaviours served as the basis in the review for predicting the probable and actual efficacy of the theories in the 2014/2015 Ebola communication management. All the aforementioned theories place emphasis on cognitions and cognitive processes for explaining and understanding health behaviour formation and determination. Environmental and affective influences are not considered in the constructs so that the behaviours that were persistently enacted during the Ebola remain illogical within the cognitive perspectives for explaining behaviours.

The theories also allude to the formation and determination of behaviour from beliefs and attitudes, outcome expectancies and value expectancies. Though valid, the ability of these variables to explain and predict behaviours generally is relative if the enactment of behaviours is considered from both the individual and collective perspectives as well as from the affective influences on cognitive processes. The

individual does not exist in isolation but is part of a system which affects the individual and vice versa so that cognitive processes of the individual cannot be restricted to the influence of individual level factors. The overwhelming emphasis on the individual as the sole object of reference, therefore, limits the ability of the theories to explain collectively enacted behaviours as well as predict the patterns that group behaviours are likely to take. Group behaviours and their underlying causes are, therefore weakly explained so that the predictive strengths of the variables are unable to explain and predict collective behaviours. As a result, the moderations of beliefs in values and norms which inform individual values and perceptions in the explanation of personal control over behaviour, for instance, becomes skewed to self-efficacy and perceived behavioural control. The strength of beliefs in behavioural determination is, consequently, partially addressed except for social cognitive theory which briefly addresses social influences on behaviour in collective efficacy.

In brief, logical interconnectivities could be identified in the theories for explaining individual behaviours. The concepts are also clear as per the variables underlying them but these cognitive theories cannot be universally applied because of the perspectives from which the individual is considered and the exclusion of perspectives of culture or the influences of the macrosystem of a person through beliefs in behaviours. The contents of the framework are, therefore, incomprehensive, thereby, making them unresponsive to all contexts and all phenomena. As such, in contexts where belief systems play a crucial role in processes of cognitive information processing and in decisional balance (considerations of the merits and demerits in outcome and value expectancy evaluations), efficacy in their utilisation for changing behaviours will continue to be low.

Chapter 3

Information processing /communication theories

3.1 Introduction

Communication theories mostly focus on messages or interactions and their persuasiveness to change behaviour in an intervention. Petty (1977) distinguishes four approaches to the study of persuasion. The approaches are learning approaches (focuses on the content of persuasive communication); perceptive approaches (focuses on the meaning of communication to the individual subject); functional approaches (discusses the relationship of the communication to the recipient's underlying motivational and personality needs), and consistency approaches (emphasises the need for the recipient to keep a maximum amount of internal harmony within their belief system) (Petty, 1977, p. 357). Examples of communication theories cognisant to the context of the dissertation in health interventions are the information processing model (discussed in the background to the dissertation) and the elaboration likelihood model (ELM). Focusing on the framework of this dissertation (culture as a mediator in cognitive processes to information processing and motivator of behaviour change) the ELM is adopted as the major communication theory in the analysis of the information processing segment to behaviour change. The other related sub-theories/models in ELM will be briefly discussed due to their relevance in order to show their relations in culture and communication. The sub-theories considered are namely activation and narration models as well as entertainment education.

3.2 Elaboration likelihood model

Petty and Cacioppo's (1986) elaboration likelihood model (ELM) is a model for the prediction of attitude (attitude-behaviour relations) to persuasive communication and

considers both content and non-content-based routes to persuasion. ELM evolves from Hovland's message learning approach and McGuire's information processing theory and is an extension to Hovland's theory (Petty, Wegener, Fabrigar, Priester & Cacioppo, 1993). ELM considers the role of cognitive responses in the persuasion process (yielding to a message) of attitude change for the understanding of how central and peripheral routes of thinking produce different qualities of change (favourable, unfavourable and neutral thoughts) in a person to a message (Petty et al., 1993). The basis of the theory, however, is extracted from the believe that, "people are motivated to hold correct attitudes but have neither the resources to process vigilantly every persuasive argument nor the luxury – or apparently the inclination – of being able to ignore them all" (Cacioppo, Petty, Kao & Rodriguez, 1986, p 1032). Although the emphasis is on attitude), the model has relevance for behaviour change communication process. This is because strong relationships exist between attitude and behaviour in terms of the consistency in the outcomes of actions associated in the enactment of behaviour (Haddock & Maio, 2007). Furthermore, the dissertation seeks to bring to the fore the influence of intrinsic motivators in the process of information processing and behaviour change, which is also the basic tenet in the theory.

Methodologically, a multivariate analysis of variance in elaboration was adopted and measured as high or low for responses to need for cognitions (high and low) and strong and weak for message quality in the theory. The techniques discussed in the model for evaluating elaboration are: the amount of effort expended on a message; thought - listing (listing of thoughts in expectation of, during, and after message exposure for categorisation into meaningful groups such as counterarguments or source-related thoughts, by the subjects); and psycho-physiological measures, e.g., facial expressions to a message. The qualitative research approach for this dissertation, though not conceived from this theory, ensured the capturing of all three techniques to the measurements of elaborations as qualitatively affected by message, source, and cultural cues variables which could be referred to in the discussions of chapter five.

Elaboration in persuasive terms refers to the extent to which issues relevant in the arguments of a message are thought of (Petty & Cacioppo, 1986). The ability of elaboration (cognitive processes) to elicit change is subject to the level of elaboration

based on the relevance of the issue arguments under consideration and the need for cognitions (intrinsic motivation to engage in effortful thinking activities; Cacioppo et al.,1986; Petty et al., 1986) by the person. Conceptually, elaborations are said to be high if careful scrutiny of a message produces more agreement with strong arguments than when scrutiny is low; "a message with strong arguments should produce more agreement when it is scrutinized carefully than when scrutiny is low, but a message with weak arguments should produce less overall agreement when scrutiny is high rather than low" (Petty & Cacioppo, 1986, p. 138). Impliedly, the assumption is that decision-making involves an objective and rational process.

The extent and ability of elaboration (information processing) in the thoughts to motivate behavioural change as a result of new information may, however, be limited by the myriad of information available to a person and the counter-attitudinal numbers of messages available to the person on a daily basis as a factor of time in the cognitions of the person (Petty & Cacioppo, 1986). The amount of information available, however, affects the capacity of a person to process information thoroughly and objectively at a given time to motivate the enactment of a recommended behaviour - "behave rationally". Depending on the level of need for cognition and the situational condition, a correlated high or low level of information processing may be evoked subject to the intrinsic motivations that cause the individual to engage in effortful thinking.

Two interdependent processes manifest in cognitive processes to persuasive communication that determine the nature of the outcome of the elaboration. These are the motivational process and the ability process (Petty & Cacioppo, 1986; Petty et al., 1986). The variables of personal relevance and distractions inherent in the motivational process or ability process respectively, may influence the processing of information so that the outcome of the information to the recipient may either be favourable, unfavourable, or neutral. Subject to the type of motivation and the ability to engage in issue-relevant thinking, persuasion may be influenced either by a careful analysis and consideration of the true merits of the information presented (central route) or result from a cue in the persuasion context (e.g., attractive source) (Petty & Cacioppo, 1986). Persuasion is not always caused by the content of the information (quality) and/or the

ability to systematically analyse the content. Persuasion may also result from intrinsic motivations due to limitations in information processing time as well as the individual's ability to process the information in the light of prior knowledge or comprehension of the message. To this end, the likelihood of elaboration is said to be subject to a person's intrinsic motivation (issues of relevance) and the ability to process the information provided. The extent and ability of message quality in message processing is, therefore, inextricably linked to message relevance to the person and message compatibility with existent information in the memory of the recipient in terms of the meanings that enable comprehension and agreement.

Impliedly, thoughtful processes in the formation and change of attitudes are said to occur when issue-relevant information is assessed in relation to existing knowledge or experiences or variables of importance to the person. Accordingly, the extent and ability of personal relevance of a message to elicit thinking objectively and inhibit or favour behaviour change is also interdependent upon social norms or values intrinsic in the person which are stimulated in cognitive processes when correctness of an attitude-behaviour correspondence is assessed. As a result, although the need for cognition may be high and argument quality also strong in an intervention, the merits of a message would not necessarily motivate behaviour change unless subjected to the correctness of actions underlying the intrinsic motivations of the person as defined by the macrosystem/culture in the context.

Petty and Cacioppo (1986) showed in their experiments that message quality was important in elaborations. Nevertheless, the importance of message quality in elaboration was subjective in routes to persuasion on attitude change. The amount and direction of variables to influence attitude change is subject to whether they serve as a) persuasive arguments, b) peripheral cues, and/or c) affecting the extent and or direction of issue and argument elaboration (Petty & Cacioppo, 1986; Petty et al., 1993). The findings showed that the complexity of message quality as relation of relevance in intrinsic motivation of thoughts processes can be found in the context of the content (specifically, favourability or otherwise) and identity and not solely on argument quality.

The capability of both message and source factors to act as peripheral cues and affect information processing has been acknowledged (Petty, Schumann, Richman & Strathman, 1993). However, it is worth noting that the reference and labelling of the content of a message (issue-relevant arguments) as *central* route and cues as peripheral in the mediation process of information processing in terms of affecting and directing attention of the issue is illusive. The reason being that the degree and extent of *saliency of an issue to a person/people* is subjective and complexly related to the values of the person developed in proximal processes or socialisations in the development of the person. Additionally, the correctness of action that the person seeks to achieve and by which correctness is measured in cognitive processes is embedded in what others or the broader society ascribes to and endorses; which is sometimes enacted in bias without reference to argument objectivity. As such, depending on the immediate environment and the developmental processes of the person, the main issue that may mediate thought processes or elaboration is relative.

From the above discussions, the dissertation considers the merits of persuasive communication to predict behaviour change through message quality (content) and cues as a function of the complexities of the intrinsic motivators either in message quality or source cues (channels) in the salient values of the person/people that elicit information processing and persuade favourable behavioural change in the person/ people in the immediate environment. The centrality of message argument/quality is considered as a factor of the cultural meanings and codes present in the message as a need for cognition. This should enable message content (issue-relevant thinking) and relevance interaction to be considered in relationship / multidisciplinarily within the social, psychological, communication and anthropological dimensions in intrinsic motivations to behaviour change. In so doing, the consistency and centrality of culture (central route) as the mediator in high and low elaboration processes to information processing in communication in relation to message content (quality), cues, and inferences to motivate behaviour changes can be generally conceptualised. Subsequently, the dissertation turns to some tools based on the ELM recommended by communication scholars for promoting effective behaviour change (both collective and individual behaviours) to analyse their applicability to data and concept formulation of the dissertation.

3.3 Activation model

The activation model is rooted in the assumption of need for cognition as a relation of message content to health behaviour change strategies of health communication (Stephenson &Southwell, 2006). The model is to guide public health message design by detailing out the visual and audio aspects of a message (s) in order to draw attention and information processing subject to the characteristics of the audience either as high sensation seekers or low sensation seekers. High sensation seekers are said to be those likely to indulge in risky health behaviours or activities with low sensation seekers being the opposite of the high sensation seekers. The model is actually a social marketing communication tool to motivating behaviour change.

Stephenson and Southwell (2006) hold the position that behaviour change motivations of a message are dependent on need for cognitions which they referred to as need for arousal. They argue that the probability that a message will attract attention and be processed in the cognitions of the person is subject to the sensation seeking need of the audience. In this regard sensation value messages have to be designed, especially for high sensation seekers. Sensation seeking refers to the desire for varied, novel, complex, and intense sensation and experiences and the preparedness to take all possible risks just to fulfil these sensations/desires (Stephenson & Southwell, 2006; Edgar & Volkman, 2012). Sensation seekers could be reached in message design by using the media strategy termed SENTAR (SENsation seeking TARgeting). The media strategy involves the strategic insertion/placement or interspersing of behaviour change messages/adverts in between specific programs (e.g., television) known to be highly patronised by the target audience/ high sensation seekers. The purpose is to expose the target audience to the message, draw their attention, and stimulate information processing. Interventions on drug abuse and unsafe sex, especially among the youth often adopt the activation model to information processing and behaviour change (Stephenson & Southwell, 2006; Edgar & Volkman, 2012). Characteristics of a high sensation value communication include; a) novelty, creative, or unusual b) complex, c) intense stimuli that are emotionally powerful and physically arousing, d) graphic or explicit, e) somewhat ambiguous, f) unconventional, g), fast paced, and h) suspenseful (Edgar & Volkman, 2012).

From its conceptive descriptions and properties, the ability of the activation model to change health behaviours is subject to the nature of the behaviour under consideration and the context of the behavioural enactment. The model is premised on the conventional communication approaches where the ideology of the person is viewed as a microsystem not under the influence of the other systems in the environment. This could be inferred from the provided characteristics to a high sensation value communication and can, therefore, not be generalised to all cultures. In the Western individualistic context of the person, it may successfully motivate information processing to induce behaviour change, but not without limitations. This is because information processing involves a complex process of retrieval and assessment of various information in the values of the person that interplay to stimulate or intrinsically motivate behaviour. For instance, the interplay of variables in the process of information processing such as message quality (comprehensibility and credibility) vis-à-vis existing information in cognitions and self-efficacy (coping) may be incompatible in the thought process to intrinsically motivate the person to respond favourably to a message. Accordingly, Atkin (2001) makes clear that message response is a matter of the mental comprehension, perceptive interpretations, cognitive connections, emotional reactions etc. involved in information processing and the predisposition of the person (as cited in Rice & Atkin, 2001). The message alone if not compatible with the values (outcome of interests) to arouse emotional reactions, as well as intrinsically motivate thinking may not be able to elicit a favourable response in behaviour to a message, even for high sensation seekers in an individualistic culture.

Visually, the use of scary images and messages to draw attention to and stimulate/activate/motivate information processing on the dangers of Ebola in the 2014/2015 outbreak failed to influence information processing and persuade behaviours. Considering recipients characteristics in argumentativeness and persuasiveness of a message in cognitive response approach to communication, not even the country's elite who could be described as high sensation seekers were stimulated upon exposure to the scary images in the media to process information positively and change their behaviours (Boehnisch, 2016). This implies that presentation of the contents of a message in a manner that draws attentions of high

sensation seekers does not always stimulate optimal levels of information processing unless it is interlinked with the values of the person. Although the activation model is plausible, it cannot be effectively used as a general model in public health behaviour intervention for behaviours which are collectively enacted and linked to identity and outcome of interests in the environment. Thus, rhetorical and affective aspects (emotional reactions) may not be adequately addressed.

A communication theory/model that combines identity and outcome of interests or emotional and cognitive variables to intrinsically motivate message processing and ensure adaptive response is the narrative theory.

3.4 Narrative theory and entertainment education

Narrative theory challenges the traditional persuasive communication school of thought that holds that persuasive communication can be classified as rhetoric only if the content of the message is argumentative or deliberative. That is, it follows a logical sequence of presenting issues - rationality. Following this perspective, rationality (message quality) is believed to be the basis upon which information processing is evoked to produce favourable outcome to an intervention. The theory does not debunk the rationality approach to thought processes, but calls for the alternate consideration of rationality in terms of ecological perspectives, specifically the literary and aesthetic context to the activation of information processing and behavioural outcomes (Fisher, 1984). Emphatically, Fisher (1984) advocates for rethinking of new approaches to improving and understanding communication interaction in which rationality is associated with identification (narrative rationality) rather than deliberation (traditional rationality). Hitherto, rationality in the narrative perspective is underpinned by the principles of narrative probability (consistency) and narrative fidelity (accuracy/truth) in relation to experiences. Experiences functionally evoke information processing depending on the nature of the experience in relation to a given situation.

Narration as a paradigm functionally explains the rationality of ecological variables (experience, culture, and history) in cognitive processes of information processing and persuasion. However, no explicit and direct model was personally developed by the author for the operationalisation of the paradigm. Notwithstanding, entertainment education (EE), though not a communication theory, but a strategy based on Bandura's social cognitive theory (Singhal & Rogers, 1999), could be considered as a theoretical model of the narrative theory by which the narrative theory could be operationalised in health communication to motivate behaviour change. It is worth mentioning here that entertainment education is not new and has already been used successfully though not without challenges or failures in HIV/AIDS, family planning and other health behaviour change interventions in some Asian, African, and Latin American countries (Singhal & Rogers, 1999).

Entertainment education (EE) can be referred to as an information sharing approach that adopts context related or specific social amusement modes, either in form of the conventional communication media, or community-based communication approaches through narration, music, or dancing etc. to entertain and share information in parallelism. In persuasive health communication, it is aimed at arousing/provoking/prompting/activating information processing on health compromising behaviours in order to persuade behaviour change both at the individual and system level.

Originally, the definition of EE focused on individuals only. However, the shift from the individual perspectives to the undercurrents of group behaviour and collective efficacy is essential for the understanding of cultural systems as causes and influencers of behaviour as in this research frame. Collective efficacy as in the social cognitive theory is considered from the degree to which people in a system believe they can organise and execute courses of action required to achieve collective goals (Bandura, 1997). The need to consider behaviour change from group or system level influencers is plausible because deeply ingrained cultural norms that account for self-efficacy to individual behaviour are difficult to be altered by the individual since they are enacted concertedly and collectively. As such, behaviour change interventions must employ measures (motivators) of perceived group efficacy that are closely linked to explicit

indices of group performances/behaviour (Bandura, 1986) to persuade information processing and behavioural change.

The goal of using EE to increase knowledge in the definition is complacent to the elitist school of thought, especially health educators that ascribe the local population or a target audience in an intervention as ignorant. The parochial elitist approach to persuasive communication and behaviour change is accountable for the knowledge, attitudes, and practices (KAP) gap communication approach to most health intervention programs (Singhal, Rao & Pant, 2006). The assertions of KAPs communication approaches are that the local people lack knowledge and need to be provided with the right knowledge from an external source. Such implicit assertions are responsible for the failure of many health intervention programs and may as well be responsible for the ineffectiveness of some EE interventions. This is because overt behaviour is not baseless or just a question of the intention to act, but has its foundations in culture or social norms and knowledge of a people that has been historically practiced and proven valid (Hewlett & Hewlett, 2015; Edgar & Volkman, 2012; Green, 1999; Airhihenbuwa, 1995).

One who has personally lived exposures to EE interventions would admit that EE, though developed and framed in conformity with traditional communication contexts, often places too much emphasis on characters in the drama which sometimes affect the effectiveness of interventions. This may be attributable to the social cognitive theory from which EE strategies are framed. It is, therefore, necessary for marginal shifts to be made to EE in which emphasis will be placed on salient local knowledge and practices of verifiable scientific relevance to intrinsically motivate information processing and change behaviour. An EE intervention that incorporates indigenous scientific related knowledge in the persuasive communication such as those inherent in the collective efficacy that underlie behavioural motivations has the capability to better arouse cognitive processes to information processing and intention formation. This quality of EE to enhance the effectiveness of an intervention will be derived from the integration of both extrinsic and intrinsic information processing variables in the process of information sharing and communication. As a result, it can contribute to broader social change by influencing awareness, attitudes, and behaviour in a socially

acceptable manner and create the necessary conditions for the social change at the systems level (Singhal & Rogers, 2004). Notwithstanding, a comprehensive and integrative EE approach would ensure the inclusion of system-level moderators to behavioural persuasions, especially cultural beliefs and norms and enhance the outcomes of EE interventions.

Considering the above-mentioned limitations of EE, one can attribute the ineffectiveness of some EE based health communication interventions to the failure to conceptualise behaviour from the bidirectional influences of cultural beliefs and norms as determinants and causal processes to behaviour in perceived self-efficacy (confidence in one's capability to enact behaviour). Similarly, the ineffectiveness could be attributed to the non-consideration of collective efficacy from the perspective of the achievement of common societal goals for its appropriate inculcation in the message content.

As already indicated, rhetorically, the methodological framework to EE is the social cognitive theory (Bandura, 1986; 2004). Central to the SCT is that people learn by observing others' action and its outcome, and this observational learning is motivated by outcome expectancies and self-efficacy (Bandura, 2004). The assumption is that, a person who observes a model whose behaviour is rewarded is more likely to model that behaviour. In addition, observing an accomplishment of a model similar to the character of the viewer increases the viewer's self-efficacy or self-confidence to perform the behaviour (Bandura, 2004). The persuasive effects of SCT in communication with emphasis on the individual as it interconnects with the extended elaboration likelihood model's posit is that a viewer's engagement in the narrative and identification with characters reduces counter-arguing to facilitate intrinsic motivation to information processing and behaviour change (Slater & Rouner, 2002).

The need to identify, understand, exploit, modify, and incorporate relevant valuable local knowledge that are aligned to collective efficacy in the endeared character to intrinsically motivate information processing and change behaviour, may generally address the failures of EE interventions as already noted above. An EE approach of this nature would ensure the comprehensive integration of system-level moderators of

behavioural persuasions, especially cultural beliefs and norms and enhance the achievement of the goals of EE. As noted by Singhal and Rogers, (2004) the goal of an EE intervention should focus on contributing to social change by influencing awareness, attitudes and behaviour in a socially acceptable manner and creating the necessary conditions for the social change at the systems level.

In the perspective of this dissertation, the conceptualisation of behaviour change in the EE framework would be considered not only from the observational learning dimension. Further consideration will be given to the bidirectional influences and foundations of cultural beliefs and norms in perceptions of the identity of the person and their mediations in behavioural motivations. Within this context, the causal processes and determinants of behavioural motivations as modelled by the system (collective efficacy) in perceptions of self-efficacy and information processing would be explained.

The integrated theories in EE include Weaver and Shannon's communication model (linear communication process involving the linkages between source, message, medium, receivers, and feedback). It also deducts from social learning theory (vicarious learning and efficacy); Bentlay's dramatic theory (characters, their interrelationships and impacts - melodrama); Jung's theory of archetypes including stereotypes and collective unconscious theory (physiological and psychological energies /motivations of humans); Maclean's theory of the triune brain (areas of perceptions/awareness in the person) and Sabido's theory of tones (Bentley, 1967; Jung, 1968; Parker, 2014 in Okigbo 2014; Sabido, 2004). The theoretical framework of Sabido's telenovelas, the theory of tones, upon which entertainment education has been much researched and propagated focus on the emotional memory, the intellectual control of reality and the exploitation of near to reality expression of an actor's true inward feeling (Sabido, 2004). For instance, in his concept of tones (also referred to as tension) Sabido uses body energy changing techniques and melodrama in dramatic theories to explain the levels of awareness creation and how they arouse emotions, as well as activate information processing towards behavioural change persuasions (Sabido, 2004).

The process whereby the emotions, cognitions, and culture of the person interplay to elicit processes of information processing and behavioural change in entertainment education has also been explained by Moyer- Gusé (2008) in an attempt to theorise EE from its persuasive effects. According to Moyer- Gusé, (2008) in entertainment education, the mental systems and capacities of a viewer become engaged or involved in the narration or storyline as the story unfolds. Thereby, the mental systems and capacities of the viewer are diverted away from the immediate environment to that of the storyline which activates the emotional and cognitive responses in the viewer to that of the storyline (Moyer-Gusé, 2008) in the process of change. That is in the process of the narration, the viewer's visible and audible parts of the mental system (related to the SCT's cognitive sub-processes – attention, retention, production and motivation, in observational learning) become fully activated in the process of information transfer. This causes the viewer to be actively involved/engaged with the character and become immersed cognitively and emotionally in the role of the character in the storyline.

The engagement with the character and storyline involves a process, whereby the viewer in the cause of narration subconsciously checks for self-referent/reflexive variables in his/her personal characteristics with that of the character. The self-referent variables are in terms of shared feelings (empathy); perspectives on the issue (cognition) held by the character and his/her goals (motivations) with that of the character in the storyline. The presence or degrees of the shared empathy, perspectives and goals by the viewer with that of the character become active in the information processing of the viewer than storyline itself. As a result, the viewer is moved into a conditional state of imaginary commonality/affinity with the character. Depending on the viewer's level of commonality/affinity in the person with the character, the viewer may identify, wishfully identify, feel similar, or relate para-socially in interaction with the character (Moyer- Gusé, 2008).

It is in any of these conditional states of identification[9], namely, wishful identification, similarity and liking, as well as para-social interaction that the person becomes both

[9] Identification as a concept will be discussed under ecological theories in chapter 4.

emotionally and cognitively persuaded to imitate the behaviour (recommended) of a character in the EE and lead to behavioural change. However, not all behaviour would be practiced.

The degree to which persuasion may be evoked in a person is enhanced by the characteristic appeal of the character, referred to as tones to enact the reality of the message and indulge or elicit the maximum attention (levels of perception - emotional, cognitive and situational) of the audience to the enacted message and promote information processing. Nevertheless, the type of persuasion is determined by self-efficacy motivations of the viewer (Moyer-Gusé, 2008), underlined by the motivational influences in the system/cultural setting/immediate environment (outcome expectancies/normative beliefs/perceptions or collective efficacy) to cause the enactment of a recommended behaviour.

From the discussions above, an entertainment education programme may motivate behaviour change if the character modelling the behaviour is perceived as having similar perceptions or equal capabilities as the audience or message recipient. Behavioural change from EE is, therefore subject to the perceived or assumptive emotional and cognitive position of the viewer in the character and consequently the character's behaviour in reality to persuade information processing and behaviour change. It could be said that the strength of vicarious learning in entertainment is a variable of the commonality of the perceptions, attitudes and values between the character and the audience, on the one hand, and the ability of the character to present and make reality meaningful, both emotionally and cognitively, either verbally or expressively for the achievement of the expected persuasive outcomes, on the other hand. Theoretically, entertainment-education become the process in which natural interactive processes are employed and deployed to effect and affect information processing through identity and the experience of reality.

In the meta-theoretical frame, persuasive communication to behaviour change could be conceptualised from the multidimensional and interrelatedness of information processing as a process of identification in the concept of identity. The process involves the complex interplay of both cognitive (content related), affective (non-

content related), as well as social/ecological/contextual elements in their functionality to mediate and intensively activate intrinsically both the central and peripheral information processing routes. Hitherto, information processing in intrinsic motivation is not merely a subject of the content of a message or the presenter of a message. Rather it is an issue of how the content and sender/actor capably resonate and reinforce a subject matter in the real world (herein referred to as ecological reality) of a system to mediate/activate/evoke/arouse the recipients cognitive and affective information processing faculties and intrinsically motivate capability judgements (self-efficacy perceptions) to the enactment of behaviour.

3.5 Summary

Inferring from the discussions, it is explicit to note that human communication and learning involves natural approaches to interaction either through direct words or the composition and expression of thoughts as in entertainment for the conveyance of values and knowledge. Through these natural processes of interaction individuals and groups of people acquire, transmit, understand, express, observe and experience reality in the immediate environment. Entertainment as a natural process of human interaction (symbolic action) uses verbal and aesthetic variables to express reality and activate reasoning/information processing through emotional arousal interconnected with identity to mediate thoughts processes in their functionality and persuade action. Though often considered rather as an approach (Singhal & Rogers, 2002), the rhetorical and affective elements of entertainment intrinsically induce cognitive processing of information to serve as a motivator in the understanding of individual and group or social changes, when used as an agent of information/knowledge sharing. The unique feature of EE is the combination of pleasure/enjoyment and information/knowledge to evoke information processing so that the recipient of the information does not experience perceptive controls from an external source that may prompt aversive defence in the protection of one's independence and lead to attitude bolstering or dissonance (Moyer-Guse, 2008). However, the message content must be that which is familiar and acceptable to the viewer or audience to elicit the emotional

and cognitive functionality of information processing and persuasion in the entertainment (Usdin et al., 2004).

To this end the dissertation will use ecological theories and models to explain in detail the interrelatedness of social systems in psychological and affective variables in information processing (rationality) and behaviour change from the theoretical backgrounds in the meta-theoretical concept of this dissertation. The ecological theories will further provide understanding into the basis of the rationality of behaviour and its persuasiveness in behaviour change for the conceptualisation of the 2014/2015 Ebola outbreak and the modelling of a context specific persuasive communication framework.

Chapter 4

Ecological theories/frameworks

4.1 Introduction

Ecological models have their basis in psychological anthropology and are system models that view patterned behaviour of individuals or aggregates in the outcomes of interest (McLeroy, Bibeau, Steckler & Glanz, 1988). Ecological models provide a theoretical framework for understanding and predicting behaviour as being affected and effected by the environment (Bronfenbrenner, 1994; McLeroy, Bibeau, Steckler & Glanz, 1988). In the realms of public health education, McLeroy et al. (1988) referred to ecological models as those that deal with the social causation of disease; "the reciprocal causation between the individual and the environment" (p. 354). Fundamental to the various ecological models such as the PEN-3 cultural model to health promotion (Airhihenbuwa, 1995) is Bronfenbrenner's bioecological theory. The difference between Bronfenbrenner's model and the PEN-3 cultural model among others of environmental influences on behaviour is the unit of analysis in the characteristics of the individual; thus, group and individual perspectives in the development of the person. According to Rosa and Tudge (2013), the bioecological theory emphasize the direction of research to the settings in which a person spends time and the relationship with others in the settings; characteristics of the person (including those with whom the person interacts); development over time including historical time; and the mechanisms that drive development (proximal processes). The person is characterised in the bioecological theory as both a "produce and product of development" (Bronfenbrenner, 1999, p. 5).

In this chapter a review of the aforementioned ecological models for explaining and predicting behaviours is provided which begins with the PEN-3 Model. Nevertheless, Bronfenbrenner's bioecological theory will be the main theory and model upon which

the analogy of dissertation would be focused. The PEN-3 Model will be applied for the identification of specific units of analysis for the coding of the research data and for the centralisation of culture in the analysis.

4.2 The PEN-3 Model

The PEN-3 model is an ecological framework specifically for the centralisation of culture in health promotion programs. The model is derived from theories in health education and culture (Airhihenbuwa, 1995; Dutta, 2008) as interrelated to the fields of health, education and development. The emphasis, however, is on the application of cultural codes and meanings in health communication due to cultural variances in the production and acquisition of knowledge (learning); thus, as a culture-centred approach to health communication.

Conceptually, the model stresses a dialogic process to health promotion in which the target group in the culture is the primary agent as well as object of change for identifying culturally sensitive and culture appropriate issues embedded in cultural codes and meanings for program development and implementation (Airhihenbuwa, 1995; Airhihenbuwa & Webster, 2004). Cultural sensitivity, the author notes is "the development and adaption of programs so that they are situated within appropriate cultural frameworks rather than the Western so-called scientific culture within which most health and development programs are planned, implemented and evaluated" (Airhihenbuwa, 1995, p. 27). Thus, health communication programs must be consistent with the cultural framework (values and practices) of the people and community as per the construction and definition of reality (actions). This should be in accordance with existing health beliefs referred to as the process of culturalizing health knowledge, attitudes, and practices.

Fundamental to the dynamics of a culturally consistent health communication is the systematic and progressive application of local knowledge and expertise – experiences, in the manipulation of the environmental forces upon which the context of health behaviour hinges. Health behaviours are formed in the process of adaptation

(culturally shaped responses to health) (Airhinhenbuwa, 1995). Essentially, the target group of a persuasive communication intervention are both the major subjects and actors (catalysts - agents of change) in the systematic and progressive production and acquisition of knowledge for the promotion of change. As the primary agents of change, the people use their experiences acquired from the processes of adaptation in their environment which have informed current values and practices to dynamically influence their own behaviour change.

Core to the framework is the mainstreaming of context specific processes and approaches (e.g., storytelling and sung word) (Faseke, 1990 as cited in Airhihenbuwa, 1995) to the production and acquisition of knowledge (learning) or promoting health behaviour change in the cognitive processes of the person. Major consideration is given to behavioural mediators and motivators embedded in the codes (values), meanings, and context dimensions dynamically present in the consciousness of the people for expressing desires, emotions, and expectations. The PEN-3 model to health communication has been applied to guide HIV/AIDS prevention and immunization programs in Africa and Asia (India) and in dietary/nutrition programs of some minority groups in America. Furthermore, it has been adopted in the planning and analysis of cancer and cardiovascular risk reduction related health intervention research (Dutta-Bergmann, 2007; Airhihenbuwa & Webster, 2004; Airhihenbuwa, 1995).

Three interrelated and interdependent variables of health knowledge production and acquisition (learning) are used to operationalise culture in the model. This is to enable the comprehensive identification and understanding of culture as the major moderating/mediating variable in health behaviours as well as to ensure the appropriate (context-based) design and implementation of health intervention programs. Three primary variables in the health education/communication domain are distinguished by the model: health education; educational diagnosis of health behaviour; and cultural appropriateness in health beliefs and behaviours. In each of the three primary variables, three further variable categories are distinguished from which an analytical matrix is produced. The variables and their subcomponents are shown in table 4.1, followed by the respective explanations and relationships. In cultural psychology perspectives to health behaviours, the aforementioned variables are

respectively referred to as cultural identity; relationships and expectations; and cultural empowerment (Airhihenbuwa & Webster, 2004). The cultural psychology of health behaviours relates to the explanation and understanding of culture in health knowledge production and acquisition, as well as behavioural motivations. The understanding of behaviour in the psycho-cultural paradigm is diagrammatically presented and discussed below in figure 4.1.

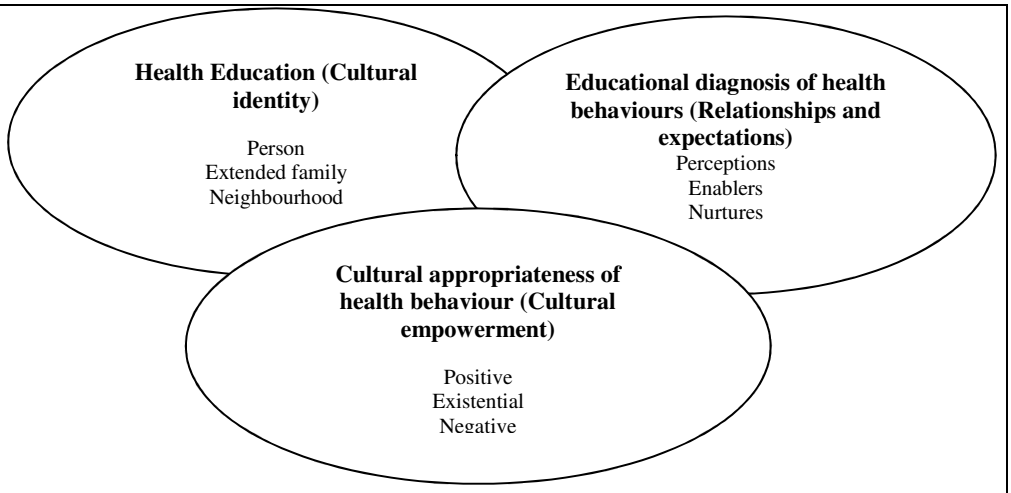


Figure 4.1.: The PEN-3 Model. Source: Airhihenbuwa, 1995; Airhihenbuwa and Webster, 2004

4.2.1 Health education (cultural identity)

Health education in the above model is a question of who to target in the health knowledge production and acquisition. It pertains to the issue of empowerment of all in the environment. The cultural identity variable ensures the determination of the start or focus of the intervention either at the personal, extended family, or neighbourhood level.

Person: Empowerment of the individual involves the making of informed and appropriate health decisions.

Extended family: considers the individual not only as a microsystem in the immediate environment, but as in the context of the microsystem of the environment; an all-

inclusive system of kinship that includes the extended family members as an influence on the individual. Example is the role and expectations of in-laws or grandparents in the upkeep of a child in the event of the death of a mother, father or both parents and their influence on funeral arrangements.

Neighbourhood: considers community members and leaders for the promotion of health and prevention of disease in neighbourhoods and communities. It ensures the provision of culturally appropriate interventions and determination of community boundaries in program planning and implementation. In cultural identity, communication considers the community's capacity to decide and communicate in their community and influence behaviour. It includes the capability of the power structures of the community to communicate using cultural appropriate approaches to influence behavioural change, e.g., town crier versus billboards. For instance, communication considers a community's capabilities to influence and change discrimination/stigmatisation as a behaviour that encourages hiding of the infected and secret burials as in the case of the Ebola and taboos associated with the performance of burial rituals that encourage the spread of diseases.

4.2.2 Cultural appropriateness of health behaviour (cultural empowerment)

It relates to the dynamic and interactive forces present in the individual, family, and community behaviours as a perspective of time (history and culture) and can relate to perceptions, enablers, and nurturers. Contextually, it deals with the understanding of behaviour in the continuum by identifying not only the bad aspects in the intervention but also the good and those by which behaviour is indifferent. The dimensional categories of cultural appropriateness of health behaviour are distinguished into positive, existential, and negative behaviours.

Positive behaviours: are behaviours related to health beliefs and actions known to be beneficial that have to be encouraged due to their valuable contribution to the production of knowledge and meaning (Airhihenbuwa, 1995; Hewlett & Hewlett, 2008).

Existential behaviours: are cultural beliefs or practices and/or behaviours that are of no harmful effect to health and need not to be targeted for change in an intervention nor be blamed for intervention failures. Example are codes and meanings in language, importance of family judgment to behavioural actions, extended family system and orature or orality (communication strategy used in the African culture - Airhihenbuwa, 1995) to which the intervention has to be consistent.

Negative behaviours: are health beliefs and actions known to be harmful that have to be changed but need to be understood within the cultural, political, and historical contexts before changing. Thus, the values and relationships within the context of behaviours including the policy environment; income and wealth of individuals, communities and societies, gender position in relation to decision making and spiritual contexts of health behaviours.

Table 4.1 below shows the relationship of the variables in the matrix. In chapter 5, the matrix is applied to show the centrality of culture in behaviours to the Ebola outbreak and epidemics in health communication management.

Cultural empowerment and relationships or expectations matrix			
Domain	**Positive**	**Existential**	**Negative**
Perceptions	Knowledge and/or beliefs that positively influence decisions about disease prevention, care, and support. Contextual values of a disease. Communication identifies positive aspects relative to a disease	Knowledge and/or beliefs that influence decisions about disease prevention, care, and support unique to the culture	Knowledge and/or beliefs that influence decisions about disease prevention, care, and support. E.g. myths and misconceptions
Enablers	Availability, accessibility acceptability and affordability of resources needed to support positive preventive health decisions and actions. E.g. openness of leadership to discuss HIV/AIDS issues to reduce stigma or government policy to guide the de-stigmatisation of HIV/AIDS patients	Availability, accessibility acceptability and affordability of resources traditionally available in the community/society that support preventive health decisions and actions. E.g. traditional healers	Lack of available, accessible, acceptable and affordable resources that promote positive preventive health and actions. E.g. reluctance of religious or community leaders to openly discuss and discourage stigmatisation. Thus absence of an enabling environment.
Nurturers	Influences of significant others and community contexts in making positive health decisions and choices, including Cultural practices that for example promote positive sexual relationships	Influences of significant others and community contexts in making health decisions within certain traditional values and practices that provide spiritual and emotional support. Example the cultural practice of caring and supporting the sick at home, society coming together to provide financial support for families of the sick or bereaved.	Significant others and community contexts that negatively shape health decisions and choices, and contribute to the spread of diseases and provide no support to the sick e.g. Stigma as a nurturer and promoter of negative health behaviours.

Table 4.1 Cultural empowerment and relationships or expectations matrix Source: Webster and Airhihenbuwa, 2004, p 10 -11

Summarizing, the PEN-3 models shows that behaviour formation and enactment involves the processes of knowledge production and acquisition processes, inextricably linked to socialisations/conceptualisations of the person (though not explicitly stated in the model) that enable behaviour to be acquired, stabilised, and enacted collectively. Notably, behavioural motivations in the cognitive processes of the person in the model are mediated and moderated by the process of knowledge production and acquisition in the environment as a factor of the locational possibilities from which individual and collective reality is constructed and defined (Airhihenbuwa, 1995; Dutta-Bergmann, 2005).

Conceptually, the complexity of cultural identity in the model to exert influence and motivate behaviour in the cognitive structures of the person (perceptions of the person)

is regulated by the salience of social norms or values, social identity and socio-structural factors that describes and prescribes behaviours in the environment (Smith & Hogg, 2008). In the information processing process of the group/person, social norms and social identity salience manifest as the psychological medium upon which the compatibility/ consistency of the meanings of a message in the persuasive message in relation to the existing information in the value system of the person is assessed. In cognitive processes, cultural identity variables serve as the basic variables that check the appropriateness of actions in information processing to motivate or determine the type of action(s) towards a recommended behaviour. Therefore, to communicate health behaviour change for collective behaviours, health communication needs to understand a given health phenomenon as an embodiment of the identity of the people. Health communication has to subsequently conceptualise communication in the frame of the ecological informational influences through which the knowledge and meanings of health are coded to motivate behaviour change.

4.3 Bioecological theory

Bronfenbrenner led and influenced studies on the influences of the environment/settings on individuals and their development and vice versa in the formation of intentions and behavioural motivations as far back as the 1970's (1974; 1976; 1977; 1979; 1986a;1986b; 1988; 1989;1986; 1993) (Bronfenbrenner, 1994; Rosa & Tudge, 2013). Developmental outcome of the person is what this dissertation contextually refers to as behaviour. The genetic inheritance perspective in the developmental processes and outcomes in the framework is of low significance to the framework of the dissertation and will not be considered.

According to Bronfenbrenner (1979b), the behaviour of human beings is shaped or influenced by the continuous interactive experiences that one encounters in the system of the person (immediate environment) throughout the stages of one's life's. These experiences serve as sources of knowledge and information which guide behaviour under given circumstances. Two interdependent propositions underline

Bronfenbrenner's theory, the process-person-context (PPC) and later the process-person-context-time (PPCT) theoretical framework (Rosa & Tudge, 2013).

Important in the theoretical framework of the person-process-context-time model (PPCT) are proximal processes (development processes) in behaviour formation (psychology – thought processes) and behaviour of the person. The functional relationship in the parameters of the proposition and their predictive utility to research design is what makes the ecological model significant in the explanation of the rationality of behaviours (Bronfenbrenner, 1994, 1999; Bronfenbrenner & Morris 2006; Rosa & Tudge, 2013). The descriptive components of the model are;

- process (progressive and complex interactions between the person and the immediate environment);
- person (age, gender, physical appearance, material resources, skills, knowledge, emotions, past experience, motivation and temperament);
- context (interconnected systems of culture, indirect influences) and;
- time (present happenings in proximal processes, period of occurrence - days, weeks, etc., shifting expectancies of the wider culture within and across generations in a person's lifespan).

According to the PPCT, the components or elements that influence behaviour are characteristics of the person and the environment. Characteristically, the person is influenced by the elements of form, power, content, and direction in the proximal processes as a factor of time (Bronfenbrenner & Morris 2006). The cumulative effects in interactions or complexity of interactions of the four elements (form, power, content, and direction) in the personal characteristics of the person produce given outcomes (behaviour) subject to the prevalence of the properties inherent in the proximal processes in the course of someone's life (time) (Bronfenbrenner & Morris, 2006).

According to Bronfenbrenner (1999) the underlisted properties have to be present and interact with the environment without which proximal processes will fail to produce outcomes;

- The person must be engaged in an activity for development to occur.

- The effectiveness of the activity is a subject of the regularity with which the activity is undertaken and the period of time within which the activity is undertaken (progressive). Regular interruptions are not accepted neither are occasional undertaking of activities.
- The activities have to become increasingly *complex* over time to undertake. Mere repetition in work does not count in measuring developmental effectiveness of an activity.
- Interactions (proximal processes) in the development of the person have to be bidirectional; initiate and receive a response and not one-sided
- Interactions in proximal processes must not only be interpersonal but also occur with objects and symbols in the immediate environment and must elicit attention, exploration, manipulation, elaboration and imagination.

In this dissertation, the variables or elements of behavioural motivations and their strength in the environment will be traced to the macrosystem (culture) to show how the macrosystem (described as core in this dissertation) mediate and moderate thought processes in the microsystem in the production of behavioural outcomes. Though the influence of other systems is acknowledged, the macrosystem is considered as the core system embodying the structure and totality of the form, power, content, and direction of processes in the systems, especially microsystems, of which the psychological and social functioning in proximal processes are defined and extrapolated. The macrosystem is the lens from which the proper psychological and social functioning/development of the microsystem and its relationship to the other systems is conditioned and measured.

With respect to health promotion McLeroy, Bibeau, Steckler and Glanz. (1988) borrowed from Bronfenbrenner's model and the works of other authors (Belsky and Steuart) to develop a model for health promotion. The model shifts from the psychology based individual-lifestyle approaches in explaining behavioural motivations to a systems approach owing to the importance of social influences of systems on health and diseases. It is targeted at both individual and social environmental factors to behaviour change in health promotion. The ecological model to health promotion assumes that appropriate changes in the social environment will

correspondingly lead to a change in the individual as the support of individuals in a population is important to implementing environmental changes.

In the model, behaviour is described as patterned and enacted to achieve an outcome of interest in the system and not merely as a result of sources of influence. Depending on the purpose of a health promotion intervention, the behaviour could be analysed at the levels of intrapersonal factors, interpersonal processes and primary groups, institutional factors, community factors and public policy variables (McLeroy, Bibeau, Steckler & Glanz, 1988). The implicit assumption underlying the provided levels of analysis is that interventions are based on beliefs, understanding, and theories of behaviour determinants. Nonetheless, the level of analysis could also be considered for the understanding of the causes and potential areas to target in a behaviour change intervention (McLeroy et al., 1988).

Intrapersonal factors of analysis involve individual characteristics in terms of knowledge, attitudes, behaviour, self-concept, skills among others including the developmental history of the individual. But unlike the major psychological models to behaviour change (individual approach), the ecological model considers the social norms and values in the knowledge, attitude and skills of the individual as the elements of the intervention in the behaviour change strategies (mass media, peer counselling etc.). Behaviour as informed/determined by the beliefs in the knowledge, attitude and skills is the target in the change process (McLeroy et al., 1988).

Interpersonal processes give merit to the social relationships that affect behaviour with respect to family members, friends, neighbourhood, and contacts at work. The element of change here is on norms or social groups to which the individual by virtue of membership or social identity is a part and is socially influenced. That is the individual is not changed through other people (social influences) but by the beliefs, values, and information held as a result of the identity factor in the interpersonal processes. Additionally, the focus on social relationship effects as an outcome of interest enables the identification and understanding of the structural (networks) and functional (social resources) influences of social relationships in the acquisition of norms, information, and the maintenance of behaviour. This is because social relationships serve as

mediators in life-stresses (social identity, emotional support, information etc.). They also influence decision making through the specific norms of specific networks to functionally impact access to and acceptability of information in the individual (McLeroy et al., 1988). Behaviour is enacted to meet identity interests.

Institutional/organisational factors for changing behaviour ecologically focus on organisations that support behaviour change through activities and programs; target change in the organisation to promote health (worksite that target employees - incorporation of norms and values in the organisational culture or ideology); and the diffusion of health program or intervention within the organisation. In the ecological framework, the structures and processes in the organisation offer opportunities for interactions and for the transmission of norms and values as a factor of the time that individuals spent with groups and among activities in the organisation. Organisations, therefore, mediate between individuals and systems within which time is spent to serve as sources and transmitters of values and norms, which through the socialisation processes inform and define social identity motivations in the individual. Membership to organisations such as churches, professional groups, neighbourhood groups etc. in which time is spent has social identity motivations both in the individual and group as the organisation also function to provide support (financial, emotional, informational etc.) towards life-stresses to its members (McLeroy et al., 1988). The amount of time spent by individuals in the interactive processes in the organisation and the functionality of organisations in intrinsic motivations to the enactment of behaviour make organisations moderators/mediators in cognitive processes of the ecological framework in health behaviour change interventions.

The effectiveness of an intervention is a factor of the understanding of the structural and functional influences of the levels of analysis of the ecological variables in intrinsic motivations of the person/people as a relation of the outcome of interests (social identity). The outstanding contribution of McLeroy, Bibeau, Steckler and Glanz ecological model in health communication deals with the philosophical acknowledgement and proof of environmental variables, especially social identity in relation to norms and values as a mediator and intrinsic motivator in cognitive processes of both the individual and groups of persons. Their work provides

understanding on the interconnectivities in ecological variables that influence behavioural motivations in the cognitive processes of the person. The model enables the determination and understanding of social identity in cognitive processes for the generalisation and conceptualisation of social identity in health communication.

The frame of the ecological model to health promotion and communication in particular with specific reference to social identity in cognitive processes of persuasive motivations, within which this dissertation was conceptualised will be discussed subsequently in the succeeding sessions, but from the perspective of Bronfenbrenner's PPCT and Airhihenbuwa's PEN-3 models.

4.4 Developmental process of Bronfenbrenner's model in the framework of the 2014/2015 Ebola outbreak

Operationalizing the theoretical framework of the PPCT in the Ebola outbreak, functional relationships between proximal processes and environment in behaviour (product outcomes) could be explained and understood. The one-on-one substitution of all the variables of the theory within Bronfenbrenner's explanation is too complex within the frame of this research. However, using the variables and elements in the framework as a structural approach, this dissertation will operationalize the framework by explaining the variables as related to the context of the research focus (culture and communication) to show the influence of environment on behaviour and vice versa for the modelling of the applicability of the PPCT in health communication management.

The developmental process of the modelling is approached by focusing on the macrosystem (group centred approach; herein referred to as culture in the dissertation) in the context and its associations in the social identity theory and subsequently to behavioural motivations/persuasions. The macrosystem defines norms, social roles, personal behaviour, and patterns of behaviour under different situations. The macrosystem also determines the interactional processes that exist in the structure of the systems. Thus, the dynamics of product outcomes (normative behaviour) in a given setting are embedded in and extracted from the macrosystem as the engine of social

processes. Conceptually, using the PPCT, the dissertation will discuss the structure of the social environment, social identity, and socio-structural factors in behavioural motivations and persuasion for health communication interventions. With this background the conceptualisation of the model begins by considering the foundation of proximal process as integrated in the macro-system using Bronfenbrenner's theoretical explanations but from the perspective of social psychology in the group domain.

From the properties of proximal processes (progressive and sustained interactions within the immediate environment) the production of outcome is not limited to interactions within the microsystem of the immediate environment. They also include interactions with objects and symbols that elicit attention of the person which are explored in interactions within and between the various systems (Bronfenbrenner, 1999). The objects and symbols of interactions (communication) are embedded in the belief systems, customs, and bodies of knowledge (ideological views/culture – macrosystem) in the immediate environment in the development of the person (Smith & Hogg, 2008). The interactive capability and complexity of the objects and symbols to initiate and receive response in interactions is associated with the cultural knowledge and explanations expounded for the objects and symbols from which implicit meanings are derived in communication. This property of inherent meanings of the objects and symbols ensure the conveyance of information either verbally or nonverbally in proximal processes in the immediate environment.

The sustained and complex processes of interaction between the person, objects, and symbols of the immediate environment in the development process of the person culminates over time into the complexity of characteristics by which the person identifies and defines him/herself in the system[10]. The objects and symbols in proximal processes elicit attention (cognitive processes) if in consonance or in assimilation with the characteristic of the person and accordingly manipulate (motivate implicitly) the person to react/respond similarly in the interaction process (Smith & Hogg, 2008).

[10] The concept of identity is discussed in the subsequent paragraphs

Impliedly, macrosystems mediate thought processes of the person in proximal processes of the microsystem and with other systems. It serves as a very influential system in explaining the development of the person and behavioural formation. Irrespective of the context (Western or developing nation), the person's perceptions of him/herself, relationships, and interactions with others as well as expectations from the person for the self and from others are discerned from those of a given macro-system within which the person develops. The macro-system of a given context (be it in individualistic/collective cultures) serves as the lens by which proximal processes of the person in the microsystem in the immediate environment is perceived and acted. Similarly, perceptions, attitudes, and product outcomes (behaviour) of the people in the 2014/2015 Ebola outbreak regions were those conceptualised by the macrosystem. Accordingly, these manifested in the social identity perspectives explicit in the social processes of the people towards caregiving and burials. Within the concept of identity, precisely social identity theory, the prescriptive functionality (social roles) and motivations of the microsystem embedded in the macro-system are determined.

Foregoing, to understand caregiving and funerals as major components in the challenges of Ebola communication management in the PPCT model, the functional mediations of the macrosystem (context) has to be conceptualised and explicated from the concept of identity (social identity theory). In so doing, the related motivational foundations of the macrosystem in the production of product outcomes (behaviour) in proximal processes and the development process of the person for the outbreak region could be appropriately perceived.

In the social identity concept, belief systems and customs, that is, the macrosystem, are referred to as norms – "shared patterns of thought, feeling and behaviour" which in-groups can be inferred from and information communicated in terms of "what people do and say" (Hogg & Ried, 2006, p. 8). These norms describe and prescribe standards for behaviour, relationships, and interactions of a system through which the person perceives and evaluates him/herself. In the development process of the person, belief systems and customs are fundamental to the formation of perceptions (both implicitly and explicitly) and identity in the person, which is further strengthened by the proximal processes (Smith & Hogg, 2008). Perceptions are culturally constructed

in shared identity which facilitates perceptive thinking through proximal processes and are embedded in cognitive processes of the person (Smith & Hogg, 2008). The person can, therefore, not identify him/herself outside their ideological systems which are the lens by which the individual identifies him/herself. This is because the identity of the person (microsystem) is inextricably linked to the social identity of the system (macrosystem). Additionally, individuals are born into social categories and derive their identity from their in-born category as well as behave in concert with their group identity (Abram & Hogg, 1988 as cited in Stets & Burke, 2000). To this end it becomes necessary to incorporate the theoretical discussions on the concept of identity (social identity processes) for the understanding of the complexity of the environment in behavioural motivations.

The concept of identity consists of social identity theory and identity theory (Stets & Burke, 2000). The difference according to the authors is that social identity on the one hand deals with homogeneity in perceptions and actions among group members. Identity theory, on the other hand, is concerned with roles, whereby perceptions and actions associated with roles are differentiated and related with other roles. Though identity theory is considered, emphasis is placed on the social identity issues in self-conception of this dissertation. The concept of social identity according to Turner was propounded by Tajfel as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of the group membership" (Tajfel, 1972 as cited in Turner, 1982, p. 18). Social identity is, however, subsumed in the concept of the self either as a set of psychological processes or a cognitive structure with the cognitive structure referring to the available system of concepts by which the individual attempts to define the self (Turner, 1982). The available system of concepts (social identity and personal identity) from which self-conception is derived and accounted for distinguishes two terms in the description of the self. Namely, terms that signify membership to a formal or informal social group (social categories, e.g., sex, religion, political affiliation, nationality etc.) and those that are personal in nature (specific individual attributes, e.g., feelings of competence, ways of relating to others, psychological characteristics, personal tastes etc.).

The self-concept though structurally and functionally differentiated in relation to the environment and immediate social context, is relatively a constant and multifaceted system, present in the conscience of the person and is generally consistent from one situation to the other (Turner, 1982). The variability of the self under different situations cannot be overruled, but at any point in time the given salient identity description may function to exclude or override the other. Thus, according to Turner (1982), the type of self-concept predominant in a given situation is a factor of the salience of social identification by which interpersonal or intergroup interactions and behaviour may be influenced. For instance, where social identity is primed in the conscience of the individual, perceptions of the self (salient self-images) and others is basically influenced by and deduced from group membership through social categorisation processes.

Social categorisation is the "discontinuous divisions of the social world into classes or categories" (Turner, 1982, p. 17) or "attributes that define one group and distinguish it from others" (Hogg & Ried, 2006, p. 10). Social categorisations help in identifying similarities among people within a group (intragroup) and differences between groups (intergroup) (Smith & Hogg, 2008). The process of social categorisation involves the assignments of attributes exemplary to a category membership (deductive aspects) and definition/identification of the self with the attributes of category membership (inductive aspects) in the perceptions of the individual (Turner, 1982). Social categorisation is the process through which identity is formed (Stets & Burke, 2000). In instances, where category membership become salient to the individual rather than the personal idiosyncratic nature in the social categorisation process, the self-concept/personal identity is depersonalised so that perceptions of the self is defined and described to conform with characteristic attributes of the category. This is with respect to perceptions, attitudes, emotions, beliefs and values, behavioural norms etc. of the category prototype (Smith & Hogg, 2008, Stets & Burke, 2000). This implies that the person internalises the group attributes and behave in conformity with group norms. Perceptions of belonging to or having common characteristics (e.g., common fate, shared threat etc.); defining oneself in terms of specific social categories and; internalising of social categories through overt compliance with group norms all serve as a cognitive criteria in the evaluations of the person. These enable the individual to

be strongly influenced and motivated to perform group behaviour or normative behaviour.

The property of social categorisation to induce behaviour (group behaviour) lies in its strength to enable individuals to positively define themselves to a social group. It also enables individuals to differentiate themselves from other categories by learning and conforming to norms of the category and assign the norms of the category as salient in themselves. Social identification according to Turner (1982) is "the processes by which one identifies oneself as a category member, forms a group stereotype on the basis of other category members' behaviour, and applies the stereotype on the basis of oneself" (p. 32). That is, the person views himself/herself "in terms of meanings imparted by a structured society" (Stets & Burke, 2000, p. 226); by that persons and people assess their positions and function in the society, as well as internalise the meanings in the self to conform to group norms/values.

In social identity processes, the cognitive structure functions to mediate between the environment and behaviour so that information from the environment is processed to regulate behaviour to conform to the associated cognitive output (Turner, 1982; Smith & Hogg, 2008). Smith and Hogg (2008) refer to this "identification-based conformity" as related to environmental influences as "referent informational influence" (p. 341). The salience of social identification in the motivational processes of normative behaviour performance is associated with the internalisation of the norms and positive characteristics of the group membership in self-esteem evaluations (value dimensions comparisons, discriminations/social perceptions) of the person. In other words, social identity functionally mediates the cognitions of the person through the processes of social categorisation in the self-concept to regulate behaviour either automatically or motivate intrinsically. This involves the controlling and interpretation of social stimuli such as attributional perceptions and those of psychological interdependence of the person on others in the category (such as social and emotional support) to produce behavioural effects (Turner, 1982; Smith & Hogg, 2008).

Attributional perceptions associated with self-identity (identity theory) are induced and deduced in the process of social categorisation and social identification. The

perceptions deduced by the person as prescribed by the belief system, customs, or bodies of knowledge to which a person belong to influence the person's cognitions and emotions as well as define the motivations of the person (Carter, 2014; Guimond, 2008; Stets & Burke, 2000; Williams & Best, 1994). The reflexion of the self from the macrosystem is what Neisser (1988) referred to a as the *ecological self* - "I am the person in this place engaged in this particular activity" (p. 35). Thus, how a person defines the self, is shaped by context influence behaviours in the frame of referent information influences. The reflexion of the self involves depersonalisation ("seeing the self as the embodiment of the in-group prototype" – Stets & Burke, 2000, p. 231) which in social identity theory is the basic process underlying group phenomena such as emotional contagion and collective action. According to the concept of identity, the self is defined through depersonalisation and relates to self-verification in the cognitive processes. Self-verification is "seeing the self in terms of the role as embodied by the identity standard" and identity standard is "the cognitive representation of a role containing the meanings and norms that the person associates with the role" (Stets & Burke, 2000, p. 232).

Following from the concept of identity, it is explicit that discussions on normative behaviour formation and behaviour change, especially those of health behaviours cannot be considered within the microsystem of the person but from within the macrosystem. The reason being that the self (identity theory) and behaviours are ecologically grounded, influenced or stimulated in social identification categorization and processes. In behavioural processes the self-verification takes the form of role-taking, role-making and group formation as the person acts to portray the identity. In the processes of depersonalisation and self-verification, one's identification with a category and the associated behaviours of the category are respectively manifested to confirm social structural arrangements, the knowledge of which are known and acted accordingly (Stets & Burke, 2000).The identification of the person with the social categories that structure society, as well as behaving concertedly to the expectations associated with one's identification implies that the person acts in context to, refers to and reaffirms the social structure. The self is, therefore, seen to be present within the society and is influenced by society because of the socially defined and shared meanings incorporated in one's prototype or identity standard and vice versa which is

fundamental to the psychological and motivational basis of behaviour. Referencing the identity concept in the ecological model, it is evident that the proximal processes (socialisation and functionality of the person in the system) is embodied in the attributional and perceptive identity associated with cognitive processes of self-stereotyping of the person in the system through social identification (Turner, 1982).

Characteristically, people of collective cultures exhibit the properties of environmental influences/social identification in their behaviours as the self is reflexive of the immediate environment or group. In collective cultures, including those of the 2014/2015 Ebola outbreak region, attributional perceptions of the female sex is rooted in the belief systems and customs to produce normative behaviour. Attributional perceptions of a woman include nurturing, compassion, emotional sensibility, responsive (being there when needed) and responsible among others. Carter (2014) notes that identity and specifically, gender identity is culturally and situationally defined (Turner, 1982). Gender identity as a reflection of the ecological self is socialized in proximal processes early in one's life through referent information influences in gendered behavioural norms and expectations. This contributes to the identity and roles one assumes in the environment and the corresponding behaviours that are formed. Social roles accordingly impact social behaviour because of the referent information influence of the immediate environment on the person (Turner, 1982).

The contextual identity and perception of females in the environment (Guimond, 2008) underlies the assumptive and entrusted primary role of caregiving/emotional support of women in situations of ill-health and bereavement in most collective societies – "cultural conceptualisation" of the woman as a caregiver. In the developmental course of the person, these roles by which a person identifies the self are implicitly transmitted through the interactive processes that take place in the context directly and indirectly in the daily lived activities and of nature (death). The social categorisations of women in collective societies become inherently accepted and lived to concert with the common attributes constructed by the social norms which prescribe behaviour in the proximal processes of the person.

The internal dynamic processes of identity cause people to act in order to keep perceptions of themselves in situations consistent with their identity standard; the motivations of which are linked to self-esteem (social identity) and self-efficacy (identity theory) (Stets & Burke, 2000). Thus, in the cognitive processes to enact the roles, behavioural motivations are mediated and regulated by the desire to achieve identity standards (social identity). The motivation is based on the need for positive self-esteem founded in the roots of intragroup competition to assign in-group aspects of positive stereotype to oneself than to others that induces one to conform to the norm and help in the regulation of behaviour (Turner, 1982). The context of proximal processes as construed by culture and gender/social identity of the person provides cues to behaviour and explains the initial high rate of deaths among women in the communities and health institutions, who were in the forefront of nurturing the sick in the home and health institutions.

Summarising, the above analogy of the ecological concept in the frame of the concept of identity shows that culture as ecology or context is the bedrock that defines identity, as well as determines, intrinsically motivates and regulates behaviour. Culture as a functional system can, therefore, not be underestimated in communicating positive behavioural changes. Communication interventions need to be conceptualised from the perspectives of the processes and phenomena in the context underlying health behaviours and epidemics. The conceptualisation has to consider the structure of the social environment with respect to prevailing norms (including values) and social identities in behaviour formation and the endured enactment of the behaviours. Thus, the processes underlying group phenomena of emotional contagion in collective behaviour to epidemics need to be pursued by exploring persuasive health communication from ecological perspectives, because “health is a cultural production” (Airhihenbuwa, 1995, p. xii).

To this end, the variables and their subsystems in the PPCT model regarding care giving/funerals (social support) and healings to the spread of Ebola and epidemics in the outbreak region would be provided, to show the applicability of the model in health communication for the understanding of behaviours. Details of the linkages or relationships in the application could be extracted from the discussions in chapter

seven and thereafter in the latter chapters. Considering the cultural norms on care giving, who to give care to the sick, how to give care, when and why to give care, the health interactive processes etc. as an issue of context in behaviour is shown below.

Process – deals with interactions in the immediate environment (individual and family members, including extended family - related to "microsystem as a collective" in the culture under review; individual and religious groups, peers, societal groups in the community/neighbourhood – Poro: men, Sande: women). They are therefore the agents of socialisation or the mediating structures through which societal beliefs and values (e.g., social support) are transmitted and by which social identity is defined, behaviour formed and enacted. The consideration is on variables that influence psychosocial processes and behaviour in the normative which serve as sources of influence and of social resources, as well as social identity which is the important component in the overall well-being of the person that sets proximal processes in motion.

Person - considers characteristics of the person (a) demand characteristics: role in the society, e.g., traditional healer, woman, adult/youth/child; b) resource characteristics: skills – employed/unemployed, access to material resources both financial and physical access to health; c) force characteristics: ability to withstand social pressure - stigma. Characteristics of the person mediate and regulate self-efficacy/self-esteem in cognitive processes in behavioural motivations. Sources of socio-economic resources mediate life stresses in terms of stress coping, emotional support, relationships when ill, including obligations and responsibilities in the competencies and dysfunctions of the person.

Context **-** cultural ideologies/perspectives on disease and typologies of diseases - health beliefs and treatment approaches, care seeking habits. It regulates emotions and perceptions of susceptibility/exposure to diseases and motivates care seeking intentions in cognitive processes as rational cues to behaviour.

Time – (micro-time: what is occurring during the cause of a specific activity or interaction; meso-time: pattern of environmental events in disease outbreaks over time

including social conditions in historic times; cross-generational). Dynamics and complexities of framing (understanding), seeking and changing health behaviours as based on their context, characteristics of the person and as in the processes of interactions in the formation of intentions for the understanding of behavioural causes.

Adopting ecological models in health communication should help identify the linkages between individual perceptions of health and actions towards health attainment as a parameter of the social identity influences and expectations of the macro-system in the context. As input to persuasive communication intervention, the identified information should guide the understanding of these variables as intrinsic persuasive elements in the enactment of behaviour to assist in the better design and implementation of health interventions.

Having considered the main ecological theory and model used in most discussions on behaviour change, culture can be centralised as well as conceptualised in the analytical framework of this dissertation. Discussions will relate to the mediatory/moderating processes of culture in information processing both of the person and group, so that the person herein mentioned is considered also as the group.

4.5 Theoretical framework of this dissertation

In the discourse of Chapters 2, 3 and 4, the logical linkages in the variables of the respective constructs; the clarity in the concepts for explaining and determining behaviour in the process of information processing and their applicable utility in the real world had been considered. The literal and theoretical operationalisation of the Ebola management in the respective behavioural, communication and ecological models in the framework of the 2014/2015 Ebola communication management indicate that the exclusive use of psychological approaches to persuasive behavioural change communication persists. Behaviour continues to be explained and understood from psychological perspectives that do not adequately provide knowledge and understanding of behaviours as affected and effected by multiple interrelated factors

intrinsic of a system, namely culture. This negatively impacts persuasive communication interventions.

This does not imply a complete irresponsiveness of behavioural theories to persuasive change. Rather, it shows that persuasive communications are parochially conceived and contextually a misfit for the general understanding of behavioural motivations or what one may term the logics of behavioural causation. As such, refining the standard psychological perspectives of communication to encompass the ecological perspectives and the placement of emphasis on ecological perspectives of contexts as central in cognitive information processing may be more effective in arousing information processing and motivating behavioural change. This will mean that models for changing behaviour must adapt from factors that interconnect psychologically, sociologically, anthropologically, and communicatively as per their dynamics for meaning making in information processing and behavioural motivations.

Subject to the reviewed theoretical frameworks, this dissertation posits that if persuasive communication is modelled from a multidisciplinary as well as context or culturally compatible perspective and within a meta-theoretical approach or framework, communication would be more feasible in affecting and effecting behaviour change universally compared to a single disciplinary oriented framework. The assumption under which this has been made is namely the identification and integration into a comprehensive whole, all relevant interrelated variables or components that affect and effect meaning making in a communication process. Such a model it is believed would enable behavioural categorisation and persuasive change interventions to adapt to perspectives that deal with the causative routes of behaviours and their functionality in a person and people (Mitchell, Steeves & Hauck Perez, 2015).

Given the applicable utility of the bioecological model over the other models in information processing and persuasive communication, and its meta-theoretical functional attributes, attention will be focused on the bioecological concept for the derivation of an efficacious persuasive communication model in this dissertation. Foremost to the empirical modelling from the research data, this dissertation proposes

the modelling of a meta-theoretical model of communication within the frame of interrelationships in the functions of a system's components and its information processing processes in behavioural causation/motivation. This is considered in the flow chart below in form of the stages in the process of an intervention whereby the relationships as they affect and effect meaning making in information processing and behaviour change is described.

The figure 4.2 below represents the simplified visual version of the theoretical framework for this dissertation.

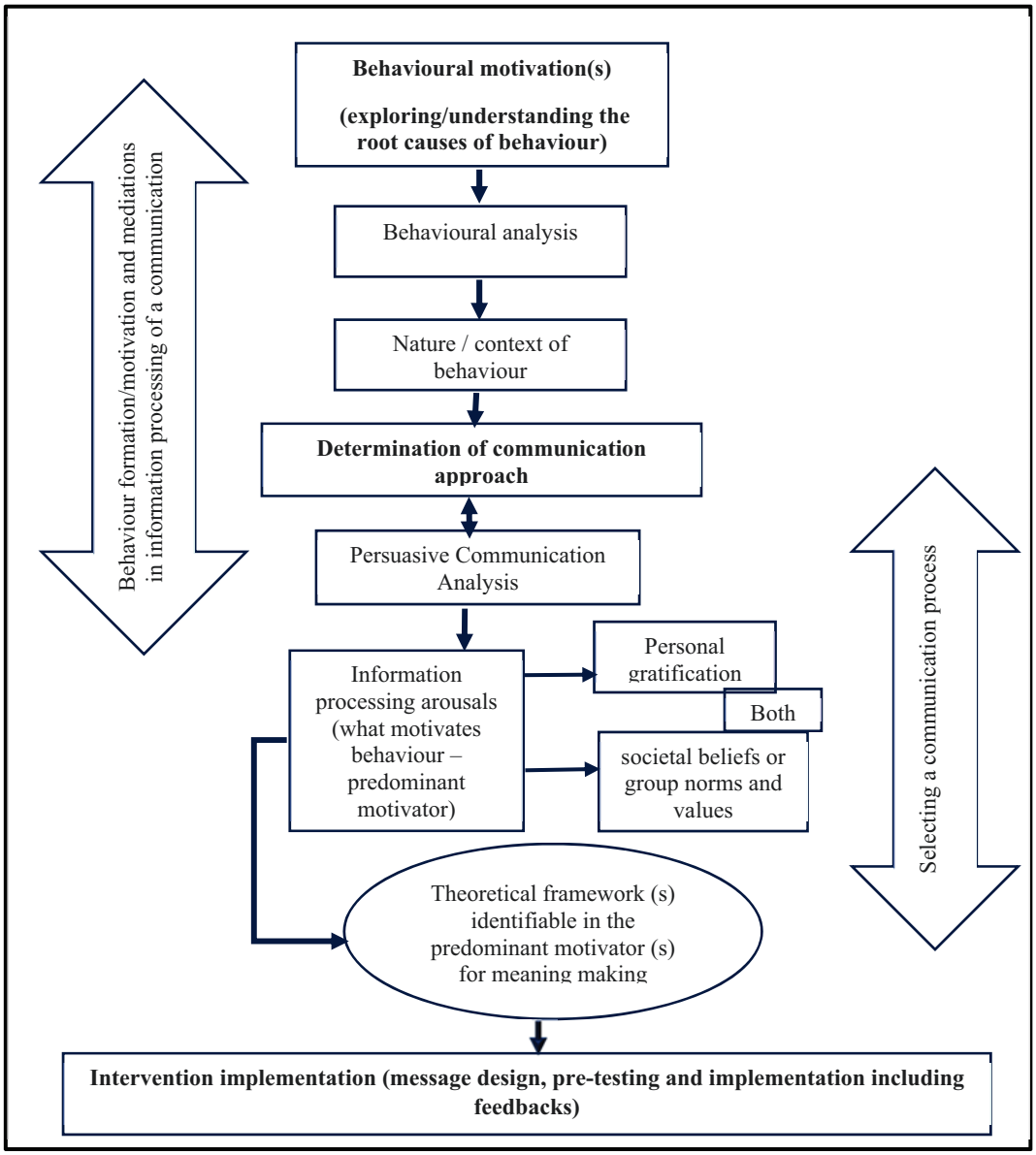


Figure 4.2: Source: Author's construct: Process of modelling an integrated persuasive communication framework

In figure 4.2, persuasive communication is perceived as a process which has to be considered from the interrelationships in a system's components for influencing information processing and behaviour change. In this regard, a persuasive communication intervention is regarded as one that explores and understands behaviour from the perspective of the predominant motivating factor(s) in behaviour and how it influences meaning making in information processing in behavioural outcomes. Herein, a full exploration and understanding of what is motivating the behaviour in question in terms of its information processing arousals, message decoding, and behaviour change is needed. As such, three major processes are proposed in the framework of this dissertation for the planning and management of a persuasive communication intervention. The processes are namely the exploring and understanding the root cause(s) of behaviour, determination of the communication approach for the persuasive communication, and intervention implementation (message design, pretesting and implementation, including feedback.

Foremost to the design and implementation of a persuasive communication in this construct is the identification of all related causes of the behaviour. The identification involves the consideration or definition of the specific behaviour, e.g., caregiving. Caregiving will then be analysed thoroughly for factors motivating or arousing it directly and indirectly, individually and interrelatedly until no further factor could be identified as arousing it. The last factor to which no further motivator could be traced become the root cause of the behaviour that has to be addressed in the communication process as per its functions in information processing in the persuasive communication. In relation, the manner in which the behaviour manifests itself has to be identified for aggregation and categorisation of the target audience in the communication intervention. Parallel to that, the perceptions about the behaviour also have to be analysed for the understanding of its functions in the behaviour formation. From the aggregation and categorisation, the analysis of context of the behaviour (in terms of whether it is individually motivated – personal gratification or group motivated - social values and norms) together with that of how the behaviour is perceived will serve as the direct informational inputs into the next phase of the planning of the persuasive communication intervention itself; thus, the determination

of a communication approach. This behavioural analysis phase in the frame of the persuasive communication is to gain understanding about factors underlying behaviour formation or motivation and its influences in information processing in the communication process.

The determination of the communication approach introduces the next analytical phase for the planning of the persuasive communication intervention. This phase in the process is referred to as the process for selecting the appropriate communication approach (capable of eliciting meaning making in information processing and changing behaviour) for utilisation in the design of messages at the implementation stage. The analysis is not independent of the behavioural analysis, but derives and depends on it for focusing attention on the predominant behavioural motivator identified through the behavioural analysis. However, the analogical emphasis here is on the properties of the nature or context of behaviour and perceptions about the behaviour in meaning making in the information processing. For instance, deriving from the context of the behaviour in its information processing functions, the nature of what arouses behaviour (purpose of the behaviour – personal gratification or fulfilment of social values) will inform the type of theoretical framework (psychological, communication, bioecological) that has to guide the design of messages.

Central in the analysis about the type of theoretical framework to select is the manner in which the given variables of the framework(s) function in persuasive communication to affect meaning making and impact behavioural outcomes. For example, if none of the two information processing arousals is analysed as exclusively motivating behaviour and information processing, then "both" may be assigned for the predominant motivator in the analysis and that will inform the theoretical communication framework that has to be chosen to guide the design of messages. "Both" in the analytical framework of this stage is synonymous to the extrinsic and intrinsic factors that underlie behavioural motivations in behaviour formation and the factors that elicit processes of meaning making in information processing. It is also symbolic of an integrated communication framework for meaning making for a persuasive communication intervention. The integrated persuasive communication model must, therefore, possess properties of extrinsic and intrinsic motivational factors

in the messages for meaning making in information processing and behaviour change to occur. Following the analysis in the selection of a communication process, the design of messages for implementation commences as the last major phase of the planning of the persuasive communication intervention in the construct.

It must be noted that the message design and implementation phase does not mark the end of processes for the planning of a persuasive communication intervention in this construct. The section of feedback that is also a stage in the process as a whole begins when implementation of the intervention also begins. It involves a review of outcomes in information processing and behavioural outcomes which then feeds back into the stage of behavioural analysis for the resumption of the analytical process in the framework to the planning and implementation of a persuasive communication intervention. Thus, the construct ascribes a cyclical process for the design of a communication model and for the integrated model in particular. This theoretical construct will inform the applicable utility of the model to be developed after the data analysis of the next chapters. Details of the figure 4.2 could also be referred to in chapter 10.

Chapter 5

Research process and methodologies

5.1 Introduction

In this chapter the processes involved in the gathering of data for analysis and discussions will be provided. An exclusive qualitative and integrated research methodology involving ethnography (observations), grounded theory, and phenomenology underlies the data collection process and analysis of this dissertation. Each of the methods employed is explained as a subsection in the chapter. A description on the geographical and social characteristics of the study area is also provided to ensure better visualisation and understanding of the context of the study. A systematic process is shown in figure 5.1 below. Figure 5.1 can be broadly simplified as follows; problem identification and research question formulation; literature review; question design, pretesting and administration; data analysis and interpretation; and conclusions and recommendations.

Qualitative research techniques or tools such as focused group discussions, semi-structured key informant interviews, and archival material were employed for the data collection, analysis, and interpretation. The technique allows for triangulation which is necessary for the nature of the research question being addressed. The ethnographic data collection tool was the foremost of the techniques employed for operationalisation in the data collection phases in the process of this research. This involved a stay in the community, where behaviours were observed in their contexts and means of expressions for the understanding of reality in the perception of the people. Thus, how the people make sense of the world around them, communicate and behave were observed. The ethnographic approach offered a study into symbolic interactionalism and its influence on collective behaviour. Symbolic interactionalism is concerned with

the taking on of the perspective of others concerning situations in the social world where personal opinion cannot be explained or upheld (Bryant &Charmaz, 2007). Philosophically, the constructivists (the construction of meanings as human beings engage with the world around them based on their social and historical backgrounds and interactions in the world around them – Crotty, 1998 as in Creswell, 2013) worldview is ascribed for understanding the research problem and for analysing the data. Nevertheless, social constructivism is the overwhelming philosophical view in the linkage between the frameworks for interpretation of the phenomena understudy, with phenomenology being the consistent approach in the research design. The influence of these philosophical perspectives for this dissertation could be abstracted from the reflexivity sub-section of this chapter.

With this brief about the research methodology and the chapter, the next sections will focus on the detailed description of the research methods, which are, however, preceded by the justification for this research methodology.

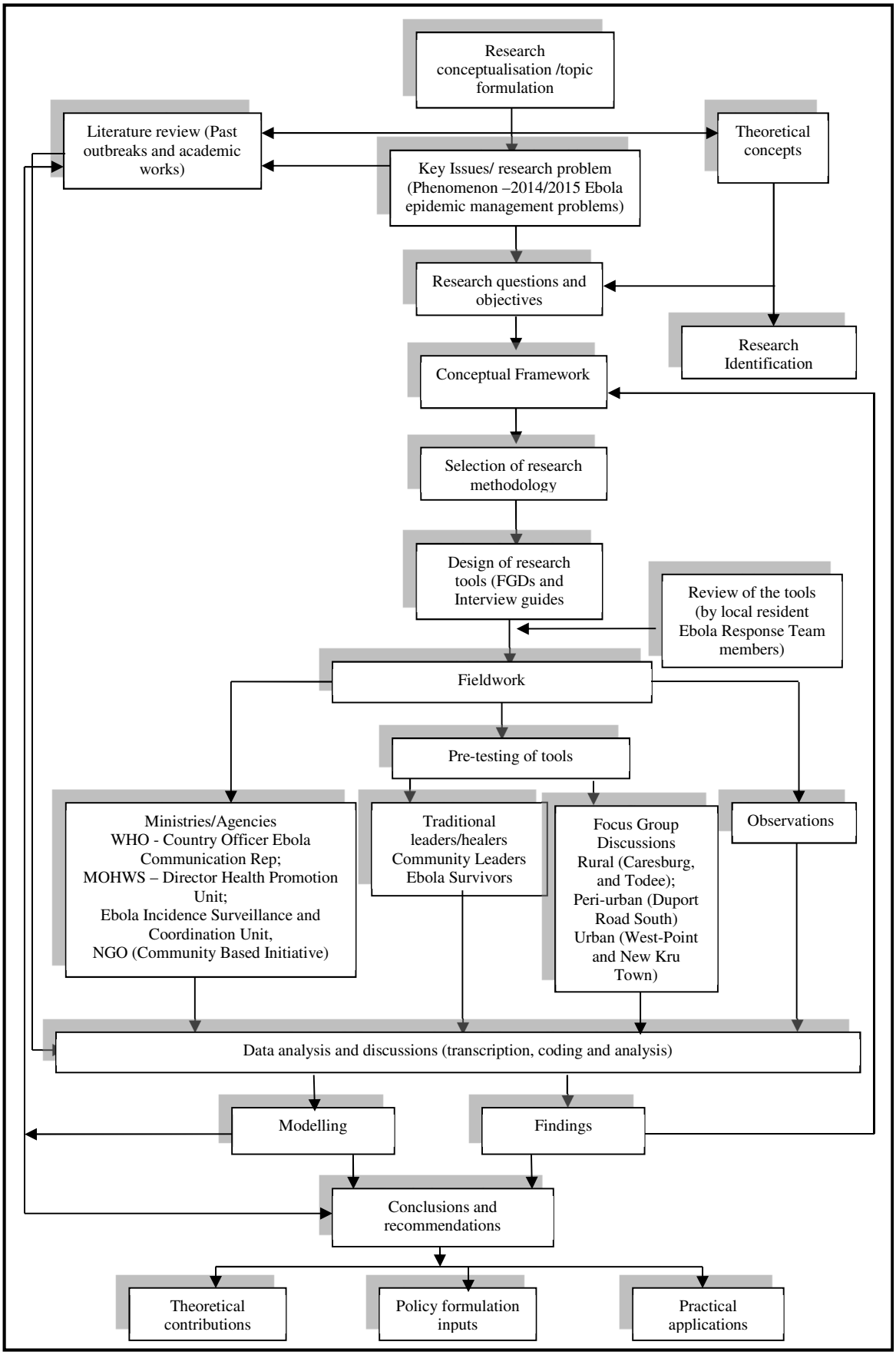


Figure 5.1: Structure of the research methodology. Source: Author's construct, 2015

5.2 Justification of research methodology

To justify the research methodology in Fig 5.1 and the qualitative approach in particular, it is necessary to provide the meaning of a research methodology as pertains to my perspective and process by using the definition of Kothari (2004). According to Kothari (2004), research (methodology) refers to "the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analysing the facts and reaching certain conclusions either in form of solution (s) towards the concerned problem or in certain generalisations for some theoretical purpose" (pp. 1-2). The tenets of this definition could be extracted in the research process above but with a few more details about their content and interdependencies.

Before the provision of details on why a qualitative research design was appropriate for this research, a definition of qualitative research which also highlights the essential features that must be present in a research project for it to merit a qualitative research methodology will be provided. According to Creswell (2013) a qualitative research is

> "an approach to inquiry that begins with assumptions, an interpretative/theoretical lens, and study of research problems exploring the meaning of individuals or groups ascribe to a social or human problem. Researchers collect data in natural settings with a sensitivity to people under study and they analyse their data both inductively and deductively to establish patterns or themes. The final report provides for the voices of participants, a reflexivity of the researchers, a complex description and interpretation of a problem, as a study that adds to literature or provides a call for action." (pp.64-65).

Thus, qualitative research methodology is needful when the research problem requires exploration; is complex and calls for detailed understanding; the writing has a literary and flexible style and when understanding of the settings or context of participants is sought by the researcher (Creswell, 2013).

Foremost to the decision to adopt a qualitative research design was the nature of the research question of identifying or exploring interconnectivities among the interacting variables of health communication, culture and behaviours whose theoretical foundations are in sociology, anthropology, psychology and communication science. Related to the question and theoretical orientations in the selection of the research design was the overall goal of the research, namely the discovery and understanding of the interrelationships between communication and culture for the enhancement of persuasive communication. Additionally, the possibility of using more than one data collection tool to obtain different dimensions of information for verifying the authenticity of information that would be gathered pre-informed the decision for a qualitative research method.

Central in this goal is the effort to contribute to the creation of understanding of behaviour in detail as a causation of contexts, which philosophically could be considered as a study of a process(es). To understand behaviour as a study of a process in the interrelationships or interactions, an interpretative approach which allows for the description and explanation of behaviour in detail as a social phenomenon is imperative. This is essential since the study of health communication upon which this research focused is oriented towards "the ability to relate communication processes and variables to the real world…" (Whaley (Ed.), 2014, p. 7). Scientific knowledge according to Thompson, Cusella, and Brian (2014) is "socially situated and involve people in a particular context" (as cited in Whaley (Ed.), 2014, p. 6). As such, the use of qualitative approach to the acquisition of scientific knowledge is not misplaced. The reason being that qualitative research is "an approach for exploring and understanding the meanings individuals and groups ascribe to a social problem" (Creswell, 2008, p. 4); the process of which include the making of meaning through interpretation by the researcher. Though interpretation generally help in highlighting a phenomenon, the knowledge they produce are not necessarily impartial or value neutral but this problem is managed by the tools used for collecting qualitative data.

Reviews of the behavioural theories indicated that tangible and intangible factors such as contexts, beliefs, values, meanings etc. interact in cognitions as a process for a given nature or pattern of behaviour to occur. Human behaviour it can be said is complex

and cannot always be explained quantitatively. According to by Brink, Van der Walt and van Rensburg (2006) the traditional scientific approach (quantitative approach) with its logical positivism is highly reductionist and cannot address all human experiences in their complexities. This is particularly true in the case of the understanding of health behaviours that are nested in the ontological, epistemological, and axiological perceptive worldview frames of people. Brink, van der Walt and Van Rensburg (2006) note that some intangible factors in behavioural causation such as emotions are relative, intrinsic, culturally oriented, and near to impossible for presentation, meaning making, and interpretation numerically. Rather, they are better described and explained from words or adjectives of clauses that enable behaviour to be visualised, abstractly experienced, and interpreted by third persons as it occurs in its empirical domain of occurrence (reality). Additionally, in a qualitative research method, the interactional processes and interrelations in the factors of behaviour causation become explicit for appropriate categorisation and management in an intervention framework.

This capability of the qualitative research approach to objectively describe and explain behaviour coherently from its empiric causative process makes qualitative research more appropriate and preferable for this dissertation. In particular, it ensures the fulfilment of the goal of this dissertation and its objective of developing a context specific model to communication for the effective management of epidemics. To reiterate, this research seeks to contribute to the generation of knowledge on understanding of the interconnectivities between communication and culture and on health behaviours for the development of specific communication approaches for behaviour change interventions. Herein, cultural elements would play an important role in the units of analysis. Cultural elements by their nature are better explained, presented, and interpreted qualitatively than quantitatively, hence, the preference for a qualitative research methodology.

Furthermore, the multidisciplinary and sensitive nature of the subject matter coupled with the complexity and challenges to information sharing in the study area necessitates the use of a research approach that can ensure the identification and compilation into a coherent whole, all interrelated but disjointedly provided

information in survey responses. Given the need for identification of variables in their comprehensiveness to behavioural motivations in the research questions, the qualitative research approach became relevant as the variety of the techniques available in qualitative research methods enable the identification of variables with relative ease.

In qualitative research, the technique of open-ended questions, for example, allows for unrestricted sharing of information. Through this unrestricted approach of sharing information, research participants were able to share their complete knowledge and understanding, including the expression of feelings on discussion topics. The non-restriction of research participants to limit their responses only to the given question under discussion provided possibilities for participants to creatively draw on or relate their responses to that of other questions or responses. Thereby, they were able to provide a complete context-specific description and presentation of their thoughts. For instance, during the data collection, participants directly or indirectly and often unconsciously provided information on topics that they would otherwise not disclose for reasons of their "classified information" status in the society. Such disclosures normally occur in situations where participants attempt to express themselves fully or share their full knowledge and understanding on topics of a seemingly neutral nature. The subjective perceptions of participants were also eminently displayed in the tone and gestures employed for information sharing which could be analysed and compiled together with the responses into a coherent information for meaning making. Such empirically based knowledge for understanding and interpreting the dynamics in the behaviours that spread the Ebola disease cannot be obtained through a quantitative research design.

The sensitive nature of this topic limits the direct disclosure of sensitive information necessary for exploring and understanding the behaviours. The ability to enable the extrapolation and interpretation of meanings in the behavioural motivations made the qualitative research method appropriate over a quantitative approach for this research. Similarly, qualitative research will enable different sources of information to be accessed in order that valid conclusions on past events could be made.

Noteworthy, this research was carried out after the occurrence of a phenomenon (Ebola)[11] that unleashed untold psychosocial and economic hardships on the people for which reason any discussions on it always arouse negative emotional sentiments in the people. Under this circumstance, tactfulness and sensitivity are required in the process of gathering information without which detailed and adequate information may not be obtained for behaviour to be properly explained and understood by this research. Notwithstanding the need for tactfulness towards obtaining in-depth information is the need for information reliability, objectivity, and representativeness. In line with the research objective of developing a conceptual framework for communication, it is imperative that information that is gathered is reliable, objective, and representative, without which the accuracy of data for the predictive utility of the model would be compromised. In the light of the above condition under which the research had to be conducted and the utmost need for accurate and quality information towards the research object, the qualitative research approach became imperative without which the goal of the research would not be maximised.

Generally, in the qualitative research approach different tools such as observations, archival materials such as documents, audio visuals, key informant interviews, and focus group discussions can be combined in a research. Also in the combination of tools, in-depth information on some sensitive issues could be obtained. In this wise, the respective microscopic Ebola behaviours for example can be explained and understood from their macroscopic or holistic perspective in terms of the different but unified perspectives of their occurrence. Thus, Ebola behaviours can be philosophically explained and understood for the exploration of their probable patterns in the future. For instance, the open-ended and probing of questions of the focus group discussions saw to the generation of diverse and detailed information for given topics of sensitive nature from which the consistency and accuracy of information would be measured and inferences made. The diverse and detailed opinion would not have been obtained for a quantitative approach. Furthermore, the focus group discussions allowed for confidential discussions to take place in a flexible environment that enabled free expression of oneself with little or no constraint of emotions following

[11] This is a post-outbreak research conducted from 17 November – 16 December, 2016

which more understanding was gained about the factors that mediated cognitive processes of information processing. Hence, the suitability of a qualitative research method for this study.

Historically, there is a high level of secrecy on cultural and religious practices in the West African sub-region, particularly in the major 2014/2015 Ebola outbreak countries of Liberia, Sierra Leone, Guinea. In the aforementioned countries, secret society membership is institutionalised and integrated in the culture of the people, hence, generally practiced (Little, 1949). The high structuralism and functionality of the culture and that of the secret society groups in the lives of the people substantially restricts the divulgence of information, especially those on burial rituals (responsible for the rapid and extensive spread of Ebola). The experience of the culture of silence in Liberia for instance, is not unique to foreigners. Liberians who are not members of a community or secret society group also do explicitly experience this culture of silence (failure to disclose information). This characteristic trait of the people in the outbreak region on the disclosure of information is a complex one associated with cultural posterity and of which historical and political undertones are not excluded (Boehnisch, 2016; Schwab, 1947). This limits access to information sharing or extraction in situations where only formal interview approaches are employed. The reason being is that respondents are generally unwilling to provide details on processes and significance of most cultural practices, not to mention direct or formal questions concerning cultural practices.

It is worth noting that the difficulty of access to information is not limited to the illiterate members of the society, but it exists even among the elite; be they still enrolled or converted members of given secret societies in the community (except for Moslems. Principally, Moslems do not belong to any secret society groupings). Specifically, the culture of withholding information deemed as secret is more pronounced for information seeking exercises that seeks to inquire about activities and knowledge acquired from a) the initiation rites into the two major cult groupings, namely Poro (men) and Sande (women)[12]; b) burial rituals for important community

[12] The Poro and Sande society are the local names for the respective male and female cults of the dominant tribe of Liberia. More information on their functions will be provided in later in the chapter.

leaders and c) ethno-medicinal components/healing practices. Through the qualitative research method consistent/reliable, valid, and credible information could be gathered for such sensitive but important thematic issues in the research.

Summarising, the goal of the research which seeks to describe and explain a phenomenon (behaviours) coupled with the prevalence of non-divulgence of information in the study area makes the application of a qualitative research approach imperative for this research. The selected approach is basically to ensure that the research questions are objectively addressed and systematically analysed towards the fulfilment of the overall dissertation goal of formulating a general and effective communication theory on Ebola and epidemic disease control in the sub-region. Additionally, the combination of ethnographic, purposive sampling and archival materials and audio-visual techniques in the data collection process is also aimed at addressing the question of neutrality and objectivity of the research output. In so doing, the perceptive attribution of meaning or semantic differences in words and meanings on the part of the researcher is minimised or eliminated. Pertinently, the approach fulfils the criteria of consistency (reliability) and quality (validity) of a scientific research to ensure testing and replication of findings by other researchers. Nevertheless, the justification of the qualitative research approach derives from the eminent occurrence of the essential features for a qualitative research approach as spelt out in the definition of qualitative research by Creswell (2013) in this research.

Having justified the need for the qualitative research method, the next sections would describe the processes involved in the application of the tools of the qualitative research design adopted. Before providing the details on the tools applied, a brief description of the study area Montserrado will be provided as the next sub-section.

5.3 Overview of Montserrado County

There are 16 counties or administrative regions in Liberia of which the Montserrado County is the smallest and most densely populated of all (Montserrado County Development Agenda, 2008 – 2012), having a population density of 599.7 per square

kilometre (1, 553 per square mile) (LISGIS 2015). The geographical boundaries of the Montserrado county are namely, the Atlantic Ocean to the south, the Bong County to the north and the Margibi and Bomi counties to east and west respectively (Montserrado County Development Agenda, 2008 – 2012). The county covers a total area of 1,908 square kilometres, thus, 726 square miles (Liberia Institute of Statistics and Geo-Information Services, 2015). Five (5) administrative districts, namely Todee, Caresburg, St Paul River, Commonwealth and Greater Monrovia districts constitute the Montserrado County. According to the Liberian Institute of Statistics and Geo-Information Services (LISGIS), the Montserrado County has a total population of 1,118,241 people out of the country total of 3,476,608 persons (LISGIS, 2015), being about 32 percent of the total population. However, the projected figure from the Ministry of Health and Social Welfare is 1,215,174 persons out of the national total of 3,777,972 (MOHSW, 2012 Annual Report). As the most populous county, it also has a representation of all the ethnic groups and dialects. Figures 5.2 and 5.3 are the respective administrative and population distribution maps of Liberia and of the Montserrado County. The figures also provide brief overviews to understanding the cultural and communication dynamics of the outbreak. Other socioeconomic characteristics of the study area are shown in figure 5.4 below.

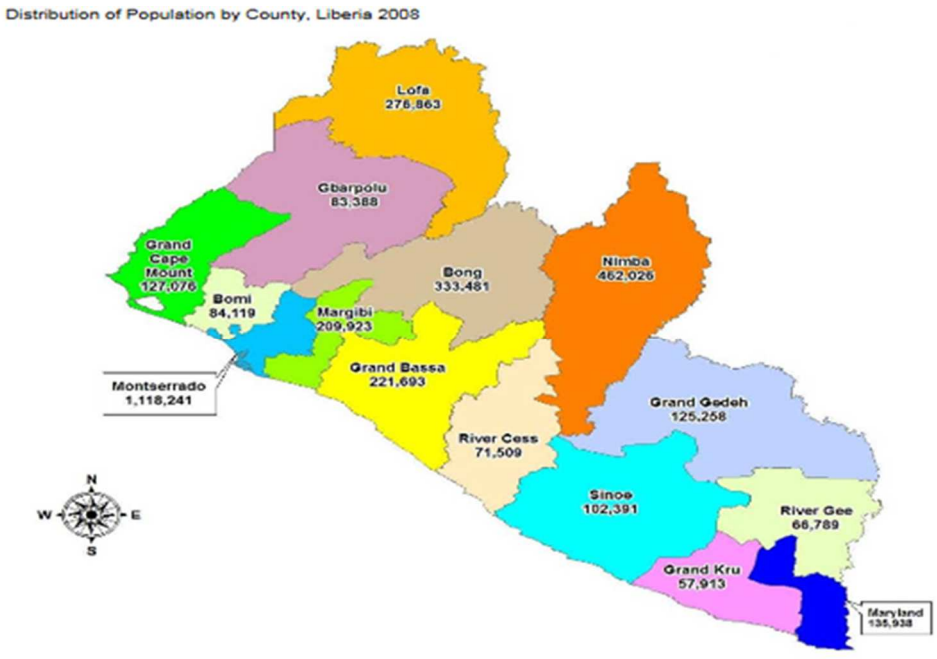


Fig 5.2: Administrative and population distribution map of Liberia. Source: NPHC 2008 Final Report, Liberian Institute for Statistical and Geo-Information Services, 2015

Fig 5.3: Population distribution of Montserrado County: Liberian Institute for Statistics and Geo-Information Services, 2015[13]

The county is made up of urban (Greater Monrovia District), underdeveloped/peri-urban and remote (rural) areas such as the Todee and Caresburg Districts. According to the 2008 population and census Todee and Caresburg districts had a total population of 33,998 and 29,712 persons respectively, compared to 970,824 persons for Greater Monrovia. Most of the remote areas are inaccessible by vehicles, especially during the rainy season. For instance, one of the researched communities, Todee, is located deep within the Firestone rubber plantation and is about 20 kilometres off the main Monrovia to Margibi highway which networks the capital to the north of the country. The road that branches off from the highway to the community was an unpaved feeder road of a relatively deplorable condition with deep and dangerous potholes. An overview of the socioeconomic characteristics of Montserrado County is provided in Figure 5.4 below

Population, persons (2008)	Sex Ratio (2008)	Population Growth, % (2008)	Population Density (2008)
1,118,241	104.8	3.5	1,553
Net Enrollment Rate, Primary School (2009)	**Nurse, per 1,000 population (2009)**	**Employed population (2010)**	**Average Household Size, persons (2008)**
57	0.5	326,000	4.7

Source: Reginoal Data of Liberia

Figure 5.4: Source: Liberian Institute of Statistical and Geo-Information Services, 2015

[13]Accessed from http://www.lisgis.net/pg_img/NPHC%202008%20Final%20Report.pdf and https://www.lisgis.net/pg_img/Montserrado.pdf respectively, on 14.01.2019.

The religious characteristics indicate that 68.2 percent of the county's population are Christians with the remaining 31.2 percent being Muslims (Montserrado County Development Agenda, 2008 – 2012). Although all ethnic groupings from the 16 tribes of Liberia are represented in the Monteserrado County, the Kpelle speaking group form the largest ethnic group, being 52 percent of the population. They are followed by the Bassa, Lorma, Kru and others in the respective order of 21 percent, 6 percent, 4 percent and 3 percent (Montserrado County Development Agenda, 2008 – 2012). Generally, the Kpelle and Bassas have the largest population (20 percent and 14 percent respectively) in the country with the others being less than 10 percent of the total (Oran, 2019[14]; Ranard (Ed.), 2005). The Kpelle language is spoken in Guinea by the Guinea Kpelle people (Westerman & Melzian, 1930 as cited in Winkler, 1997) whereas the Bassa language is also spoken by the Bassa people of Sierra Leone (Omniglot, 2017)[15].

The above social characteristics information on the study area provides some insights into the dynamics and challenges of the Ebola outbreak from the geographical, ethnographical and demographic dimensions, as well as from the perspectives of structural violence schools of thought. The perspective of structural violence is, however, not the main focus of this dissertation. From this background information the verification and replication of the research within the same settings could be ascertained.

5.4 Techniques/procedures

Ethical approval was obtained from the National Liberia Research Board. The approval process involved putting in an application to conduct the research; submission of the interview guides for review; payment of an amount of five hundred American dollars (500 USD) and the holding of an interview with the Board. As part

[14] The year indicated is based on the year the information was accessed from the internet. This is an online information to which the edition of the book is not indicated. Accessed from https://www.everyculture.com/Ja-Ma/Liberia.html

[15] Accessed from https://www.omniglot.com/writing/bassa.htm

of the ethical measures, anonymity of research participants has been ensured such that names of participants were not requested and where names were voluntarily provided, they were all the same replaced with pseudonyms in the transcriptions. The language used for the conduct of the research was formal English for the key informant interviews and Liberian Pidgin for the focus group discussions. The focus group discussions were moderated by recruited and trained local research assistants.

The respective techniques adopted are described below beginning with the archival resources.

5.4.1 Archival materials /documents

Archival materials, namely official records (proceedings of meetings and reports); printed materials (flyers, posters, pamphlets, brochures) and audio recordings on the Ebola communication were gathered mainly from the Ministry of Health and from some billboards mounted at vantage public places. Information from these archival resources served as a form of secondary information data for comparing responses of research participants given the reluctance of the people to share information with others who may be regarded as strangers or "spies". The archival material was also cited as an example or as reference point to solicit for opinions and further information during the discussions. Analytically, the archival materials served as an inter-coder agreement tool for checking the credibility of information. A scanned copy of the Ebola communication booklet and training manual for the voluntary community members enrolled for contact tracing has been provided in the appendix. Examples of some of the entertainment education music composed for the Ebola communication which were referenced during the research and available on archival bases of the internet would be provided. This can be found under the discussion for entertainment education in subsection 6.6.2.

5.4.2 Ethnographic/observations

I lived a total of thirty (30) days in the Greater Monrovia area in an apartment on the main and busiest road in the capital of Liberia, about 5 -10 minutes vehicular drive (depending on the level of traffic congestion) from the biggest slum town of West Point[16] and next to the United Nations Mission in Liberia office. I spent a day each in Todee and Caresburg. Caresburg, however, has a population of a little over 500 (LISGIS, 2017).

During the period, twenty (20) days were intensively lived daily like an indigene with members of the community, which started on the first day of my arrival with a visit to the market[17]. Activities undertaken as part of the observation of the culture and behaviours involved; visits to busy and crowded areas including markets, at any time of the day (morning, afternoons and evenings) by means of local commuter transport with passengers of 6 (taxi) and 16 (minivan) per vehicle; chatting, but not directly on Ebola topics (talking about recent or the day's "palava"; problem or topic of the day as published in the newspaper or radio); sitting in small gatherings where a local game was being played or in the pubs; as well as walks through the community (unaccompanied) were undertaken.

During the period notes were taken either electronically (per mobile phone as if writing an SMS, to avoid any suspicions or feelings of having a stranger in their midst) or manually in a note book. The electronic notes were transcribed in the note book or computer at the end of each day. Critical objects of observations involved; acts of care (sharing - eating together, assisting others be it voluntarily or involuntarily), values and attitudes (emotional reactions to situations/ language features - words, sounds, silences, in-breaths, out-breaths, cut off, pitch changes in a communication), rules and norms (interaction patterns and gestures), reaction to messages that come from the

[16] Westpoint is the geographical area that recorded the highest rate of Ebola infections and deaths in the Greater Monrovia area of the Monteserrado County and St. Paul River district.

[17] Purpose was mainly the purchase of basic household items for my upkeep, but the opportunity was also used to observe some behaviour given the research purpose of the visit to the country. Visits to the local market also became a routine activity conducted weekly basis throughout the stay.

media-radio (FM stations), roles (activities by population characteristics) etc. Complementarily, informal conversations, semi-structured and unstructured qualitative interviews, namely in-depth interviews were undertaken during the period of observations with lay persons on the streets and with key informants.

The initial two-week activity also included visits to relevant government institutions for the acquisition of the permit to conduct the research. Semi-structured interviews with key informants/resource persons from government institutions were also conducted. On a number of visits (five in all), substantial hours were spent at the Ebola clinical research program unit for Ebola survivors known as "PREVAIL" at the country's teaching and referral hospital known as the John F. Kennedy hospital[18] or JFK as it is popularly called. Visits to the hospital were mainly for purposes of the acquisition of a permit to conduct the research in the country, but also provided opportunities for the observance of emotional expressions of Ebola survivors/relatives of (an) Ebola survivor(s) in a healthcare setting.

Persons at the unit were mainly people who were infected with the virus, but survived and still harboured the pathogen in their blood or bodily fluids. Such persons are referred to as Ebola survivors. The survivors present were either in the company of a relative or came unaccompanied[19]. Worthy of note was the observance of an occasional calling of a name from among the people gathered by a man or woman (whom I got to know were counsellors) into a room as practiced for normal clinical consultations in health facilities. The period of time spent by the participants in the counselling/consulting rooms was variable, ranging from five (5) to twenty (20) minutes. Emotional expressions could be observed on the faces of survivors in the waiting room or when exiting the counselling/consulting rooms. Additionally,

[18] The office of the head of the committee of National Research Institute Board/Liberian Institute of Research Board is housed within the premises of the PREVAIL program at the hospital. PREVAIL is a joint Liberia-US clinical research partnership and stands for Partnership for Research on Ebola Vaccines in Liberia with the aim of assessing antibody responses to Ebola vaccines.

[19] The survivors, also viral carriers were partaking in clinical trials on Ebola vaccines in the research program or were being tested for the presence or otherwise of the virus in their bodily fluids. The survivors were also being studied for neurological complications associated with the Ebola infections. Survivors are said to complain regularly of weaknesses, show memory losses, muscular pains, report of headaches and depressed moods. Hallucinations were reported with some said to have experienced suicidal tendencies. Neurological cases of abnormal reflexes, eye movements and tremors had also been observed in the survivors (Source: Key informant at PREVAIL; requested for anonymity in information source).

whispers or murmuring of words was heard among the other survivors in the waiting room if a survivor came out of the counselling/consulting room. For instance, a survivor coming out after a short period of time, with the head up, wearing a smile or keeping a normal face and unaccompanied or not escorted by the counsellor to the door was interpreted to mean that things were good or going well. One could observe the others showing signs of smiles on their faces or sitting upright and relaxed on their seats and talking. The opposite was the case if the person came out wearing a sad face with the head bowed.

One of the counsellors explained the composures or expressions as emotional reactions of hope, fear, or worry and/or an assurance of one's personal status owing to beliefs in the similarity in acts of compliance with behavioural recommendations provided to project participants. These inferences for one's personal status are made possible because the survivors interact with each other and share experiences formally and informally. The experiences provide moral support and encouragement that strengthen self-efficacy beliefs towards behavioural enactment. Thus, implicit comparison in behaviours between the patient already attended to and the ones yet to be attended to raises assurance or despair in the unattended patient, who is now playing the role of an observer in a phenomenon of which he/she is a part. The emotional composures observed provided clues to the understanding of emotional reaction processes in behavioural causation.

The ethnographic approach ensured the gathering of objective information without making the people feel observed or monitored following which certain acts would have been faked to compromise the objectivity, consistency (reliability) and quality (credibility) of the data gathered. Furthermore, this approach enabled a flexible data collection exercise to be undertaken whereby semi-structured questions for the in-depth interviews and focus group discussions were modified to enhance the understanding of topics/questions in the discussions. It also ensured that contextual issues were addressed with much more precision.

5.4.3 Key informant/in-depth interviews

Semi-structured interviews were conducted with resource persons who played an active role in the management of the Ebola outbreak. The resource persons could be referred to as experts given their presence on the field during the outbreak and active involvement in the management processes, right from the onset to the eradication stage of the Ebola outbreak. Simply put, they lived and fully participated in the whole process of the Ebola outbreak. By definition, the key resource persons for this dissertation are people with the requisite knowledge and first-hand information on the whole process of the Ebola health communication management either by virtue of the uniqueness of their experiences and their professional roles in the whole process of the Ebola outbreak, and not strictly from the perspectives of their scientific or academic credentials. However, all of them had secondary to university education and were in positions of authority in the ministry and civil service of the Liberia, except for Mr. Alfred Lane[20] who worked with an NGO, Ms. LiLian Eluwagu of the WHO communications department, and Ms. Claudia Woode (pseudo name), a freelance journalist and human rights advocate.

Interviews with resource persons were aimed at obtaining detailed information on their perceptions about the cultural dimensions and communications on the Ebola for the generation of novel information by which the responses of focus group discussions could be verified or validated. This was achieved through following up on comments, probing for details to provided explanations and prompting new discussions on topics not necessarily related to Ebola, but of relevance for their explication of behaviours in general. The key informant interviews were tape recorded and transcribed, except for the telephone talk with the Cultural Ambassador, Juli Endee. A profile of the key informants could be found in Appendix B.

[20] This key informant requested for anonymity, hence the pseudo name.

5.4.4 Focus group discussions (FGDs)

The technique was adopted for the identification and understanding of behavioural processes and motivations from a cross-section of the population in the study area. A purposive sampling or non-probability approach was used in the selection of study communities (communities where high rates of infections and deaths were experienced) and the determination of participants. Collaborative discussions for research communities to study were undertaken with one of the main technical and lead persons to the Ebola management in Liberia[21]. Discussions centred on research ethics in Liberia, communities to study, the population sample from the communities, the content/framing of the question guides, inclusion of local research assistants/cultural members to carry out the moderation, pretesting or organising a mock FGD in a non-study community and networking to key informants. Criteria developed for the selection of communities for the study are provided below. Broadly, the parameters considered for the selection of research communities for the FGD was the administrative boundaries/population distributions, socio-cultural and economic characteristics of the area and Ebola infection distributions in the population and death rates. The parameters were subdivided to meet the research goal. The subdivisions for each of the broad areas are as follows:

a) Geographical and administrative population distribution and density

- ✓ Urban – slum and planned,
- ✓ Peri-urban, and
- ✓ Rural

b) Population characteristics in terms of gender and age

- ✓ Youth, 18 – 25; adult, 26 – 40, etc.; and elderly, 60+

[21] Communications with Dr. Mosaka Fallah began before the research was conducted based on a WHO article on Ebola found with his name as a contact person for information. Dr. M. Fallah is a consultant and provided Ebola technical support on training in surveillance, contact tracing, case management and community mobilisation to the Montserrado County Health Team during the Ebola outbreak. Dr. Fallah was also the head of Case Detection under the Incident Management System for the Monteserrado County Health Team and principal investigator for the largest cohort study on Ebola survivors in Liberia

- ✓ Educational level[22] – primary, secondary, tertiary and vocational
- ✓ Occupation – employed/unemployed

c) transmission trends[23] /infection routes in the different parts of the country from Lofa County to the capital Monrovia in the Montserrado County) vis-à-vis rate of infections by age group and gender

- ✓ Burial practices / funeral attendance
- ✓ Caregiving to a family member, relative or non-relative
- ✓ Work place infection - health facility, traditional healer(s), midwife (ves)

d) death rates (number of recorded cases and deaths per community;

e) Likely tribal distribution disparities to be identified in the communities. This was considered for the observance of explicit differences in cultural norms and health behaviours among the people.

f) Ebola infection experiences (direct and indirect); survivors, relative to an infected person; knowledge of an infected person, traditional healers.

For linguistic[24] and confidentiality reasons, four indigenous data collection assistants were trained for the data collection.[25] Discussions were held using semi-structured and unstructured interviews. Circular or semi-circular seating arrangements depending on the convenience of the seating arrangement to the participants were adopted[26]. At any

[22] Explicitly, the educational level and occupation were not used as rigid rules or major determinants in selecting participants, but as a guiding principle to screening participants for the formation of the groups. The guiding principle was for participants to have some knowledge on the topic and feel comfortable to discuss it with others in a group

[23]According to Dr. Fallah (2016), contact tracing approach under the Ebola incident management system of infections trends showed that while the transmission route in the rural areas was mainly through familial/close contacts of care giving and burial practices, infection routes in the peri-urban areas mainly inhabited by the elite and economically sound members of the society were through house-helpers or security guards who lived in the slums of Monrovia but worked in the homes of the elite and the rich – herein referred to as environmental contacts.

[24] Liberian Pidgin English is the language used for day to day communication and for interactions among the different tribes who have their own dialects.

[25] Who served as moderators for the FGDs and for the transcription of the discussions. The moderators were indigenes who had experience in conducting FGDs and who also served as contact tracers during the Ebola outbreak, were conversant with the geography of the communities; could direct discussions effectively and maintain flexibility and neutrality in the discussions; encourage participants to express and share their opinions freely; able to instil trust and confidentiality in the participants, as well as probe for details to questions and comments ensure effective time management and control of topics.

[26] Participants were given the choice to decide of their preferred sitting arrangement in other to create a conducive atmosphere for the discussions

given time, two assistants facilitated an FGD group of 6 – 10 participants with one moderating the discussions and the other one recording as well as assisting in moderation where necessary. Ethically, each FGD started with the reading out of verbal informed consent guide to participants and participants were given the verbal opportunity to freely confirm their participation or otherwise. Participants were also informed of the recording of the discussions and assured of the secured storage of the discussions and confidentiality of responses.

With the exception of the male and female Ebola survivors recruited from the association of people living with Ebola[27] and participants of the PREVAIL program, participants were recruited from the communities either by soliciting their interest or upon the recommendation by a community leader or head. Snowballing was used to recruit participants in the first FGD at West Point. A total of 200 people were planned for the FGDs to ensure a representative participation of members from all the tribes and a cross-section of the population in order to enhance the objectivity of the research results. However, a total number of 184 participants (92 percent of the planned) participated in the FGDs. The number still included a greater proportion of persons from the different tribes with the requisite demographic characteristics, knowledge and experience to be able to provide valid answers to questions on their culture, behaviour and communication on the Ebola outbreak.

A total of twelve (12) FGDs were organised in West Point (slum), New Kru Town (slum), Duport Road South (peri-urban community), Caresburg (village) and Todee (village). The recruitment of the participants was subject to residency in the community of the exercise, except for Caresburg and Todee, where participants from the adjourning villages such as Kakata were also recruited. Kakata is a town in the Margibi district but located directly on the border between Montserrado and Margibi districts and some settlements located within the Montserrado County. The average number of participants per FGD group was nine (9) and an average of 2 FGDs per community, depending on the population characteristics (youthful, adult or elderly)

[27] The Ebola survivors have formed an association called National Ebola Survivors Network. Participants in this research came from the Montserrado Chapter, a sub-branch of the National Ebola Survivors Network

was conducted[28]. Additionally, two (2) FGDs each were organised exclusively for Ebola survivors[29] and traditional healers. A total of twelve (12) traditional healers and twenty one (21) Ebola survivors participated in the FGDs. The period for the organisation of the FGDs was from 04 - 14 December, 2016.

In terms of data management, all the FGDs were recorded with the consent of participants. Notes were also taken with regards to the behavioural composure and reactions of participants to questions and answers from fellow participants. Data gathered from the FGDs is anonymous (names not included) and are as such de-identified in the data analysis. Name(s) voluntarily provided were still omitted in the transcription. The transcribed recordings were not paraphrased for the data analysis.

5.5 Data analysis

Qualitative analysis procedures were employed for the synthesizing and presentation of the data by first coding the data for the development of themes. The themes were in correlation with multi-theories that hinge on the research and the overall aim and research question to be addressed. From the dataset, a coding up method was undertaken for the derivation of the code categories. The coding and analysis were done with the MAXQDA Analytical Pro 2018 version. The data analysed used the meta-synthesis method, given the systematic approach to the study adopted in the methodology. This involved the integration of multiple qualitative research findings from primary (ethnography, FGDs and key informant interviews) and secondary (archival materials) data. The relevance of the meta-synthesis method hinges on the research objectives which seek to explain and understand the phenomenon of Ebola behaviours and their motivations; following which a combination of findings from the qualitative research have been deployed to correspond to the inherent iterative process. Using the meta-synthesis method to the data analysis, variables that define conditions

[28] For details refer to the appendix on research schedule.

[29] Some of these survivors according to their own account were still harbouring the virus (present in their semen/vaginal fluids) and experience neurological and psychiatric sequelae.

under which certain phenomenon or behavioural motivations occur are identified, clarified and modelled to show relationships for the mapping of knowledge fields.

5.5.1 Codes

The methodology to the identification of units of analysis for the coding was developed through the combination of excerpts from the relevant categories of the taxonomy of behaviour of change techniques (BCT v1) [30]and the qualitative research data gathered. The codes aim at the explication of the functional relationships in the research questions, research objectives and the overall research outcome. The codes and its sub-categories as units to be analysed were derived from the consistent theoretical constructs in the interventions on persuasive communication and the outcomes, as based on the frames to assessing the effectiveness of a health communication intervention. These were integrated with dimensions of cultural models to information processing and behaviour outcomes (variable of interest) to show relational functionality. To enhance the generation and development of themes and theory for the dissertation in the data analysis, a combination of the following coding types; conceptual code/sub-codes, relational codes, and participant perspectives were adopted. The codes are, thus, derived and defined from the field data and in consonance with the theories.

The units of analysis are descriptive and identify functional relationships between and among messages, information processing and behavioural patterns as identified by the participants. These relationships were coded accordingly within the qualitative data. Of particular importance in the functional relationships is the exploration of the dimensions (intrinsic or extrinsic) of information processing that is/are elicited in cognitions by a given message (s) and the corresponding pattern(s) of behaviour it arouses. The identification and understanding of the behavioural motivations in

[30] The behaviour change technique is a framework which standardizes the content component of behaviour change in an intervention for measuring effectiveness has been standardized for theoretical and practical application – "the observable, replicable components of behaviour change interventions" – Wood et al., 2015, p. 134; Abraham & Michie, 2008)

message outcomes as process-based could be contextually explored and modelled for the prediction of persuasive outcomes epidemiologically.

In line with the above and for purposes of descriptive consistency and validity or accurate replication of the outcome of this dissertation, not excluding the contribution to building up of knowledge, the variables in the coding or classification system will extract from the behaviour change techniques (BCT v1- for the assessment of behaviour change interventions, Michie et al. (2013) as the nomenclature. The codes of the BCT framework are complemented with those of Bronfenbrenner's ecological model (characteristics of the person and environment to the understanding of behavioural influences/rationality) and the PEN-3 model (centralisation of culture in health communication intervention). The extracted codes will be modified for the synthesis and presentation of findings in relation to the central question of the dissertation.

The table 5.1 below shows the units of analysis (behavioural motivations in information processing), the definitions used and identifiable corresponding indices of the theoretical motivations in the data.

Theoretical framework of reference in the Unit of Analysis	Analytical Research Definition	Unit of Analysis (Code)	Subcodes	Cues/data indicators/ parameters in Ebola messages/flyers
Health belief model and protection motivation theory	Messages, the content/ information of which the general emphasis is placed on relationships between behaviours and disease contractions or outcomes and by which susceptibility/risks and mortality is referenced in relation to social norms, values, perceptions, symbols. NB: the intrinsic motivation to information processing and performance of behaviour is not only related to the degree of susceptibility, but is also affected by the subjective meanings of a situation as per its relevance and severity of negative quality (valence) as perceptions of risk does not adequately determine behaviour	Behaviour and health risk information linkages	Prompts highlighting risks / increases risks awareness Prompts highlighting susceptibility/ increases awareness of susceptibility Prompts highlighting solutions / increasing awareness on solutions Increase motivation for making and sustaining change	Do not touch sick persons or things they have touched when sick Do not touch anyone that has died with signs and symptoms of Ebola Do not eat plums, bats, bush meat, etc. Do not wash the dead or anyone that has died with signs and symptoms of Ebola Do not bury anyone that has died with signs and symptoms of Ebola Ebola is spread through body fluids of a person who is sick or has died from Ebola
Theory of reasoned action/planned behaviour, social cognitive theory and health belief model	Messages/information which elicit cognitive processes to decision making in which the information emphasizes the need for or importance of compliance with the recommended behaviour performance (costs and benefits); and in which the need for compliance is associated with disease uncertainty variables in relation to perceptions that influence intentions or decision to act or react on the information.	Information discussing consequences, both directly and indirectly	Prompts increasing information seeking behaviour Prompts increasing reflections or engaging thoughts on the disease	What are the signs/symptoms of Ebola or the signs and symptoms of Ebola are….? The incubation period of the virus before the manifestation of signs and symptoms is 2 – 21 days The signs last up to 1 week You cannot test for Ebola in the absence of any signs and symptoms
Social cognitive theory	Messages/information which instil confidence/trust or enhances perceived beliefs to perform and maintain the recommended behaviours/actions and in which complacency is reduced. It entails beliefs in the ease, effectiveness and readiness to endure the consequences of	Information on efficacy (both individual and collective	Prompt barrier identification/reduces barriers to action Information providing guidelines/instructions	Always wash your hands with soap Always cook your food properly Go to a health facility anytime you have headache, fever, pain, diarrhoea, red eyed rash and vomiting

Table 5.1: Source: Authors constructs as deducted from BCT v1

Theoretical framework(s) of reference in the unit of analysis	Research Definitions	Unit of analysis (Code)	Subcodes	Cues/data indicators/ parameters in Ebola messages/flyers
Social cognitive theory	doing certain behaviours that determine the value expectancy of the person/people (perceived self-efficacy, perceived behavioural control). Such, messages should enable one to make informed decision and act on behavioural risks, as well as respond effectively to the risk, by facilitating accessibility to resources. Additionally, the messages include information containing emotional expression (talks about others being caring and shows empathy and concern) that encourages or builds confidence in behavioural performance.		Prompts for behavioural reinforcement/identification using appropriate role models to increase confidence Prompts indicating provision of skills in response to a real threat to convince that the recommended behaviour will alleviate the threat Prompts showing how to correctly perform a behaviour or demonstrate behaviour Prompts indicating sources of additional, guidance or help	Tell everyone you meet about Ebola so they can be informed Call for help or questions on 4455 / Get help Stay where you are if you have the symptoms (don't go around others, get help from a health worker, cooperate with health workers – people who care for you wear gloves, rubber boots, masks, coats and goggles, listen to health workers) ……other dos and don'ts above
Theory of reasoned action/planned behaviour, ecological theories - Identity concept, PEN 3 Model)	Messages and actions that explicitly or implicitly moderate actions and serve to reduce/alleviate stressful factors either physically, psychologically and emotionally, in order that social cohesion is maintained and feelings of connectedness and family relationships are not negatively affected as a result of compliance to recommended behaviour change practices. Central to the performance of action here is the meeting of shared expectations as the reciprocal causations in the environment.	Information on approval/disapproval from others on proposed behaviour change that affect intention formation	Prompts to comply with or resist group practices (social norms) Prompts showing relationships that strengthen group outcomes or perceived social support Variables influencing psychosocial processes and behaviours, feelings of connections in the environment References and skill building opportunities coping models	Participation in burial ceremonies/social gatherings Caring for the sick/dead without undertaking any protective measure Seeking healing from a traditional healer, midwife, religious leader/centre, etc. Provision of skills
(Theory of Reasoned action/planned behaviour; elaboration likelihood model; activation model (AM);	Messages the content of which are relevant, comprehensible and acceptable to the recipient in terms of both content and information source – demonstrate behaviour/provide directions, advice. The messages also use positive prompts/cues	Information that illicit, provoke personal action/ prompt intention	Prompt maintenance of social cohesion Prompt emotional feelings/ affection such as, anxiety, fear, smile, care etc	Protect yourself, protect your family, protect your community from the Ebola virus (always wash your hands with soap, always cook food properly, go to a health facility if you

Table 5.1 continued: Source: Authors constructs as deducted from BCT v1

Theoretical framework(s) of reference in the unit of analysis	Research Definitions	Unit of analysis (Code)	Subcodes	Cues/data indicators/ parameters in Ebola messages/flyers
(AM); narrative theory (NT); entertainment education (EE)	(words, phrases, artefacts, musical rhythms, drama), directly or indirectly in the environment or culture to draw attention to the issue and arouse information processing/ behaviour change intentions because of its relevance to the audience		Prompts demonstrating behaviour or providing directions, advice	have the headache, fever, pain, diarrhoea, red eyes rash and vomiting, tell everyone you meet about Ebola so they can be informed and call for help or questions from…….)
PEN 3 Model, EE	Messages that inform or stimulate awareness or raises consciousness about behavioural causation, consequences and solutions from existing positive intentions (knowledge, approaches and practices), systems or contexts in addressing a problem in which the ways of overcoming potential barriers/coping responses are provided.	Providing information in the perceptions of the people to consciously or unconsciously elicit behaviour/influence action and prompts adherence	Prompt supportive social values or norms (attitudes and opinions) for the recommended behaviour change Influencing norms and increasing social support for positive change which based on existing values Supporting activities favourably directed at promoting and sustaining positive behavioural change Prompting appropriate tones in the audience	Cultural enablers/nurturers Using traditional healing approaches such as quarantine/isolations Town crier approaches

Table 5.1 continued: Source: Authors constructs as deducted from BCT v1

Theoretically, using the persuasive communications frameworks, the coding would have been structured in the context of behavioural causations/motivations, purpose of behaviour and target of change. However, given the methodology and the complexity of the interdisciplinary frame of the dissertation, the codes are organised into an integrated framework. The integrated framework is linked to content analysis components of the messages in terms of the elements/labels of behaviour change communication as aligned with the elements of culture in behaviour formation and change. Emanating from the integrated approach to the generation of codes, the

functional relationships in behavioural change processes from the perspectives of the units of analysis are identified and organised. The overarching consideration in the codes generation/derivation is associated with characteristics of theoretical frameworks identified from the Ebola communication approaches as discussed in the literature section of consistent theoretical frameworks.

5.5.2 Qualitative functions employed in the data analysis

Using the MAXQDA analytical software, the following qualitative data analysis functions of the complex query coding, namely, intersection (set), followed by, if inside, and near were employed to identify functional relationship and interactions among variables in the codes for further coding. Below are the descriptions of the functions (MAXQDA Pro, 2018);

Near: identifies and code segments of a document assigned to any one of the codes listed in "A" that is assigned to a code preceded or followed by a segment assigned to the code selected in "B" within no more than X paragraphs (where X is the defined distance as a number of paragraphs and is assigned "C" in the settings of the software dialogue box). The function is used for evaluating two codes assigned in the same paragraph but not at the same segment.

***Followed by*:** identifies segments assigned to any one of the codes in "A" that is followed by a segment assigned to the code selected in "B" within no more than X paragraphs with the number X specified in "C" (here X is the maximum distance among paragraphs in the document).

If Inside: identifies segments assigned to anyone of the codes listed in "A" that are also completely surrounded by a segment assigned to the code selected in "B"

***Intersection (set)*:** retrieval of only segments that have at least X of the codes listed in "A" assigned to them (minimum number of codes assigned to "A")

The variable "X" as already indicated is the defined distance in terms of number of paragraphs of each code within or between segments.

From the above functions overlaps or intersections between codes were determined. For instance in determining interrelationships or using the code co-occurrence model,

only real overlaps of codes derived from the *if inside* and *intersection (sets*) functions were employed while the *near function* was used to explore relational functionality. The generated results of the functions were visualised pictorially in cross relations matrix of maps. The code relations matrix shows the intersection of codes.

Based on the employed analogical function techniques to the research, an interpretative approach in which the systemic reasons or motivations to information processing and behaviour change as per given contexts and phenomena (health problem) would be shown. The techniques enable the discovery of linkages in concepts and behaviours for the generating or modification of theories. The analogy involves a systematic coding process from which exclusive interpretative/descriptive results will be generated. The generated output would show relationships or causal interrelationships as phenomenological contexts in culture and communication, for the explication and theorizing of communication in behaviours to epidemic control.

5.6 Role of the researcher

This section is necessary for the understanding of the approach adopted in this research project and its influence on the research objectivity. My background will explain why I seek to gain in-depth knowledge and understanding into the phenomenon under study through the qualitative research process, use multiple methods procedurally for gathering information and analysing as well as the utilisation of qualitative analysis computer tools for data analysis, description and interpretation. With this preview, one is tempted to ask the question of how this research project was conceived, which then introduces the next section on origins of the project.

5.6.1 Origins of the project

This research project was born out of my inability to comprehend the difficulties that the people in outbreak region of the 2014/2015 Ebola epidemic had in complying with the measures for containing the disease. The measures were namely, washing of hands,

avoidance of touching the sick and dead and avoidance of the performance of traditional burials. Naively, just like most other people including persons in academia whom I interacted with, the containment measures composed in the messages were initially perceived as simple. Likewise, the recommended preventive actions were perceived as easy to perform if one considers the destructive and fatal nature of the Ebola disease, which was known to the people. I got intensively occupied with the thoughts about what could be responsible for the unabated enactment of the "abnormal" behaviours when death was eminent. This was five months into the outbreak when the international media such as BBC, CNN and Deutsche Welle also started to give attention to the epidemic in their daily broadcasts. Reading, hearing and seeing on almost a daily basis in the international media the horrific reports of deaths of people on the streets and sick persons collapsing and being left to their own fate compelled me into thinking of a solution that can be used to contribute to changing behaviours in people in the with relative ease.

Thus, fundamental in the background to the conduct of this study was the need to find out about the underpinning factors for the enactment of the risky behaviours (traditional burials, care giving etc.) responsible for the continued or unabated spread of the Ebola even though the mode of transmission of the disease and the high probability of death upon contraction was no secret but a glaring reality to the people. Additionally, Ebola communication messages one could say were relatively simple and easy to understand, especially from the perspective of an elitists, a non-indigene or a non-African. As an African from the West African sub-region with knowledge of, respect and value for the African culture, especially those on burials, it was equally difficult for me as with many others to come to terms with the recalcitrant behaviours of the people amidst the deadly nature of the disease. Following the line of reports in the media, I perceived that despite the cultural reasons cited there must surely be very strong convincing factors motivating the continuous enactment of the behaviours. In furtherance to this, I perceived that there must be something wrong in the communication for which reason it was unable to motivate changes in behaviours in the people although the words and phrases are simple. As such identifying the underlying factors or root causes of what was motivating behaviour and its

interconnectivities in communication may enable effective communication. The cumulation of this brief history marks the genesis of the project.

Professionally my area of speciality is also oriented towards my social science and environmental science disciplinary background where lessons from my training has always come handy. Following, no prior direct and specialised disciplinary knowledge in behavioural psychology and communication informs this research project. Thus, this interdisciplinary and multidisciplinary area of research is a relatively new area that I have treaded on. Nevertheless, my professional experiences have granted me immense opportunity to work directly with people in their natural settings where I provided technical support for the promotion of development from within communities or what is referred to in development arena as development from below or grassroot approach to development. The direct contact with people in their natural environment and the way they behave has always fascinated me as per the what, the how and why of some behaviours. This may have indirectly awakened in me a passion for understanding of human behaviours and for this research project, which may also have influenced the combination of realism and constructive approach to this research project and pattern of discourse.

Following, I acknowledge the likely influences of my prior experiences, values, and subjective qualities in directing the nature of the conceptualisation of this study, my relationship to research participants and role as an active participant in the research process. Nonetheless, I took on the role of an outsider in the conduct of this research to ensure that in-depth acquisition of knowledge and understanding would be gained into this new area (anthropology, psychology and communication science) of my academic undertaking. In so doing, the focus of the research was the understanding of the behaviours or phenomenon mainly from the perspectives of the participants and not my perspective as influenced by my background and experiences. With this I would like to explicate further in the discourse on my role as a researcher.

5.6.2 The discourse – philosophical worldview

In commencing this study, I perceived the dynamics of the phenomenon under study (Ebola behaviours as associated with the cultural beliefs and practices) as not to be due to a matter of mere cultural practices as was superficially branded in the media or literature. Rather, I perceived that the practices may have essential reasons underpinning them which is not explicit to the outsider or average person observing it. This is because in my perception, the human being is risk aversive and would do everything possible to avoid death rather than embrace it if not for genuine irresistible reasons. Additionally, I assumed that even most of the research participants may not even be knowledgeable or conscious about the underlying reasons behind the behaviours they enacted during the outbreak. Rather, they may have enacted the behaviours simply because it is lived, regularly practiced or experienced almost always in their immediate environment, without bothering to know the purposes that they fulfil. In this vein, I assumed that the degree of habituality of a given behaviour results in its automatic enactment such that decision making and the intention formation on behaviour may not always follow theoretically prescribed patterns or processes for behaviour to occur. Notwithstanding, the automaticity or unconsciousness with which behaviour could occur, I maintained the perception of the existence of underlying factors in the causation of the enactment of the behaviours.

Furthermore, I perceived that there would be theoretical concepts that could explicate the rationality in the patterns of behaviours as they occur empirically for their understanding and theoretical categorisation in terms of managing or changing behaviours. If there are and for one reason or the other the theories were not relevant for the context under study, then there is the need for a context based theoretical concept, as contexts is in one way or the other associated with particular outcomes.

On the basis of the above assumptions, and in particular the question to be addressed, the phenomenon under study was adjudged as one that would be complex to explain from the perspective of a mere structured interview or survey. Therefore, in considering the research approach to utilise in order that in-depth understanding and meanings of the behaviours would be obtained I perceived that the qualitative research

method would be appropriate since the factors to examine are unknown, the topic has not been addressed (seemly new) from the literature reviews and existing theoretical concepts do not necessarily apply for the context of the study. In the midst of such conditions, Morse (1991) (as cited in Creswell, 2013) recommends the adoption of a qualitative research approach by which understanding and meanings could be made. This is also because qualitative approach to research from my experiences offer opportunities for the use of diverse research methods to obtain information and especially for analysing data (triangulation). In so doing health, culture, and communication could be integrated and explained as a whole. This was to ensure that consistency is maintained in the analogy to validate my interpretations, thereby reducing the level of bias on my part that my background and experiences gathered during the data collection would have in the description of the meanings or the interpretation of the phenomenon.

5.6.3 Concluding thoughts

My background as it influences my philosophical orientation and value for problem solving from within, directed my attention to this less academically researched area of topic by generating a strong interest in me to understand the topic; reflect on the constituent of the lived experiences and their interplays for the management of epidemics in developing countries. Nevertheless, this research project was approached from the perspective of a novice as it was a new disciplinary area where I have no prior rhetorical knowledge for which reasons not much of my preconceptions could be transmitted into the research project. In this vein, I undertook a thorough examination of the behaviours from the essence in their causation and for the understanding of their corresponding outcomes. The processes followed in the conduct of this research project has ensured objectivity to appreciable levels as my experiences were bracketed through the techniques and methods adopted in the gathering and analysis of the data. More importantly, the data was analysed based on the real-life experiences or perceptions of research participants. Essential quotes from these real-life experiences have been incorporated as quotes of participants into the textual descriptions of the

analytical themes, including the structural aspects that enable the purpose of the experience to be communicated.

Rather than eliminating my biases completely, they were managed so that any researcher could replicate the research and utilise the same or similar tools of data collection and analysis and arrive at the same or similar findings. Thus, my biases, as I noticed in the process of the project, were not completely eliminated but managed and this research could be replicated with the same outcome. According to Glesne (2011) researchers should rather than eliminating bracketing, manage subjectivity with reflexivity – the noting, tracking, questioning, and sharing of the ways we shape and are shaped by the research process. This was also the pattern adopted in the planning and conduct of this research project. One personal major lesson from this research in spite of my background and subjectivity as a researcher is the fact that my knowledge about the culture of African's sub of the Sahara and West Africa in particular of which I belong to is very shallow. This research has awakened my consciousness about the strength of the impact of the philosophical worldviews of a person and people in mediating cognitive processes and behavioural patterns for a better appreciation of the challenges toward behavioural change intervention.

To conclude, it could be said that the in spite of the manifestations of my background in the philosophical worldview and assumptions vis-à-vis the approach to data collection and analysis, this research nevertheless passes the criteria of credibility/validity, dependability/reliability and transferability/ generalisation of a rhetorical research. For instance, in terms of credibility participant errors and biases were managed through the time for organising the interviews which were often in the mornings when participants were active and motivated to talk. For the rural communities the time for their availability was subject to their farming hours and days of no farming for participants to actively participate in the interviews/discussions. In terms of participant biases, consent note for providing assurance on the confidentiality of responses was read at the beginning of all focus group discussions to allay the fears of participants to openly share their perceptions. Furthermore, participants were given a few minutes after reading of the ethical consent to re-examine their decision to participate in the research. They were free to participate or leave the room before the

start of the discussions. Participants were also made to understand at the start of all the interview sessions that the responses were not a form of assessment so that no response to a question is adjudged as right or wrong to enable research participants to openly share their perceptions on the topics. In terms of researcher errors on research credibility, a maximum of two focus group discussion per day was held. Similarly, for the avoidance of biases, memos were used and all interviews were recorded, transcribed before analysis.

On dependability/validity, construct validity was achieved through the adopted research methodology by which the research question and objectives were addressed to enable behaviour to be explored, described and interpreted within their cognitive processes for meaning making and behavioural formations. Internal validity was addressed analytically through the computer aided qualitative analysis tool known as the MAXQDA Pro 2018. With respect to external dependability/validity the criteria for selecting study areas had been discussed in the research techniques for each of the processes adopted in the data gathering and analysis. The characteristics of the population sampled took cognisance of the dynamics in the patterns of disease transmissions to determine communities to be studied (rural and urban) of persons of relevance for explicating the phenomenon either as victims or providers of support of varied forms for victims and the people in general. The representativeness of the sample for transferability is seen in the characteristics of the areas studied and the participants recruited for the research such as Ebola survivors, youth, community midwives, journalists, traditional healers and administrative and decision-making personalities (key informants). In sum, subjectivity in this project is evident but managed without necessarily impacting credibility, dependability and transferability of this research project.

Chapter 6

Data analysis: Cultural practices, health, and communication in the Liberian context

6.1 Introduction

The aim of this chapter is to provide understanding into the socio-cultural patterns prevalent in Liberia and their interconnections with health behaviours of the people. As such, the chapter is devoted to describing the dynamics of the cultural practices, health, and communication specific to the Liberian context. Descriptions of the analysed data are presented to provide insights into communication management and some of the cultural practices as observed from the ethnographic study and narrations of key informants. Additionally, a brief overview of the broad groupings of the ethnic groupings for linguistic references owing to the interconnections between linguistics on the one hand and message encoding and decoding on the other will be provided. Primarily, the chapter opens with a general overview into some of the culture-related variables of ethnicity and linguistics and social organisation of the people as per the field data and information from documents or archival sources that were gathered. This provides direction into the dynamics of the outbreak and its management. Rhetorically, the chapter forms the basis for the identification and validation of the interplays between the theoretical constructs, empirical domains and the indices to the empirical domain around which the main objective and output of the dissertation would be achieved. Other sections besides ethnicity and linguistics that make up the chapter are aspects of death and traditional, concept of health and healthcare, communication and information sharing, and entertainment education and its utilisation in the Ebola management.

The specific claim in the section of ethnicity and linguistics is that these variables moderated information processing, intention formation and hence the observed

patterns of behaviours. Disparities in and patterns of infections death among different ethnic groups are the axioms upon which this argumentative position is based and explicated. The processes by which these effects occurred are, however, complex and remote; traceable to processes in the acquisition of values and norms and by identity in meaning making and intention formation including power and authority related issues at the extreme end of the spectrum of moderations. Related to ethnicity and linguistics is the subsection on social organisation. The discussions in the social organisations specifically references identity in the framework of moderations of ethnicity in intention formation. The argumentative basis of this is the empirical and distinctive frames commonly utilised by the people of Liberia to identify and distinguish themselves through the self-addressing phrases such as “we the traditional people”, “we the country people” among others. The self-addressing identity phrases it would be noticed are not only for purposes of distinguishing and categorising people, but are more importantly used for classifying and categorising people according to the sources of knowledge acquisition and for comparative assessment of the level of skills or expertise of a person, as well as institutionalised for adjudicating issues of legislative matters. In the process of communication this identity variable is used in judging the reliability and credibility of information or the trustworthiness of an information source during interactions.

Under section 6.2 on traditional burials a description of some of the general aspects of traditional burial ceremonies is provided together with a detailed description of the traditional burial ceremony for the Kru ethnic group. The explication of the practices is presented within the philosophical worldviews of the people that inform their enactment. Nevertheless, the arguments underscoring the philosophical orientations in the discussions in terms of information processing and intention formation is related to the management of emotional stresses, as well as securing the coping needs of the living. The communal relevance of traditional burial ceremonies, on the other hand, serves the preservation of the value system of the culture rather than the literal philosophical worldviews within which the meanings of these values are embodied.

Similarly, section 6.3 on the concept of health and healthcare has been postulated as driven by the philosophical worldview of the people, so that although biomedical

causation of diseases is acknowledged, the aspects of spiritual forces are still not ruled out in disease causation. As such the pluralistic healthcare seeking behaviours in the culture it is argued will remain a permanent feature in the concept of health and healthcare even when improved health infrastructure development enables easy and wider access to healthcare facilities. Exception it is argued may occur where, empirically, the severity and susceptibility levels of a disease is extremely high and biomedical treatment approaches proof effective over and above ethnomedicine in the management of diseases. This may demystify to some extent the spiritualistic basis assigned for the causation of given health problems during cognitive processes to information processing on a disease.

The contextual discussions for section 6.4 on communication or information sharing discusses the traditional approaches to communication and references entertainment education as one such approach in the culture and how it was utilised during the outbreak. Another essential media of communication in the culture, the town crier or the emissary, traditionally used to broadcast information to the people in the communities is also described. The argumentative claim in this chapter section is that, the traditional approaches to communication elicited higher information processing and intention formation arousals in the people than the conventional approaches of television, radio, the print media and telecommunication. The properties in the traditional approaches are their interpersonal nature and ability to deplore appropriate communication features to enable meaning making and arouse intention formation.

For a better understanding and contextual discussion on the arguments of the respective chapter sections previewed above, the discussions will now be focused on the detailed descriptions for the sections and their subsections, where relevant. The discussions commence with ethnicity and linguistics.

6.2 Ethnicity and linguistics

The importance of this brief on the ethnic groups of Liberia is to show the diversity of the country's cultures, their functional relations in information processing and

behavioural patterns, not excluding the challenges they pose to persuasive communication and communication management in particular. In so doing, the relationships in the functionality of culture in behavioural patterns could be ascertained for their generality or specificity and assist in the planning and implementation of communication interventions.

As noted in section 5.1 above, officially, there are sixteen (16) ethnic groups in Liberia with their unique cultural practices and dialects. These sixteen (16) ethnic groups could further be conglomerated into four (4) broad ethnic groups based on their linguistics and other cultural similarities as follows: the Kwa, (Bassa, Belle, Dey, Grebo, Krahn, Kru, and Sapo); the Mande-Fu (Gbandi, Gio/Dan, Kpelle, Loma, Mano/Ma and Mende); the Mande-Tan (Mandingo and Vai); and the Mel or West Atlantic (Gola and Kissi). Some of the ethnic groupings, namely Mende and Vai, Gio, Krahn and Mano and Kpelle, Kissi, and Lorma, are also said to be found in the neighbouring countries of Sierra Leone, Ivory Coast and Guinea respectively. The transnational extension of the ethnic groupings into other countries enhances cross-border mobility socially and economically, notwithstanding the spread of diseases as experienced with the Ebola outbreak.

Linguistically, a greater proportion of the population is bilingual speaking the ethnic language and the Liberian English or pidgin, which is a form of creole. The people unconsciously switch between the standard English, creole and the ethnic languages during a communication encounter. The linguistic similarities/groupings of the main ethnic groupings enhance understandings of the cultural compatibilities and harmonious co-existence in the conglomerations, strengthen social relationships and ensure easy integration of people within and among communities geographically. For instance, all the various ethnic groupings have pockets of their people living peacefully together in West Point, Monrovia. In the similarities, given patterns of behaviours were also observed in their specificity to local areas and groups from which health related behaviours, conditions and outcomes of response to Ebola communication messages could be related. Thus, functional relationships were observed between the linguistics of people and their meaning making in information processing. Wide linguistic differentials among persons of completely different ethnic groups limit interactions

and meaning making during communication among persons illiterate of the Liberian pidgin English. Notwithstanding the ethnic differentials, some cultural values and practices related to the Ebola outbreak are common to almost all the ethnic groups. The common practices are the cleansing of a corpse before burial, participation of neighbours and community members in funeral ceremonies irrespective of the degree of ties to the person, and caring for the sick as depicted in the matrix 6.1 below.

Except for the exclusively interviewed women Ebola survivors' research group, some key informants and participants of focus group discussions of Dupont and Todee, all the other research participants who were also in the majority, refused to admit that cultural practices were responsible for the spread of Ebola. Contradictorily, some of the research participants who refused to accept the fact that cultural practices led to the spread of Ebola acknowledged that the process of enacting the practices by given ethnic groups did account for the spread. Rather, they perceive the absence of interpersonal communication for information sharing, commonly referred to as education and awareness among the people and attitude of stubbornness as underlying the spread. Extracts of some of such responses are provided by Francis, Ben, Davidson and Jack respectively in the following responses for the causes for the spread of Ebola.

> *"The lack of belief. People don't believe until they see what has happened. And then, there were no way to carry out awareness to tell people that this is real, this is a deadly disease, it is coming prevent yourself or like people say that white man thing, they just doing this to eat money. Before we realise as I said, it was all over Liberia before people started getting scared…. no awareness also could be some of the causes that really made it to spread*".
>
> "*I am from Rivercess. There we just didn't believe that Ebola was real and we didn't take it. It entered and we never prevented our self. This is why it came in our country and it spread all over and we got killed by it."*
>
> **"***yes, just say lack of education, sometimes stubbornness of some people*".
>
> *"Like what he said just now, something that has actually been on my mind but it had not been discuss in Liberia. People always say that it is traditional issue that spread Ebola but I believe that it was because of stubbornness and carelessness".*

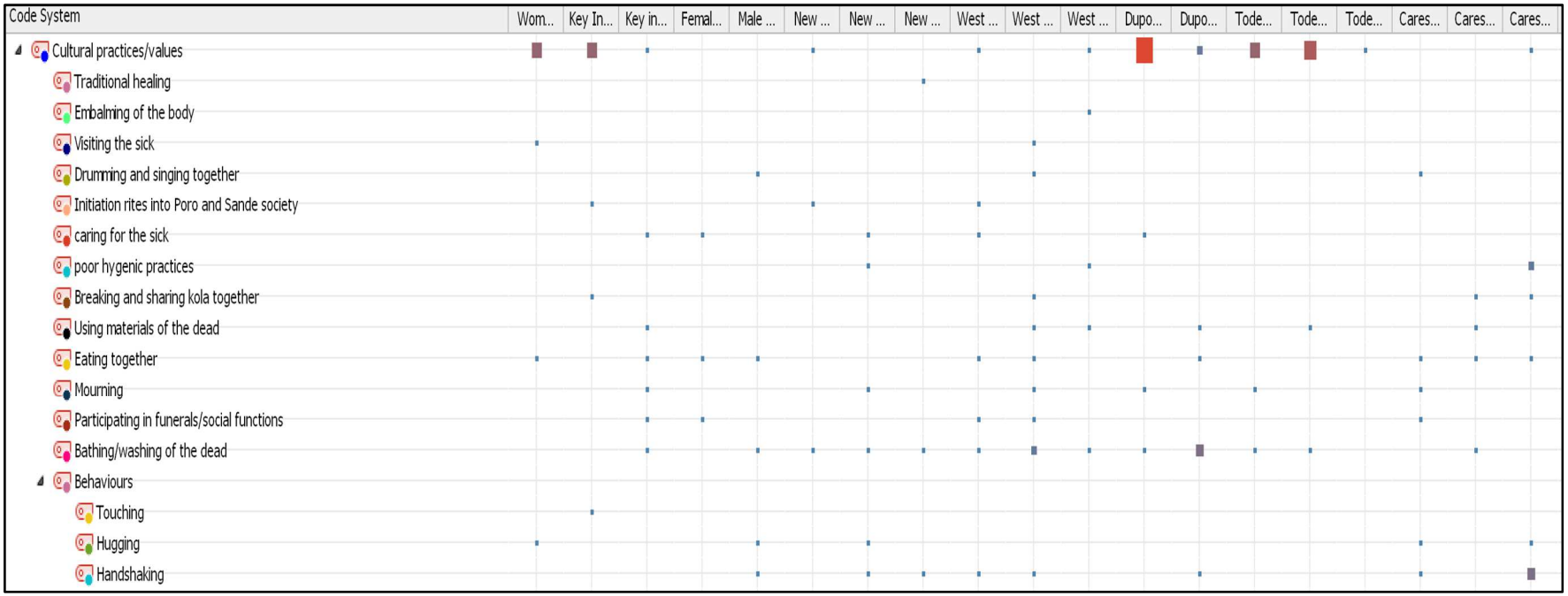
Those who acknowledged cultural practices as responsible often cited the bathing of the dead, the touching of the dead for questioning about the cause of death etc. before

burial as the major cultural practice that enhanced transmissions. The peculiar manner in which washing of the dead is practiced among the different ethnic groups according to Rev. Sumo of the National Health Promotion Unit of the Ministry of Health and Social Welfare, also saw to differentials in transmission, incidences and death rates among the various ethnic groupings. Thereby, ethnical disparities were observed in Ebola transmissions and deaths which shows that the cultural practices of given ethnic groups have a relationship with processes of intention formation and behaviour change among given groups in a persuasive communication. In matrix 6.1, the various acts referenced by research participants as cultural practices of the country and its people has been provided.

Descriptively, the rows of the matrix represent the coded categories for the cultural values as provided by research participants in the focus group discussions. The columns, on the other hand, represent the categories of groups for the respective focus groups discussions in the studied communities and key informants. The key informants as defined in this research constituted person(s) having first-hand knowledge or experience on the subject areas of relevance to this research and of their communities. Examples of such person(s) defined in this research besides the government functionaries referenced in chapter 5 and elsewhere in this dissertation are the Sande women group and the Ebola survivors' groups (segregated by gender in this research) as could be extracted from matrix 6.1 below. The squares of the matrix [31]indicate the number of segments of a document (category of research participants or focus group) in each document assigned with a specific code and subcode, and this applies for each existing code. The colour and size at the conjunction points represent the responses of coded segments that are coded with a particular code. This implies that the size of the symbol corresponds to the how often the code in question has been assigned to the

[31] The determination of the square size is done by the MAXQDA software. The software determines the smallest and largest code frequency for all displayed nodes and then divides the distance between these two values into seven equally-sized value ranges. The values ranges are from 0 – 7. The smallest value range is given the smallest symbol and the largest the biggest symbol. Additionally, the maximum distance between the displayed code frequencies is considered. For example, if codes occur only once or twice in the displayed documents, this distance is very small, and neither the smallest nor the largest squares will be used, but two medium-sized ones, so as not to over-emphasize the difference. If the smallest displayed value is e.g. 5, and the highest is 8, then the range is 8 - 5 = 3. The cells with value 5 are then assigned the smallest square from row "3", the cells with value 8, the largest from this row. If all the visualized numbers are identical, a medium-sized square is displayed for all values. (Source: MAXQDA 2018 Manual).

coded segments of a document, so that the larger the cluster, the greater is the number of segments that have been assigned this code or category in the document. Following, a look at matrix 6.1 indicates that in the broadest sense, cultural practices as a code without its subcodes was variedly agreed on as being responsible for the spread of Ebola. Comparatively, the peri-urban and rural communities of Dupond Rd and Todee respectively considered cultural practices as spreading the Ebola, whilst participants of both New Kru Town and West Point, the two biggest slums in Monrovia disagreed that cultural practices accounted for the spread of Ebola. From these locational disparities, a more interpretative approach of these findings within the ethnic and linguistic background of the people in the communicative perspective will be considered subsequently.



Matrix 6.1: Commonly referenced cultural practices

Data from the research indicates that although all ethnic groups of Liberia were affected by the Ebola outbreak, given ethnic groupings such as the Mande-Tan, specifically the Mandingos are said to have experienced higher rates of incidence and deaths during the outbreak due to the practice of the reuse of waste water from a cleansed corpse in the performance of rituals for the dead, especially in the case of a highly respected leaders. For example, it was not uncommon to find people apportioning blame for the Ebola havoc on practices of other ethnic groups rather than those of their own. Some culturally sensitive individuals of given tribes such as the Kpelles and traditional healers and persons of the Kpelle Poro and Sande societies emotionally hastened to point accusing fingers at the Mandingos (a predominantly Islamic ethnic group) and their culture as being the cause for the spread of the Ebola. Following are some comments in this direction:

> *"…Also the bathing of the death is done by all cultures in Africa as you know. The Muslims for instance were washing the face with the water from bathing the dead and thus spreading the disease." …. "Negatively, some Muslims did not want to stop the cultural practices of washing the face with the water from bathing the dead of a prominent person and also they did not want Christians to bury their dead until we included some Muslims on the burial team who conducted the Muslim burial."*

> *"…Just bath the body thing… this thing that we are talking about. That hot water they used to bath the body. In the past all of us really used to bath body… its now that we really hear them saying…* ***we moslem people****, we do bath the body…, that we bath the body…, then take the water to bath another person with it…, because that is our culture …., so that bathing of the dead body…, it was because we never knew at that time… so when Ebola came…, that what was really causing people to really die…. Because we never knew...all of us… but they say moslem people…".*

In particular, even though the blame was placed at the door step of the Mandingo Muslim tribe, one of the confidants reported that when referenced from the statistics at the Ministry of Health and Social Welfare, the Kissi tribe mainly from Lofa where the first Ebola case was recorded, reported the highest incidence and death in the Monteserrado county, especially in West Point. The assigned reason he mentioned was a result of their traditional burial practices. The Mandingo ethnic group followed as second most affected tribe in terms of ethnic disparities for incidence and death rates. For that reason, the accusation of the Mandingo ethnic group could be said to be fuelled

by egoistic factors in social identity for which reason blame has to be biasedly attributed to others as an easy approach to shirk responsibility for one's own actions and that of persons with whom ethnical identity is shared. Inferences from the above cited examples attest to the aforementioned ethnicity and its cultural practices as determinant of identity and social relationships issues in behavioural formations. Ethnicity, therefore, serves as a factor to consensus building or collaborative endeavours in behaviour change management or any collective decision making and problem-solving activity. This implies that intervention programs need to identify and understand the influences of ethnic differences on the success of a program. Early collaboration with major leaders of the ethnic groups is, therefore, essential for the effectiveness of a behaviour change intervention. Closely related to or embedded in the ethnicity are also the religious practices and culture of the people.

In Liberia, as with Africa in general, religion is a way of life that is overtly practiced and informs almost all aspects of life; from politics, social (marriage, diet, health, dress code), economics, and even to death and is inseparable of culture. Religion with the perspective of persuasive communication, relates to factors in intention formation and message decoding as could be deducted in the above two research participants' submissions. Persons of other ethnic groups either than the Mandingo are said to practice either Christianity or African traditional religion or both. African traditional religion involves ancestral worship[32]and animism. Animism involves beliefs in divinity or spirits and the practice of witchcraft, jujus, sorceries, or oracles. Two major secret society groups of dominance or prominence in the culture of the people of Liberia are the Poro (men's group) and Sande (women's group) secret societies. The power, authority and influences of the Poro and Sande it was observed does extend into national political decision-making issues. Mandingos do not belong to the Poro (male) and Sande (female) [33]secret society groups but have their own group.

[32] In ancestral worship, the belief is that in the event of death, the soul departs the physical body and, after several days of earthly duties, moves into the spirit world. From the spirit world, departed ancestors can influence events, positively or negatively, in the lives of their living descendants. To appease their ancestors, family members make sacrifices to them. Those who offend their ancestors or fail to make the necessary sacrifices must consult a shaman (in local Liberian usage, a Zoe) to intercede on their behalf (Ranard (ed.), 2005, p. 28).

[33] The *Poro* and *Sande* are male and female societies respectively responsible for the proper socio-politico and religious functioning of members of a community or members of given ethnic groups such

A common religious feature observable among the people of Liberia is the widespread believe in misfortune[34]. The belief in misfortune has it that misfortune is perpetuated by evil doers and inflicted through witchcraft and sorcery. However, ill wishes or mystical harm it is believed could be inflicted on a person (s) only by a family member or neighbour and not by an impersonal distant power or force. The belief in misfortune partly contributed to the initial doubts concerning the causes of Ebola and the static adherence to traditional burial practices by the people irrespective of ethnicity and religious orientation. Notwithstanding, most customs, beliefs including beliefs in misfortune and burial practices are said to have undergone major changes in recent times. For instance, referencing the dogmatism in values, beliefs, and practices of the people, some female Ebola survivors responding to the question on the continuous practice of traditional burials and hiding of the sick even though this was advised against in the Ebola messages of the Ministry of Health and partners shared these opinions;

> ***Lucy[35]: "…****Like those from Grand Cape Mount County, the people are Moslems, they shouldn't bury them but the kept on because that is our culture".*
>
> ***Betty:*** *"The Liberian upbringing)[36], is such that when you have children, you impart the values of the culture to your children, who will then impart it to their children in the future children through advices given. sometimes it is only one word or two words we use for giving advice to the children. So that is how we the Liberian we living. So even though the MOH advised us, they advise the*

as the Kpelle. Ordinarily, they are popularly known for the initiation of boys and girls into social adulthood. Historically, they pre-modern local political structures divulge from spiritual or cosmologic inclinations of the people for the administration of the local areas that ensure cohesion, solidarity, justice etc. in the community. In recent years, however, their power and ritual authority in regulating the wider society have been undermined and diminished (Combey, J.M., 2010), through the concepts of democracy, Islam and Pentecostalism. A brief of their commonly known functions of initiation will be discussed under social organisation on the explication of bush schools. As custodians of the social values of their people, the leaders of the societies, use myths, folktales etc to communicate and express social values to members, the meanings of which are concealed from non-members of the group.

[34] Believes in misfortune is not peculiar to Liberia, but common to most West African countries where indigenous African religion with its cosmological inclinations have served and continue to reign in the conceptual religious frames of the people or is a much more ingrained belief in the people with the acknowledgement of evil forces in human affairs. However, there is the more overt or widely pronounced belief in mysterious powers or spirits at work in the life of people even in urban areas of Liberia compared to other urban areas in countries such as Ghana.

[35] Not actual name, but pseudo name for the reporter. NB: For anonymity reasons actual names were not provided during the discussions but initials of the moderation, study area and P1…Pn., with P being participant and n being the number of participants based on the order of who speaks first, second etc. from the beginning of the discussions. were used to identify participants

[36] NB: the narrations have been paraphrased in the standard English expression from the pidgin English version. The provided comments are still the original as from the transcription of the audio recordings.

*culture people, people kept saying that they have a culture. They advised them not to bath their body, but the Mandingo people were still bathing the body. Mandingo people were still dying there of it…**Gloria:** Yes.! ((signalling agreement to that contribution)) … So! .they are the stubborn people in the culture! … **Gloria**: Yes.! ((signalling agreement to that contribution))! They made people to die in the country here and they even have a certain dialect in the country here, because of their stubbornness! I must say, most people here too (most of us too) (admission of personal guilt)."*

The above submissions indicate the inseparability of relationships between culture and religion in the perceptions of the people and the mediations of religious cultures in behavioural motivations.

In the example of how the ethnicity and linguistics function in intention formation, the use of the phrase "we…" was identified as being commonly utilised for categorising knowledge and expertise and credibility of information and even integrity of a person. From the tone of the language used in the identity and classification of people, one can infer that the classification of people is somewhat structuralised to justify the discriminatory utilisation of the identity phrases without reservations. This implies that there has been a systematic process in place by which this identity distinctions have been made to justify their utilisation and acceptance in the people. In the light of this it is necessary to consider the social organisation of the people for the understanding of the totality of the functionality of ethnicity in information processing, intention formation, and behaviours outcomes. This leads to the related contextual topic of social organisation in sub-section 6.3 where the specificity of identity, its contextual institutionalisation and influences in processes of communication and patterns of can be understood rhetorically.

6.3 Social organisation

Among the sixteen (16) ethnic groups commonalities exist in the culture of the people but the social structure and organisation of the groups are different. A form of caste and class system exists in Liberia between the American settlers and the indigenous people (African ethnic groups who were inhabitants of the area before the arrival of

American settlers). The American settlers are namely African Americans, freed Afro-Caribbean slaves and Africans who were captured on US bound slave ships in the 19th century. The terms "civilized people" and "uncivilized natives" are locally used in conversations for distinguishing the people on various judicial matters. These discriminatory words are historically backed by the country's Hinterland Regulations 1949[37] and 2001 Human Rights and Protection Section. The Hinterland Regulations 1949 and 2001 is applied in the segregation of legal justice systems and administrative structures among the "civilized" and "native" Liberian based on ethnic affiliation or cultural relations.

Functionally, this regulatory mechanism is adopted in regulating behaviours at the community level and serves as the basic instrument for running the local governance structures. The terms are also used to refer to western-educated and non-western educated Liberians. For instance, referred to as the "kui", the "civilized" Liberian is considered as one who has association with English, is literate, is Christian by religion and not engaged in the subsistence economy and vice versa for the "native". Nonetheless, the "kui" or civilized natives uphold their ethnic identity as Kpelle, Vai, Grebo or Kru. A civilized native, on the other hand, is considered to be a native who has been Christianized and educated but who maintains his ethnological identity. Similarly, among the women in the social stratification, a civilized woman is distinguished from a native symbolically from the western style of clothing compared to the two-pieces cloth or "lappa" [38]worn by the native woman.

Traditional people in the Liberian perspective were explained as those who maintain or live the customs, beliefs and practices of their ancestors or forefathers. Characteristically, some participants, as well as most traditional healers, openly considered and proudly arrogated, interchangeably to themselves the phrase "we the

[37] Initially adopted in 1949 and revised in 2001, the Hinterland Regulations apportion justice in accordance with ethnic or cultural affiliation, employing pejorative terms such as "uncivilized natives" (as opposed to "civilized people") and "primitive social institutions" (a reference to the *Sande* and *Poro* societies) to convey the "otherness" of indigenous social structures. "Uncivilized" persons are subject to separate jurisdiction from "civilized" persons through the application of customary or tribal law in so-called "native courts." (art. 38) (HRPS, 2015, p. 13)

[38] Lappa is a two-yard piece of cloth worn around the waist with a short-sleeved blouse by women.

traditional people or we the country people" during the data collection discussions. Usage was often done to descriptively portray or signify a sense of identity or uniqueness and esteem for values and norms, behaviours, practices or lifestyle of the people compared to that of the urban elitist.

The lifestyle of the urbanised person and elite is believed to be acculturated from the West and is perceived as the invisible hand of the West for dominating and ruling the indigenous people and their cultures. The elitist lifestyle is also perceived by highly indigenously oriented and culture sensitive persons as inferior or substandard to that of the traditional and indigenous lifestyle[39]. Discussions on culture of the people provided opportunities, especially for traditional healers/leaders for the expression of such feelings of apprehension and discontent for elitism. For instance, in one of the discussions with the traditional healers on what the general culture of Liberia was, the participants indirectly seized the opportunity to express their discontent or grievance for influences of elitism/urbanism on cultural practices. Elitism was seen as a threat to cultural values and practices with the threat emanating from the umbrella name of human rights.

Human rights advocacy issues which is being propagated by some NGOs, civil society and the government according to the traditional healers has negatively affected their cultural values in the upbringing of children and marriage related issues. The reason being that within the perspective of human rights punishment or correction by canning or beating of non-conforming or disobedient children, for example, is interpreted as an infringement on the right of the child. This is seen as an affront to the indigenous culture, where harsh disciplining of children is a normal approach to the training and inculcation of socially accepted and morally appropriate behaviours in children. Citing a personal example, one participant even indicated that he had been reported and

[39] It must be noted here that most indigenous people are very conscious and sensitive about their indigenous culture not only for reasons of posterity, but also because it prescribes prerogative powers and authority mainly to traditional leaders and men. The power related aspect is perceived as being threatened by acculturation and globalisation. As such a power struggle problem exists in the cognitions of traditionally conscious persons and leaders who entertain fears that acculturation/urbanism would in the future undermine and erode their values, powers and authority over the people. This, therefore, makes them apprehensive to discussions that they presume as interpreting culture as substandard or inferior.

invited on three (3) different occasions to the police station for disciplining his deviant daughter during his contributions to the discussions. Following is the excerpt of his narration:

Frank): *… "but you know this… everything in this Liberia now is human rights.… This human rights…, it has spoilt our children…our children cannot respect us…; it's wrong... if we want to beat them…, then human rights come in… why? you will be reported to the police… if you beat your child and the child is crying they say why don't you report him at the police station …. Sometimes that child goes out of the house and engage in stealing business with the partner of him (there was once that the daughter went and engaged in stealing with his boyfriend))… That is the thing, that is spoiling our children… down to our own… if the child go, especially the girl child when she is to marry… she may do things on her own…she will not think that she has parents… this was not the case in the past…the parents were involved… you see… this is our culture and that was how we used to do it… that's the one that bring us together…. And that's the thing that is suffering now… because of this human right."*

Below are also some of the detailed unedited excerpts during the discussions where the usage of the term, "we the traditional people" and its relation to the portrayal of a sense of identity and superiority was interchangeably used either as country people, culture people, or traditional people among the traditional healers;

Moderator: What will you describe as a general Liberian culture?[40]

Participants (in unison)*…no general culture*

> ***Frank:*** *we have our own culture,* ***we the country people in Liberia here****, but human right has destroyed everything in our country here. We have culture here when you woman over here, you woman to be man here and you see men here you will not enter. But this time, human right has spoilt everything in our country. Like shaking hand we are not doing it, you don't just stand even if you are a big man, you don't stand and you just walk to that man to that older person and shake his hand, there is respect.*
>
> ***Aloysius:*** *No more general culture this time…****the traditional people*** *we no have culture anymore… Even the women as a whole, no more culture. Going back, women, when men were sitting down at one place, when they want to pass here, they will bend, they will bend down, before they go. But now they see the gathering, they will like to come and see and know what you are discussing.* ***(interjection: corroborating the point of Aloysius in an ironical manner – Frank:*** *that very moment they will go to the wash hand there)****: I***

[40] A detailed unedited transcript of the discussion on this topic by the traditional leaders is provided in the Appendix.

*know it too good, Dr. Fallah and myself were talking over this. … (interjection...**Wilson):** Me I say because of human rights but one day after 1990 things became all different way, that's my believe. Because normal days we were not having human rights after the war before human rights thing came in and that's the time children begin to go on the moon and I say fine; smoking, talking with big men… for nothing, nothing that's my view. So the culture for children now is not affected. That's my view.*

***Aloysius:** …..I think at one time we went to our place there… there are some laws, we have see saw, wash up and things… there are some laws whereby it used to cover the culture… But now we, **we the traditional people**, you come to our time, we have cut it off completely. We have the control you, you the tradition…once they used to have a certain rule in the room… there was assassin rule in the room…, but now the minister, I mean the government has gone into it and studied it and thinks it is not good… saying because the more you do this the more chaos it become… Because of this reason… it is not there again... And as a man, as a man, as a man with culture, **as a country man…** there is nothing for your culture…. Even the language, the dialect you speak is your culture… But there is a law attached to it…. Now our older people they did their own… it was fine…. But for us today is not fine…. 1) taking the children man (the boy child) to different, different areas of initiation and what… the government says yes, that is true…. But even so there must be a time… there must be a time... When schools are in session you don't apply it and when they are not… you know… they say it's not compulsory… you don't force someone to do that…. Those are the things that… **the native people, we the native people** we have seen it… We have the quick people… we have seen it… you say right, we say no… how can you come to your house and burn your house… there was time to go to that house… you say am not going that house… these are the questions… so it just be barrier."*

Similarly, the reference "we the traditional people", "we the country people" or we the cultural people" was used for distinguishing between sources of knowledge (Western educational institution/elite or bush schools[41]) and approaches or processes (scientific

[41] Bush schools are traditional schools for the initiation of boys and girls into manhood or womanhood. Separate schools exist for the male (Poro) and female (Sande) gender. The Sande society is responsible for initiation girls into womanhood and the Poro society for the initiation of boys. The schools are located outside the limits of the community's social space, or deep in the forest where the sacred groove of either society is found and secured from intrusion by outsiders (inaccessible and rituals conducted there, are as well invisible to outsiders and non-initiated persons) using long palm leaves as fence (Combey, 2010). Bush schools are places where the values and traditions of the people, authority, as well as roles in the family life are transmitted in shrouds of secrecy and fear which hinders and forbids the transmission of knowledge to non-initiates of these schools. Initiates undergo "a process of psychological, intellectual and physical transformation in the schools where they given secret teachings, including learning a special language, religious knowledge and information on the group's system of cultural and social values" (Peek and Yankah (Eds.) (2004), p. 183). Besides the moral transformation physical marks are made as part of the process on the initiates to symbolize their transformation into adulthood in form of circumcision, excision and/or scarification. The marks are however, not uniform,

or traditional) to problem solving. Such differentiations for showing source of knowledge and problem-solving approaches occurs in discussions on, for example healing traditions, religious practices, burials, communication and initiation into adulthood and assumption of position of authority or responsibility.

For instance, a community leader and traditional healer in West Point indirectly used culture to reference the source of knowledge and process of healing at the same time. In addition, he used it to reference power related issues of dominance to express his apprehension for perceptions of contemporary knowledge acquisition and processes. His narration was allegorically presented. In his narration he expressed his discontent for modernisation and its negative impacts on behaviours and cultural approaches to healing, health and wellbeing in general. This was done through a comparison of cultural practices of the past for health care promotion and healing in relation to contemporary approaches and of the quarantine in particular. He emphatically mentioned that isolation as a health management approach is no new phenomenon in the Liberian culture and that it was traditionally practiced in the past for all diagnosed cases such as for smallpox epidemics. Places where the isolated are kept until they are healed are termed as "sick bush". The "sick bush" is a particular part of the forest that may be temporarily set aside for treating persons suffering from diseases considered contagious or those of a public health menace. Emotionally (having a high pitch tone for expressing infuriation) and disjointedly the traditional healer tried to present cases

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but specific to the inherent personal skills/professional capabilities/knowledge area identified in the person during the process of transformation that qualifies the person into that area of professional practice and could be understood and identified only by members of the sub-group and in exceptional cases by all society members. Thus, they also used in identification even within the general Sande/Poro society. Instructors or educators of the bush schools are elderly men and women and they wear masks within which the spirit of the society is said to be found throughout the period of initiation. The masks conceal the identity or personality of the elderly people who serve as instructors. The schools are secret societies in their own right, hence the restriction of information. The bush school also constitute a form of pre-modern political culture of the people at the local level and has a complex system of governance in symbols and attitudes that govern power and behaviour shrouded in spiritual beliefs (Bellman, 2012; Ranard (Ed)., 2005; Ellis, 1995). Initiates undergo various rituals in the process of their initiation. The Poro society has within it various cults as part of their governance structure or system for the performance of religious, educational, medical and political functions. The divination and healing group of the Sande society is known as Yasse and the men have Zoe. There are different types of Zoe depending on the functional or spiritual capabilities, authority or area of functionality of the person. For more on the Poro and Sande secret societies see Bellmann's book "*Village of Curers and Assassins. On the Production of Fala Kpelle Cosmological Categories*" ; Combey, J.M (2010): *"The Influence of Modernity and Modern Warfare on the Koh Mende Society of Sierra Leone";* Fulton, Richard (1972)*: The Political Structures and Functions of Poro in Kpelle Society."* and Podolefsky, A and Brown P.J (1994)*: "The Kpelle Moot"*- a reprint of Gibbs J.L (1968).

for disproving the assertion that knowledge acquisition through the contemporary educational system or scientific knowledge and approaches is better compared to the indigenous or traditional approach. Inserted is the detailed unedited explanation for his narration:

> ***Ishmael:*** *You see… our way of culture… our way of doing things and we came to notice ourselves… into talking about careless, selfish attitude… because when I was attending school we don't have this and later we came to know…. the Liberians they got to forget hygiene totally… so the way we have some of these things coming up and you see within our culture… I'm a Gola man now… the culture diversities that we did mention about… that is all tribes has cut e own culture…. My grandmother told me… once upon a time…. before I got to hear about quarantine, quarantine… it was interpreted it into our culture…. that quarantine came about….loooong ago, how to take care of the dead… how to take care of the sick persons… our days when we were small… when someone caught up with this chickenpox, measles, they quarantine them… specific area… where the destination wants to cater for them…. With this Ebola theme came about and it also has changed our culture through some attitudes from our culture dimension that divided our cultures and try to put the western cultures at the head of our African culture…. that how I saw it... Ebola came to put the western cultures at the head of our African culture…. So all the workshop I attended… I saw that the western cultures want to dominate our African cultures… in ways of doing things and now we have come to know that the African culture still exist and the practice still exist... all the cheer there now is to follow my own…. Because our children now, what our grandparent did in the past it did occur [42]…that's the meeting of diverting of … and those days when our grandparents do things, they do with care… so that different dimensions was there and one does not get sick because they know how to take care of illness… even the body… they select certain group of people, where they will go and bath, examine the person, what killed the person… all of them have health certificate… then they know what kind of leave to pick to go and wash that body…. These are what they are doing on the Chinese side…. Children who do not even know how to take care of human being… how to take care of themselves… the junky side… so mostly… all of us… let us go back our practice… this hygiene practice… is more serious than the medicine that they go buy… because burning person is not in our practice... If you get sick… then you buy medicine then you take it… we still carry on the same practice, you are inclusion yourself in into the action.*

Deducting from the above submission it could be said that the concepts (promoting and ensuring community health) underlying the traditional knowledge and approaches are not completely different from that of contemporary approaches. The identifiable

[42] Referring to quarantine for ailments such as chicken pox and leprosy as a way of prevention infections in the spread of contagious diseases

difference may be that in the traditional approaches knowledge and information sharing is practically oriented in form of learning by doing and meanings are derived from symbols used in the conveyance of information and knowledge.

Another important dimension of social organisation in the culture is the family. The primary social arrangement is actually premised on the family as a network of blood relations in the ancestry; not only limited to the nuclear system but includes the external system of family or kinship which is strongly upheld. The household is perceived as the unit of society whereby a number of households form a highly organised unit which functions to protect and defend its members against want, danger and injustices. The family, and the community or cooperative group to which one may belong, therefore, function as a psychosocial coping institution or an economic unit in which members provide support both financially and non-financially to each other.

There are exclusive gender-based roles and responsibilities in the social organisation of the various ethnic groupings. The classical and major roles of women in the Liberian culture for instance, manifest in the areas of providing care (for the sick, family and community guests' funeral and burial ceremonies), farming and promoting peace and stability in the home and community in general. Generally, women in the culture are regarded as the custodians of hygiene and health of the family and society, hence their responsibility for the cleansing of the death prior to burial as a whole. This primary role of women as caregivers and persons often responsible for the bathing of the death was the main source of exposure of many women to the Ebola virus. Unlike the women, primary infections among men were attributed to promiscuity, stubbornness and Poro rituals or religious practices performed for the death. The roles in the system's social organisation, therefore, prescribes patterns of behaviours that also expose given persons and groups to various risks including health risks. The health risks exposure as it occurred during the Ebola outbreak is depicted by the prescribed nature in the processes for conducting traditional burials ceremonies, for example. To explicate how this occurs its relationship with information processing and intention formation, the issue of death and burial practices in the culture will be discussed as the next section for a contextual understanding of the culture and their interconnections with health behaviours.

6.4 Aspects of death and burial practices

In Liberia, death is regarded as a state of transition from the world of the living to the world of the ancestors, commonly referred to as the ancestral village. The dead is very much respected and honoured in the Liberian culture. According to Rev Sumo, the belief of the people has it that the dead is not dead, his spirit lives on and this is common among Africans. The belief is strongly held about the existence of a bondage between the death which is strengthened through the performance of certain rituals before burial. In addition, various rituals are performed for the dead for his/her sound transition into the ancestral village without which the dead it is believed would bring untold hardships to the living family members for dishonouring him/her. Each of the ethnic groups have practices unique to their culture, though the practice of for example washing the dead before burial is common to all the ethnic groups. In this section, a general overview of the burial practices as obtained during the data collection together with burial ceremony of the Kru ethnic group is provided.

In discussing the topic of culture of Liberia, Alfred Lane, one of the key informants shared the following information about some aspects of rituals performed as part of the mourning activities and how it encouraged the spread of Ebola. According to him, in their tradition[43], in the event of the death, the announcement of the death is done by the crying of women who are related to the dead. These women will go around the community wailing and intermittently lying down on the ground and rolling themselves over on the ground, with the hand sometimes being held over the head, accompanied by shouts calling out the name of the deceased as a way of physically expressing their grief and distress. The wailing through the community ends up in the house of the deceased where it is continued on mats spread out on the floor. The act of sitting on the mat and wailing may last for a few days to a week or even more subject to when the burial ceremony would be fixed by the relatives of the deceased.

[43] Alfred Lane, did not personally and directly disclose his ethnic affiliation to me. His ethnic affiliation was made t later sections of his talk submissions where it was indirectly disclosed. One of the research assistants whom I later inquired from confirmed his ethnic background to me.

The associations between funeral practices and Ebola transmissions relates actually to the process of mourning. In mourning a husband for instance, the sister-in-law locally referred to as "Ebuai" he noted, dresses up in the clothes worn by the dead man (her brother) upon his dead and sits on a mat to mimic or represent the dead person. Sympathisers who come to mourn with the bereaved family will shake hands with the sister-in-law, whilst she is sitting on the mat. The belief here is that the dead is not totally absent from the world of the living, but lives on in the living so that if a man dies, the belief is that the man lives on in the children and the wife. To symbolise this continuous presence of the man in the family, his female sibling or female relation, e.g., a cousin (in the absence of a female sibling) of the dead man will have to wear the clothes worn by the dead upon his dead and sit on the mat to receive mourners with handshakes. The purpose is according to Mr. Lane to ensure that the widower maintains a permanent or continuous bond with the family of the husband by not leaving the family and get married to another person or locate to another town or community far away from that of the late husband. The mat upon which the sister of the dead sits on to mimic the dead is reused and not discarded after the mourning period is over. Before burial, the cloth that was used in wrapping the corpse is removed and brought to the women at the riverside for washing. The youngest of the children of the deceased is responsible for the removal of the cloth and for transporting it to the riverside. This culture as reported by Mr. Lane is practised by the Bassa, Kissi, Mende, Kpelle and Mandingo tribal groups. Through that contacts with bodily fluids of dead Ebola persons were made, which increased transmission and spread of Ebola.

In the case of the Mandingos, the practice of mourning with the family involves the placement of a pot filled with water and a calabash (gourd) inside the house. All sympathisers who come to visit the bereaved family and cry are made to fetch some of the water to wash their face and the tears away. The water in the pot is actually the wastewater from that which had been used in bathing the corpse for burial. The person who beats the drum to announce the dead of the dead according to this informant also dresses up in the clothes worn by of the dead before his/her death. These practices according to Mr. Lane "…is how Ebola spread before it reached Monrovia here". The use of the wastewater from the deceased is believed to transfer spiritual power that was resident in the dead to the person who washes the face with such water. The belief in

the transfer of power of the dead to the living appeals strongly to the conscience of many, and is very much valued, especially if the dead was a religious leader.

Subject to the above information it is undisputable that the culture of the people created an enabling environment for the transmission of Ebola. The enabling environment was, however, made possible through the purposes that the cultural practices fulfil in the values of the people. The implication is that the values were the driving forces in the spread of the disease. The failure of the research respondents to admit that their cultural practices were responsible for the spread of the Ebola could be associated with identity and ego related issues which could be understood within the concept of identity. However, deducing from the narration above, and of other research participants from a non-theoretical perspective and without necessarily undertaking an in-depth analogy, the research data confirmed that the processes in the traditional practices contributed to the spread of Ebola.

The example of a Kru burial ceremony was provided by an elderly Kru man. According to him, in the case of the Kru tribe when a kinsman dies, the oldest male person in the family, who could be termed the family head will call for a family meeting comprising all persons related to the person in the extended family system. The first family meeting is for consoling the immediate or nuclear family of the dead. Physical presence of all family members from far and near are required. Exceptions, however, are permitted for permission of absence at the first meeting in extreme cases such as infallibility. During this first meeting, the dates for the second and third meetings before the burial will be announced. These three family meetings organised before the burial ceremony are mainly for mourning the bereaved with the nuclear family and for the organisation of a successful burial ceremony. Pledges for financial and material support are not made by the family members during the first family meeting. The date for the burial is decided by the core elders of the family and agreed on in consultation with the children. It is then announced to the entire family during the second family gathering. Financial and material pledges towards the burial ceremony and for the upkeep of the immediate bereaved family is communicated by the various extended family members during the second and third family gathering.

Pledges can also be made after the third family meeting. During the meetings, the family will decide on the special type of cloth to be worn during the burial ceremony. The cloth that would be worn by the extended family members is different from that of the children and have symbolic cultural meanings for the expression of emotions and conveyance of thoughts about the bereaved besides distinguishing the children from the other family members.

The funeral ceremony itself may take place in a church if the person is a Christian. In the case of a non-Christian the family head will chose a specific venue for the ceremony which may be at a shrine, community gathering area or in the house of the deceased among others. The period for the burial is variable with the minimum being two weeks after death. Traditionally, the bodies are embalmed and preserved during the period to avoid decomposition as preparations are made towards the funeral ceremony. In modern times, some families, especially in the urban areas, preserve the corpse in the mortuary. Before the burial, the body of the dead is washed. The washing is done by persons of the same age group. In the case of elderly women as an example, an elderly female woman will wash the body and in the case of a male youth, the youth in his age group will wash the dead body. But generally, elderly women are responsible for washing of the death though it can also be done by anyone in the age group of the dead. The washing takes place behind the house of the dead. In the strictest traditional way and in the typical Kru village settings, the first person who chances on the dead person on his death, he noted, will have to wash the dead before announcing his/her departure to the other family members and the community. According to him this is important because during the moments of departure of the soul from the body, most people during the period of "struggle" to give up the last breath do ease themselves up which in the culture is a shameful act that can bring scorn to the family if seen by other non-family members; hence, the cleansing before the announcement of the passing. Unlike the Madingos, the waste water from washing the dead is discarded.

Two days after the burial ceremony, the hair shaving ceremony commences for all male and female family members of the deceased. For the extended family members who come to mourn with the immediate family of the deceased, the shaving involves

the cutting of hair from the edge of hair either around the area of the forehead or of the back. The hair of the children and their mother will, however, be completely shaved off. In the belief system, the purpose of shaving the hair is to get rid of all bad luck from the family. Bad luck in the belief system of the Kru culture is symbolic for absence of progress/success in life or numerous and successive troubles in a person's life. In recent times and as a result of the influences of western cultures, a wife and family members who do not want their hair shaved are permitted to offset the physical shaving ceremony with financial payments which are made to the traditional leaders. In the case of the wife, the payment of the fine is made on her behalf by a member of her family. Extended family members who cannot afford the payment and also do not want the edges of their hair cut are taken through a traditional bathing ceremony.

The final ritual after the shaving ceremony is the washing of the head of the children and the bathing of the widow. Traditionally, this is done at the river side where the shaved hair is also thrown into the river and washed away by the river. The throwing of the hair into the river is a physical gesture symbolic of the removal of bad luck from the family. One of the reasons that makes it compulsory for a widow to be bathed by elders of the family on the death of a husband is to prevent the spirit that took away the husband from following the widow into her next relationship or marriage, should she decide to be remarried. The belief is that the spirit of death that took away the life of the first husband will spiritually attack the new partner or husband, a few months or years into the marriage. The second husband or partner will die from the same circumstances as that of the first husband of the widow. It is also believed that sorcerers in the village can easily, through witchcraft or magical acts known as juju, bewitch or perform a charm, that will cause the new husband to die in the same way should the woman fail to undergo this traditional bathing. The practice of bathing for widows in the Kru culture is symbolic of purity from all spirits of death.

Another ritual associated with the Kru death and burial ceremonies is the washing of the feet by all persons who accompany the dead to his/her final resting place (graveside). The ritual involves the placing of a bucket filled with water and a specific

type of grass found around cemeteries and roadsides at the door of the house of the dead. On return from the graveside each and every one who was present at the graveside will fetch some of the water and wash the feet with the water. The symbolism of this act is the disassociation of the people who visited the graveside from anything that may have followed them[44] from the graveside. Generally, the symbolic meaning in the ritual of washing associated with Kru funeral and burial ceremonies is that of cleansing from evil (lack of success/progress in life) and having a new life (blessings and prosperity). Below is the picture of the grass put in the water for washing the feet as taken from a roadside.

Picture 6.1. The type of grass for the feet washing ritual. Source: author's field data.

Other practices in the Kru tradition are the marking of the door of the room that was used by the dead before his/her death with the sign of a cross. The significance is to serve as a reminder and memorial to the people that someone had died in the family and was sleeping in that particular room where the door had been marked. Such a marked door was seen in the house of this informant whose wife he mentioned passed on some years ago. The sign has since remained in memory of her. A picture of such marked doors in the house of this elderly Kru man who explained the rituals associated with Kru burial ceremonies is provided below.

[44] Implied here are unforeseen powers or spiritual forces

Picture 6.2. Sign of a cross on the door of the deceased. Source: Author's field data.

The above practices involved in the mourning, burial, and funeral ceremonies could be termed as processes for promoting dignified farewell to the dead and for managing the emotional challenges and distresses that the loss of a loved one brings on the bereaved family members. The metaphysical explanations in which the practices have been enshrined in the culture basically serves the purpose of the preservation of values essential for the wellbeing of the society. Completely abolishing it for reasons of biomedical concerns during emergencies has the potential of aggravating the emotional distresses which will then be accompanied by resistance and acts of hiding the dead for secret burials. This then defeats the purposes of disease control in persuasive communication intervention. The development of optional processes for enacting the practices such as the standing at a distance to bid farewell or pray is, therefore, more acceptable in emergency situations. This is because it ensures the soliciting of consensual cooperation for managing both the biomedical and cultural concerns and promote a win-win situation towards the control of diseases.

The sustained practice of these alternative burial practices introduced during the outbreak into the usual burial practices following the containment of the outbreak is, however, subjective in their compatibility with the overall concept of health and healthcare as perceived and valued within the cultural system. The contextual explication of the concept of health in the next section could be used as a measure for

assessing the probability of incorporation of these improved health options for burial practices in the future perceptions for the concept of health of the people.

6.5 Concept of health and healthcare

A pluralistic health care management system exists in Liberia. Some traditional healers who participated in the research noted that in recent times, advocacy and limited practical efforts are being made to promote collaborations in service provision between ethno-medicine and conventional biomedicine to address the pluralistic healthcare-seeking behaviours of the people. In the discussions with Hon. Nyenswah, the Director for the Ebola Information Management System and Rev. Sumo, conventional biomedical science is institutionally managed or administered by the Ministry of Health and Social Welfare through a three-tier decentralised system of health care administration and service provision in the country. At the operational unit County Health Officers (CHOs) and County Health Teams (CHTs) are responsible for health services management, whereas management at the facility level is vested in Officers in Charge (OICs) who are supervised by district health officers. Communication among various administrative structures within the healthcare system is also hierarchical. Ethno-medicine providers are also organised under various administrative bodies in their respective areas of expertise and geographical or political administrative units of their practice and service provision.

In Liberia, the concept of health as indicated by the research participants is uniform for rural and urban dwellers, but traditional medicine is predominantly used in rural areas due to the absence of conventional health infrastructure. Healthcare-seeking behaviours involve a combination of traditional and western medicine given the widespread belief in misfortune or the control of supernatural forces. Indigenous cultural knowledge and practices are solely utilised for diagnosis, prevention, and treatment of diseases/illness in the practice of traditional medicine compared to the use of advanced scientific equipment, technology, and laboratories in contemporary medicine. More often than not, illness and death are given supernatural connotations, so that ill-health and death are easily associated with evil intentions of others or

misfortune, especially for incurable or inexplicable health problems[45]. Diseases are regarded as bewitchment or witchcraft according to some research participants. A case in point is the personal experience narrated by Mr. Lane. According to him, he initially went around on his own local community to voluntarily educate the people and create awareness about the novelty of Ebola and its dangers. He was later enrolled on the team for contact tracing activities by the MOHSW.

Mr. Lane reported that he once experienced sudden inflammations in the sole of his feet and was thereafter unable to wear a shoe and visit communities to educate and create awareness on the Ebola. This inflammation of the feet according to him is like a burning sensation in the sole of the feet but there are no signs of swelling ("*I could not walk, I could not wear slippers… If I wear slippers… oooh, I then have serious problem, so I used to go on my bare foot… you can't walk, you experience burning sensation, you feel heat, heavy heat on your own"*). He named this inflammatory disease in the local parlance as *gua*[46]. He attributed this health problem to a spell that was cast on him ("*like that person who chonkon me*" *– that person who cast a spell on me*…) probably by a traditional healer and or someone from one of the churches in one of the villages which he reported to the authorities for failing to comply with government directives. During the initial phase of the Ebola outbreak, traditional healers of all manners including churches were banned from treating the sick in their facilities, but some failed to adhere to the ban. The casting of the spell according to him was to render him immobile, halt his awareness creation activities and the reporting of non-compliant traditional healers etc. to the authorities. Mr. Lane noted that, he had to visit a traditional healer in his native village before he got healed of the disease. He describes his encounter as follows;

> "…. *When the spread of Ebola increasing, I went to talk to the traditional leaders to talk to them and tell them that what they were doing was not fair and*

[45] Very pronounced because of the believe in witchcraft, evil eye, myths, and supernatural forces arising out of malice etc. as well as among people whose main access to treatment is from traditional healers. See Appendix. On the transcription of the discussion with traditional healers

[46] The gua according to him is "something like **firebon…firebon is** something when you step on it, it's just like you have put your leg in hot (coba), when you wear shoe the day (with it) you can't walk, fire will be heat, you feel heat, heavy heat on your own.

> *I tell them not to keep patients in their facilities. If I go into a village and saw them gathered in a church or healing center I call right there (report to the authorities). So everybody turned against me saying that I call people to tell them that they must take their people to hospital so that most of them are dying. So I said no, we are trying to prevent the spread of Ebola*" ... People were going there…"

The personal experience of Mr. Lane as an example on the perspectives of the people on disease as a causation from witchcraft or what he also referred to as African sin is provided below. The question that solicited the perceptions was related to the causes of illnesses and the cultural classification of disease:

> *"We have two ways of describing our tradition issue. Witchcraft is a disease. Like when somebody is, one of our brothers, who hails from the Amansa wall (wall is the local parlance for tribal divisions) they call it gua. Gua is an illness that the foot normally has to be lifted up and placed on an object of slight elevation … it can become very big and when you touch it only water comes out of it… It's the African sin. It's a sickness that somebody can inflict on you through the casting of a spell. The spell is cast by calling out your name in front of the sand, while saying when this person comes here and step here he/she should get this illness and the one will get it…. But if a person for whom the spell is not intended steps on the sand where this spell has been cast, the one will suffer from this inflammatory disease but for a short period of time. It happened to me personally… I could not walk, I could not wear slippers but my leg was not swollen… They put something like firebon… something when you step on it, it's just like you have put your leg in hot coba)"*

Generally, the beliefs of the people have it that imbalance in communication between man and the supernatural are responsible for the causes of diseases or illnesses. This belief underlies the strong perceptions held by the people with regards to misfortune and illness: Such beliefs also underscore the ritualistic processes involved in traditional healings through which the spirits responsible for an ailment or disease are appeased or propitiated for the facilitation of cure for the sick.

The relationship between healthcare-seeking behaviours and belief in misfortune, among native Liberians in particular, influences the ethno-medical approach to healing which is based on the belief in the power of the universe between and within the person. The power of the universe can negatively or positively affect life subject to the state of equilibrium in the forces of the universe. In conjunction with this belief, two major types of medicine are practiced in Liberia; namely, protective and curative.

Protective medicine employs concoctive baths, charms and amulets for cases of curses, witchcrafts, sorcery, ancestral displeasure and involve magic, divination, incantations, and invoking of ancestral spells and concoctive bath rituals. Curative medicine, on the other hand, involve the application of herbal leaves, stem backs, roots, decoctions, and animal substances or ethno-pharmacology in the treatment of diseases or illnesses.

Discussions on the concept of health (illness, sickness, disease and health) in relation to behaviours during the research showed that, illness, disease, and health were often used interchangeably. However, the common definition or description for the concept of health by the people was provided using the conventional symptomatic parameters of bodily weakness, diarrhoea, pain, inactivity etc. of biomedicine; the outcome of which is low or zero productivity.

Furthermore, ill-health causation or sickness is also believed to emanate from natural causes such as environmental lapses or poor sanitation, poor hygiene (poor hand washing practices, unclean surroundings, indiscriminate defecation, stagnant waters etc.) and poor nutrition. Even though participants acknowledged the causative agent of ill-health from the conventional biomedical perspectives (associations of bacterial or viral sources originating from poor environmental conditions, sanitation and nutrition), beliefs in ill-health as caused by spiritual forces were not ruled out. Association of disease causation with spiritual forces is common, especially for ailments of unknown origin or of incurable nature. Examples of some of the selected biomedical causation of ill-health provided during the research pertains to the concept of health and cultural classifications of health and ill-health are as follows:

> ***Gladys:*** *"Disease is something that you can get from places like the toilet, sometimes in the bathroom, sometime where you see people also urinating, all these places you can get a disease from there, but mostly in the bathroom".*
>
> ***Clara:*** *"sometimes disease is caused by sexual intercourse".*
>
> ***Theresa:*** *"we get disease from dirt...(interjection) Gloria: With health it means how you take care of yourself like the environment that you live, you got to clean, you got safe drinking water. You visit the latrine (toilet), you clean your hands before you do anything to protect your health…. **Gladys:** Also keep your environment clean".*

> ***Vida:*** *"We talk about health it means how to take care of yourself to live a healthy life….**Francisca:** especially the food that you eat, they make you healthy".*
>
> *"**David**: "when you get sick, then your body get weak, by and by the sickness will grapple you… when its from your head, your head can be knocking together like that, your head be knocking then you know that the sickness coming,… when is not there like that, when you feeling cold in the morning like that, in the evening when you want to go to bed and e cold that goose pimple come on you, then you know that, that you getting sick now".*

In spite of the knowledge of the relationships between environmental, nutritional and health compromising lifestyles in the causation of ill-health, participants still believed that most of deaths associated with some of the above symptoms and causes were still a result of misfortune. Some of the grammatically edited opinions below on the causes of Ebola attest to the associations of the conventional biomedical symptoms in the perceptions of misfortune.

> ***Sussan:*** *…we not believe it. When we hear somebody sick, they say da **mona** (witchcraft)*
>
> ***Peter**: sicknesses we have different types. There are some sicknesses that one just gets it. There are some sicknesses that some **people can wish you (cast a spell on you)**, and there are some sicknesses because you **do it to somebody, then it will turn back to you**. Some too are actually something by themselves because someone can give it to you.*
>
> ***Derrick:*** *some of the causes of Ebola came from, I can say, came from the symptom of running stomach, headaches, vomiting. Because at the time when Ebola came, during the time, it was close to the rainy season, you know, you see somebody their head hurting before you know, they got sore throat and from the sore throat you see some start to vomit and vomit, somebody touch the vomit and another person got infect with it and when the person come down with even fever or malaria you **maju catch them**. So we say, sometimes, some cause of Ebola came from vomiting, you got fever, you got headaches those are all symptoms of it.*

As already noted above, the basic preference for seeking traditional medicine over conventional biomedicine, is inherent in the potency of traditional or ethno-medicine processes to treat the metaphysical aspects probable in the potential and actual causes

of ill-health. However, infrastructural and economic underpinnings[47] cannot be completely overruled for this preference irrespective of the geographical location/disparities.

In the excerpts below, inferences could be made about cultural classification of illness and disease. Within the classifications understanding is gained on the conceptualisation of health in health behaviours of the people from both the ecological and anthropological perspectives. The conceptualisation manifests as interplays in the causation and treatment process to ethno-science and biomedicine. Within the interplay, the interdependencies of the psychosocial context of health and illness of a person or people and the system of health beliefs (meanings, values and functions) inherent in the determination of behavioural persuasions or reactions are then related. Participants of Todee living in the rural communities confirmed the use of traditional or ethno-medicine in the treatment of various biomedical ailments as in the selected responses below.

> ***Moses:*** *Even in modern times, we still use herbs in treating various ailments. For example if one has back pain, one goes to extract the back of a tree (specific tree but not mentioned), cut into pieces and apply it on the part where the pain is located.*
>
> ***Clement:*** *there is this plant commonly referred to as "gbo". The root is extracted, boiled with water and the boiled water from the root is then drunk. It is very bitter but potent in providing effective relief.*

In the urban slum of West Point, participants cited natural or environmental causes for illness and disease. Nevertheless, they indicated ethno-medical approaches or local knowledge in ethno-science as being primary in the treatment process to the aforementioned conventional biomedical symptoms in their concept of health. Below are some of the responses:

> ***Vida:*** *sometimes too you see your foot hurting called guwa (kowah), what we call kowah, that is for the Kru people. If you got it, they can prepare some type of chalk to treat you. So if one sees a person walking bare-footed and wearing*

[47] Comment by a participant to substantiate the point of economic reasons for the preference of traditional medicine over biomedicine *"Paul: sometimes when a person get sick, though no money to go to the hospital."*

a white chalk on the feet that is it. We the Kru people call guwa. When a Kru man sees it he will know the kind of treatment to give you. Sometimes too what the Kru people call Kpah where your stomach becomes very big, the Kru man can do something…. sometimes they can use the ginger leaves, salt, and add pepper to it. They rub it or administer it as an enema. So when you do that, maybe two to three days you find it going back…there is also the Nakleeklan…hurting stomach in Kru…yes the ***Gio*** *too they got some sicknesses they say, the potency thing we are talking about…(****Clara interjects****):.. they call it "tonson", (****Vida interjects****):* *if you go to the drug store and say that you have "tonson", they will give you a tablet for that. But for us the Kru people we don't use the tablet, we use* ***sin God****, that is what we use if you are really not well.*

Theresa: *for we Kissi people we got some kind of sickness what they call yankafo. That one is like owing someone and the person bewitches you … we have some leaves that we use and some chalk… and the other one again is what they call leprosy… what can make the body become white …that one too is inflicted when you owe somebody…. what they can use they get the leave from bush … that one a serious one… no one will visit you whilst there in the bush…, you will be there until they heal you.*

Samson: *disease is sickness… how we classify it here is that we examine you… you hear from the person…, you see how poor the condition of the person is and then you determine from our cultural background what is happening. Maybe traditionally our old people went somewhere and sinned. Sometimes, they examine the person naturally and inquire from the person, based on what the person expresses and through that they get to know the kind of disease you have.…Then they will cure for that within our culture.*

The above narrations by research participants empirically reveal the interdependencies of the cultural or psychosocial context of health and illness/disease of a person or people and the system of health beliefs in the determination of health behavioural motivations.

Superimposing these research discussions on the research context, the health and healthcare behaviours of the people in Liberia show patterns where health information processing and behaviours are consistent with the nature of reality to the people. That is, from the reality in the psychosocial embodiment of the people, the nature of reality function psychosomatically as a set of belief systems, values, and ecological dispositions of the people to health and healthcare behaviours. Accordingly, behaviour change can ideally be negotiated and communicated within the confines of the nature of reality of the people. The question of how to communicate within the nature of

reality of the people directs the realm of the contextual to the topic of communication to be considered below

6.6 Communication/Information sharing approach in Liberia

Contemporary mainstream communication media such as television, radio, newspapers/press, telecommunication etc. are available and used in mass communication in Liberia, but their geographical coverage is limited mainly to the big cities and towns. Notwithstanding, traditional communication media abound and are significantly utilized even in modern times in information transmission, sensitization, and mobilisation of the people. Traditional communication media is commonly utilized at the community level, grassroots, or hinterlands for various purposes. For instance, the Ministry of Health and Social Welfare of Liberia with its collaborating partners such as WHO, UNFPA and UNICEF uses traditional communication approaches in their outreach programs on immunisation and family planning in the urban slums and remote parts of the country.

Additionally, social groups or institutions such as the Poro or Sande societies are also used in information dissemination both in rural and urban areas. Characteristically, the nature and content of traditional communication in Africa and Sub-Saharan Africa in particular could be said to be targeted at issuing directives, informing (news), entertaining, advertising, or educating community members.

Culturally, there are different structures and modes of communication among the people of Liberia that are consistent with the above-mentioned traditional forms of communication. Verbal and non-verbal interpersonal communication could be observed from these communication modes. Irrespective of the different linguistics and dialects, commonalities exist in the mode of communication across the various ethnic groups. Traditionally, almost all the ethnic groups purposefully employ music, dancing, games, symbolic displays or body languages (gestures, postures, facial expressions) and artefacts in interactional communications, especially on festive occasions or family celebrations. Examples of such festive occasions are Poro and

Sande initiation rites or rites of passage into adulthood, marriage, child naming ceremonies, or harvest of new crops. Traditional dances though entertaining are premised on the metaphysical concepts of life and humanity. Traditional dances play major and minor communicative roles among the people for the transmission of communal values, customs, norms and the expression of social relationships, or communicating the state of affairs in polity of the community.

A very significant body language commonly experienced and practiced by all the ethnic groups in public among the male gender is handshaking and hugging; however, rarely the norm among females. The act of handshaking and hugging is accompanied with verbal chants or blessings of riches or well wishes. In the Bong, Maryland and Nimba Counties the verbal chant goes like this "*Kumane, Kumemu gwu…Kukatuno*[48]." Culturally, handshaking and hugging have connotative and not literal communicative meanings from which messages of warmth and feeling for each other are decoded. Unfortunately, the symbolic displays of handshaking and hugging became major transmission routes that also enhanced infection rates at the onset of the Ebola epidemic situation.

Analytically, traditional communication in Liberia shares the same characteristic elements of source-message-channel-receiver in Lasswell's popular linear model in communication science. Furthermore, traditional communication specifically functions for given group of people or local community; it is largely verbal/word-of-mouth and interpersonal on a face-to-face level in the community. It uses traditional, indigenous instruments such as drums and gongs, integrated with symbolic and implicit community context messages of relevance in the socio-political structure and values of the community. Two major types of traditional communication approaches for information sharing to be considered in detail are the town crier and entertainment education. These are respectively discussed in the subsections of 6.6.1 and 6.6.2. With respect to entertainment education, Crusaders for Peace, a local but internationally recognised NGO is used as the reference and case study for exploring the input of entertainment education in the Ebola management. In addition to the major traditional

[48] This was translated as ……. Kukatuno (we are one)

communication approaches, the contextual approach to encoding and decoding of messages in the frame of a communication process for the Ebola management is provided. The discussed aspects of encoding as influenced by cultural features of the communication is provided in subsection 6.6.3. The discussion provides precision on the indices within which the arguments of the moderations of the culture in communication management is referenced.

In the process of communication, the town crier is contemporarily and traditionally argued as the most credible and trustworthy source and channel for information dissemination in both the rural and urban areas of the country. In the discussions, the credibility of the town crier to arouse information processing and intention formation was associated with both its source properties, communication approach and linguistic frames of communicating by which meaning making in cognitions is enabled. In analysing the constituent features of the town crier for meaning making it was explicit that both source, media, and message characteristics combined to arouse information processing in the people. Of equal relevance to the town crier in the traditional form of communication is entertainment education. In the entertainment education frame, both cognitive and affective information processing features of a message elicit information processing and intention formation. However, it is argued that for meaning making and intention formation, the affective information processing dimensions of entertainment education significantly moderate intention formation than the cognitive processes for intention formation. The information processing arousals is achieved through the lyrics and traditional rhythm in the art of music, and through the combined properties of textual information, personality of artist (s) and tones and gestures of a dramatized information. Details of these can be extracted in the next two subsections which begins with the contextual discussions on the town crier.

6.6.1 Traditional communication and the town crier in Liberia

In Liberia, traditional oral communication is strongly upheld and a commonly used media for information sharing. As in most traditional settings in Africa, the message source in traditional communication is often the socio-political council which is

headed by a community leader(s)/chief, religious/cult leader(s), or traditional societies with the town crier (the traditional newsman or information bearer) being the medium for the communication. However, traditionally, the town crier is also involved in the process of decision making of the council of village elders. More often than not, the town crier is the spokesman or mouthpiece for the chief as by the Akan ethnic group in Ghana. Thus, the town crier is also a message source within the linear communication model. Functionally, the town crier is the channel/medium for information dissemination in the community. He moves from street to street in the process of information dissemination and uses traditional artefacts intermittently to draw attention of the people.

The town crier is a community resident, knowledgeable in the community customs, values and beliefs and capable of using contextualised knowledge to the understanding of community members. Although traditionally, the town crier is a seemingly elderly person[49] in the village, in recent times, middle aged and educated persons may also serve as town criers in their communities. The deployment of middle aged and educated persons as emissaries is especially common for announcing new government agenda among others in highly illiterate communities, where the majority of the population cannot read and write. Currently, in urban settings, community leaders or volunteers also function as town criers for community development or welfare purposes.

Traditionally, information or message delivery by the town crier is carried out orally (word of mouth) at vantage locations or distances from household windows to bedrooms, courtyards, market places, or places of community gatherings at prime hours of the day. Prime hours in most rural settings are at dawn when the people are preparing to go to their farms or in the evening when most people are at home and within the community. The channel (town crier) traditionally utilizes artefacts such as drums and gongs, whistles etc. to draw the attention of listeners/community members, following which information or message is then delivered or carried across. Messages are conveyed either metaphorically or in poetic manner that employs the use of

[49] In the African perspective, age is synonymous with knowledge/experience, wisdom, and respect.

idiomatic expressions. In modern times, and especially in more populous communities, the town crier according to research respondents also use a megaphone as an artefact to deliver information to the people. In typical rural settings, idioms consistent with those in the daily acts of the people and of which they are conversant with are utilized for message encoding and decoding by listeners, audience or community members.

The continued existence and active utilisation of the town crier for information dissemination, even in modern times where advance communication media is seemingly easy to access shows the level of significance or value of the town crier as a channel and trustworthy source of information in the Liberian culture. In urban areas, especially in the slums of Monrovia, the activeness of the town crier in the process of communication may not be attributable to only the low levels of education and inadequate infrastructure development, but is also due to the axiological cultural orientation of the people. Town criers (community leaders) were, for instance, later mobilised and trained through workshops by the government and collaborating partners as channels for community mobilisation efforts in the combat of Ebola. These trained town criers efficaciously moved around their respective communities (both urban and rural) bringing locally understandable, educative and persuasive information to the people. Dissemination of Ebola information by the town criers saw to behavioural changes and the successful management of the Ebola. Assertively, discussants in the focus group discussions cited the town crier and other local volunteers as trustworthy sources of information, whose information sharing/messages enhanced information processing, increased knowledge on Ebola and ensured behavioural change.

In relation, the town crier is not a mere channel for information sharing but is also preferred as a source of information. This revelation was made from the correlation maps/matrix (to be presented later). Explanations as to the reference of the town crier as a competent and trustworthy source of information according to the research participants and key informants were that he/she (mainly he) is a community resident, knowledgeable of community customs, values and norms or lifestyle and is capable of contextualising information to the understanding and acceptance of the people. Some key informants, namely, Carolyn, (a journalist), Rev. Sumo, (Director of the National

Health Provision Division and chairperson for the social mobilization sub-committee of the Ebola Incident Management System) and Alfred Lane[50], corroborated the trustworthiness of the town crier in the perceptions of Liberians. The corroborations were made in response to the question about the channels for Ebola information sharing and its impacts. The following are the questions and the provided responses;

Question: What were the channels of communication that were used for sharing the Ebola messages? How do you perceive the channel's contribution to the containment of Ebola?

> ***Carolyn****: The media most of the time used the local language to get to people. But the community theater…portrays real life situation; Yes the t**own crier…the town crier, there are certain ways the town crier can get the people to know and understand that something serious has happened…The thing na show face…** The do and do not about Ebola; What causes Ebola; How can it be prevented is not enough for the people to understand why they should change their things. The town crier can use some cultural narrations and words and the people start to listen immediately and wanna do. We like the town crier because he can explain better!*

> ***Rev. Sumo:*** *We used the media, TV and radio mainly, but coverage is not to all parts of the country. Religious leaders, chiefs and elders as well as town criers were educated on the Ebola, its symptoms and how to prevent its spread or how to protect oneself from getting infected. Additionally, community volunteers in the counties were also used to spread the message about the causes and symptoms of Ebola. The use of the town elders/town criers, the religious leaders and chiefs was valuable because they know their cultural practices and can better explain example death issues using local knowledge and language better to the understanding of the people. …. The Muslims for instance were washing the face with the water from bathing the dead and thus spreading the disease. It was the use of the religious leaders, chiefs and elders that helped to reduce some of the practices as they could better explain the reasons of not touching in the case of the Ebola to their people. So they helped a lot.*

Similarly, the polity of cultural communication structures comparative to the town crier was cited as significant persuasive sources in the Liberian culture and society.

[50] Alfred Lane is a pseudo name to conceal the identity of the informant for reasons of the traditional sensitivity (detailed exposition into some of the cultural practices hardly shared with lay people) of some of the information he shared.

This information was made known in discussions about how to persuade influential groups such as traditional healers whose activities hindered communication management during crisis. The question and excerpts of the feedback to this information is indicated below.

Question: How can you design a message that will be traditionally acceptable to the people?

> ***Alfred Lane:*** *"Yea for that in the case of the traditional healers… what they usually do… they have someone… all of the different types of healers have it… they have the Zoe… The Zoe have some law or constitution (power or authority) which he uses to direct the group. For example if he says at this stage we have to do this, you change from this…they will change… And they have someone we call* ***Wejui,***[51] *that person is just like town crier… that, that person sometimes share the messages (information) on what traditional leaders should do and what they should not do… So if you get in line with that man and say this is what we want to do… and that man will spread the messages… Example if someone has broken bones…, little children are sent to hold the foot during the treatment process…So now you discuss with the Zoe and say for example that from now onwards no child should hold the foot… only adults can do that. …the Zoe will inform the people… in that case they will change… especially when they hear this man they call kugye,… that's the only man who when he talk at the traditional level that people listen, because* ***he is just like a town crier".***

Corroborations of the persuasive/motivational attributes of the town crier and oral communication approach together with the interpersonal nature of information sharing which were regarded as essential in enabling behavioural changes was not only referenced to by the key informants above. Participants of the FGDs in response to the questions about reasons for behavioural changes and preferred channel of information also made references to the town crier and interpersonal approach to communication as being significant in cognitive processes to information processing and meaning making. Below are some prominent responses from the various communities that were studied:

[51] Symbolic description of the personality and importance of the Wejui/Gukye in the society… "The devil lives in an evil forest… when there is devil coming out… where men and women can't see it…, as soon as they hear that **Wejui** coming… immediately those that are not part of the society enter in their houses."

Charlse: *"even with the radio I will not prefer that… the only one I prefer is the town crier and community initiative base…, they move from place to place sharing the information, from house to house… (Joseph interjects: daily routine)…daily went out, sending people out to explain to people, I mean is very fast than even the radio station because not everyone that has radio, so if I not have radio, I not get information. If I don't have TV I no get it. TV self has anybody get TV in the community here?"*

Silvia: "We have a common way of spreading news here through word of mouth or gossiping. If someone comes here, like this our gathering now, the news is spread around through gossiping or moving around. A door to door or one on one information sharing basis is preferred)".

This particular response exposes significance of the use of local structures or medium in information sharing.

Doreen*: Oxfam people and our people were going around, talking to people, to not be touching sick people, to not play around dead body... like for Oxfam, they brought buckets... we were taking the messages very serious now… what they were telling, people were doing… Certain time came, then the whole Ebola decreased… Because we were listen to them… they telling us to wash our hand, not to touch dead body… Everybody now was doing it. Everybody was on your guard now... Everybody now was on their own… Everybody was alert now... you watching me, I watching you… Na how we were doing it... We were not having sick people again… Even some of the time now, someone is sick, you say ohh sister that my brother here sick ooo… we people call them. We call the people… we not hiding sick people here anymore.*

Stephen*: Somebody think we can get it from radio but that information we are not used to it. So our people we go about it, we say so this is what our people say we must not do, the person will leave behind radio, you* ***see****.*

The functionality of the town crier in the system of communication and behavioural change is intrinsically related to the identification of the people with the shared values or lifestyle of the town crier. Additionally, the town crier appropriately contextualises message issues to local situations that conform to the meanings of reality of the people and enable understanding. Psychologically, these commonality/identity variables prompt favourable affect conditions for information processing and reaction in cognitions. Explicitly, the influential or motivational aspects of the town crier in traditional communication are synonymous to the axiological (human to human) value system in the culture and its intrinsic elements in the African perception of the world and structure of communication.

The interaction between the axiological perception of life in the people in form of the physical presence and the expressive surrogate communication skills of the interacting party intrinsically evoke emotional arousals to information processing and reaction in cognitions. The attribute of the physicality of information source and channel or person in oral and interpersonal communication in motivating behavioural change in the Liberian culture cannot be underestimated owing to the emotionally engrained surrogate communicative orientation and perceptive worldview of the people. Though quantitatively intangible or unquantifiable, physical presence serves as a valuable intrinsic component in cognitive processes. This comes to the fore in emotionally charged issues and in situations where culture as the embodiment of the person plays a foremost role in lines of thoughts and behaviours. The emotional satisfactory needs in the culture suppresses the need for cognitions in information processing, thereby rendering meaningless any contemporary or scientific logic. Thus, effective communication under such circumstances need to be tailor-made to cultural communication systems (structures and modes), especially in highly entrenched cultural settings and not limited to contemporary media.

6.6.2 Entertainment education to Ebola health communication management: The contribution of Crusaders for Peace

Music, utilizing local rhythms, and linguistics is a major communication channel in the culture of the people of Liberia. Exploiting this communication characteristic of the culture, music became a major communication channel that was entertainingly employed to disseminate Ebola messages which contributed to persuading information processing and behaviour changes. Local artists and organisations also supported Ebola management efforts of the government by utilising their musical/artistic talents/skills for the dissemination of Ebola information. Examples of the local artists are the aforementioned Liberian Crusaders for Peace, the DTM Squad (a group of five young men who produced the "Ebola is real" Hipco[52] music); Charlse Yegba

[52] Hipco is a style of music form in Liberia. The audio can be accessed at https://soundcloud.com/unicef-liberia/hott-fm-ebola-song. An example of some of the songs of Ambassador Juli Endee can also be

(composer and rap singer for the music against stigmatisation and Ebola awareness creation dubbed "Take away the fear, don't hide yourself. People can still survive from Ebola"), and a street artist named Stephen Doe[53] among others. One of Stephen Doe's popular wall paintings adapted by the WHO is that of the symptoms of Ebola inserted below.

Picture 6.3: Wall painting on Ebola symptoms. Source: WHO, 2016.Go Training: Package for Ebola pre-deployment

The local NGO, Crusaders for Peace was vital in the use of entertainment education to educate the people on the Ebola. The NGO was established in 1994 by Queen Juli Endee, the current cultural ambassador of Liberia, following the humanitarian crises of the Liberian civil war. However, it became a registered local NGO in 2001 which assists women and children on conflict resolution issues, education, and capacity building initiatives. The NGO also collaborates with various partners to raise awareness on matters for change and progress in Liberia and plays an active role in crisis situations such as the 2014/2015 Ebola epidemic.

accessed from https://www.theatlantic.com/international/archive/2014/08/how-to-make-a-hit-ebola-song/378980/ (last date of review: 22th May, 2021).

[53] Stephen Doe, used his artistic skills to draw the signs and symptoms of Ebola on buildings/ walls on some of the frequented routes and populous areas of Monrovia. Picture of his drawings on symptoms of Ebola can be viewed at http://time.com/3315000/liberia-ebola-existence-civil-war/

Functionally, the activities of the NGO are mainly communicative and advocatory in nature. The major strategic framework of its activities revolves around networking opportunities that support education and skills generation for women and children that are geared toward self-empowerment, gender rights promotion, and behaviour change. Others include strengthening of appropriate traditional cultural activities as well as mobilising the people for local development enhancements through participatory communication. Characteristically, its participatory communication involves the use of dialogue/conversation, traditional folklore theatre, music and dance. The communication interventions employ innovative and effective approaches or strategies that utilises games, street theatre, community outreach, art, music and cultural activities to reach its targeted audience**.** Adapting the cultural communication approach of entertainment and social gatherings, Crusaders for Peace has become a household name for persuasive communication in Liberia. Entertainment education it can be argued has been enshrined or formalized for utilization in its activities in the perusal of behavioural change among the people.

Fundamental to the popularity and visibility of Crusaders for Peace both locally and internationally is the culturally orientated approaches of communication that it utilises for reaching the target audience of its behaviour change perusals. It is, therefore, not surprising that the NGO was later oversubscribed by the Ministry of Health in the Ebola communication. For instance, on the major radio and television stations, most of the Ebola communication messages composed by the Ministry of Health and its collaborating partners including those on the Ebola trial vaccine engaged the services of Crusaders for Peace for the broadcast to draw attention to the messages and arouse information processing. Reports of the organisation's successes shows that entertainment education as a strategy and channel in communication has futuristic potentials in given cultural contexts for given crisis situations and cannot be overlooked in behaviour change related issues.

Notwithstanding, the proven ecological feasibility and relevance of entertainment education to communicating behaviour change, the framing of the content of entertainment education messages in certain contexts could be offset with setbacks and erode strides in communication interventions. Such situations arise if sensitive cultural

matters in relation to behaviour change in the message contents are not tacitly addressed and framed. For instance, negative information processing and reactions in a cross section of the people was elicited due to the failure of Crusaders for Peace to sensitively address and communicate some of the contents of the composed Ebola messages in the entertainment education broadcasts. Often cited in the focus group discussions and of specific reference was the music on the dos and don'ts of Ebola. Among the don'ts was the avoidance of casual sex (referred to by discussants as "do not eat something"). The manner of presentation according to research participants made it to affect relationships including marriages. The sensitivity and culturally unacceptable nature of that message made it one of the memorable and often cited negative entertainment education messages, especially among the men. Provided below are some of the feedback on contents of messages and its relations to weaknesses of sensitive and inappropriately addressed traditional phrases in messages:

> ***Joshua:*** *the only one here that made me not to love the song that we sung. The song that made some to run away from us, don't eat something (another laughing out loudly) … something, … it was not in our favour* it came from the cultural ambassador, Julie Endee … so we got the information that don't eat something (all laughing). That one bad ooo**.** ***Fred:*** *that be (very) negative paaa*

> ***Faisal:*** *No what happen there was that, there was just… because that information brought some separation, some division and mixed feelings among the people…. In the first place if they saying that don't shake hands, the man feels much more, you know, disgruntled… why is it that I have my friend or my culture… and how will the person really know that I love him? It's only by shaking hands and hugging the person*[54]***…*** *so it brought division in our midst… and it brought conflict in our midst…. Love ones went against love ones, because even if the person say he will not go near them…, and those are some of the information that came…, even it broke our economy down… you know… it brought lot of division to us… you see…, but it was good.*

> ***Maybel:*** *Even my husband and I we separated, because I protected myself…**others laughing…moderator so you run away from your husband...** If he went after another women I wouldn't know. He may have contracted the Ebola virus, and will come and give it to me. So I decided that he goes his way and I also go my way, my children and I…(**laughter and marvel by other discussants**)…so we were there until**…***

[54] … in our culture, people will know you love or care for someone, or a friend will know that you love or care about him only through the physical gesture of shaking the hand and hugging him. NB: The practice of shaking the hand and hugging a friend publicly as a Liberian cultural trait is practiced only among the male gender and not with the opposite sex.

The above presentations indicate that irrespective of communication approach much attention need to be given to the composition of contents of messages in the planning phase of any persuasive communication intervention. Better clarifications must be sought on sensitive issues and rightly addressed for the enhancement of message outcomes, without which the best of communication approaches may not produce the needed impacts.

The processes involved in the design of messages for communication are indices for understanding the moderations of traditional communication approaches in persuasive communication intervention. For precision, a consideration of the approach to the management of the Ebola and the processes involved in the message design will be provided below within the headings of the development processes of the Ebola communication messages and the processes of how the cultural features of the major messages moderated information processing. This is undertaken in subsection 6.6.3 below.

In section 6.6.3, one would realise that Ebola messages had to be revised over the entire period of the outbreak due to the unresponsiveness of slogans adapted for the arousal of information processing and motivation of behavioural changes. Among the reasons assigned was the misinterpretation of the overarching messages owing to their inconsistency with the values in the culture. The deduction here is that the information communicated was not processed from the perspective of its literal meanings but interpreted using cultural parameters that were at variance to the management measures. In other words, the moderations of culture in meaning making was high. Preceding the discussion on how the cultural variables promoted behavioural changes is the discussions on the developmental processes of the major messages which is considered in subsection 6.6.3 below.

6.6.3 Development of overarching Ebola communication messages

According to the Director of the National Health Promotion Division and Hon. Nyenswah (Manager, Ebola Incidence Management System), various organisations at

the onset of the outbreak developed their own messages without any guidance or input from the Ministry of Health. This led to duplication and the dissemination of contradictory messages which fuelled varied forms of misunderstanding and reactions in the people. As a result, the institution of a Message and Materials Development (MMD) subcommittee was necessitated under the Social Mobilisation subcommittee within the Incident Management System for the Ebola management in September, 2014. This was chaired by a staff of the National Health Promotion Division (NHPD). The committee developed the standard framework/guidelines for the message contents and coordinated activities of decentralised Ebola response team of the various counties. The developed message frame became the standard working document from which all partners for Ebola communication including the mass media, NGOs (both local and international) and community leaders were to adapt their messages for dissemination. This ensured accurate and consistent information delivery across the country which eliminated/ reduced challenges to rumours and propaganda messages that were circulated at the initial stages of the outbreak. The committee also reviewed and approved necessary adjustments made to messages by the partners before dissemination at the county level.

The development process was progressive and it was flexibly adjusted over the period of the outbreak. The messages were developed to correspond to disease management dynamics or challenges and societal concerns in the evolution of the outbreak phases. For instance, *"Ebola is real*" succeeded "*Ebola kills*" which was the maiden message following the outbreak. The message "*Ebola is real*" was developed to mitigate disbeliefs in the disease, emanating from the rumours that were propagated which culminated into mistrust for the government and distrust for messages. In relation, "*Ebola is real - but there is hope*" evolved to address the problem of hiding of the sick that stemmed from heightened fear and stigmatisation of convalescent patients and families with infected cases. Basically, the aim was the encouragement of treatment behaviours in terms of help-seeking and early reporting.

Subsequently, in October, 2014, the resolution of traditional leaders to complement government management efforts, following the national convention of traditional leaders led to remarkable strides in disease management through community

mobilisation approaches. Associated with that, on December, 8, 2014, the key Ebola message was modified to read "*Ebola must go"*. The modification was pursued to adapt to the dynamics in behavioural motivations and behaviour changes. In the processes "*Ebola must go*" was also envisioned as the national campaign message of long-term strategic relevance for driving and sustaining efforts towards the complete eradication of Ebola from Liberia. As such it was intensively broadcasted from December, 2014 – June, 2015. The conceiving of *Ebola must go* as the national campaign message stemmed from the successful management of the disease by the traditional leaders who are the trusted sources of information to the people and community mobilisation which is the common channel of communication in the communities.

Given their trustworthiness in the communities, the traditional leaders amassed strong support for and adherence to the messages on behavioural changes in the people. The positive response considerably drove down transmission chains, with fewer recorded cases, shortened durations in incidence and ensured declines in the proportion of fatalities between November and December, 2014. The achievements served as empirical evidence on the effective persuasiveness and management capabilities of traditional leaders and structures in the communication and management of health-related issues of their local areas. Attention and considerable focus were then shifted to traditional communication as a system and process for persuading behavioural changes.

The national campaign was collaborative between the Ministry of Health and partners and traditional leaders which was spearheaded through the traditional processes to communication in the communities. In accordance, the campaign strategies in the slogan targeted five (5) main control areas for the collaborative achievement of the aim of zero infections. Namely, safe and dignified burials[55], quick isolation of suspected cases, treatment provision for Ebola infected persons, tracing and monitoring of contacts of suspected cases over a 21-day period as well as encouraging

[55] Traditional burial was still disallowed but family members were allowed to take part in the burial of their family members by the burial team. Family members, religious leader (pastor/Imam) were allowed to stand at approved distance, say a pray or incantations over the dead common in the traditions, but touching of the body was strictly prohibited.

voluntary reporting of illnesses and avoidance of concealments in the community. Below is a billboard in Monrovia with the national campaign inscription and a picture of the Todee catchment area community association banner for their Ebola prevention and awareness creation.

Picture 6.4 Source: https://www.dawn.com/news/1263787

Picture 6.5 Source : Böhnisch, 2016

On May 9, 2015, the WHO declared Liberia as Ebola free. *Ebola must go* enabled the eradicating of Ebola out of the country and was retained, but needed to be adjusted to respond to the dynamics in the dimensions of the achieved aim. Consequently, in June, 2015, "*Stopping Ebola is everybody's business…"* became the overarching message. The slogan was to prompt contextual information processing indices that would motivationally arouse active participation and concerted behaviour change in all and sundry towards a sustained Ebola-free Liberia. Messages divulging from the totality of the overarching messages were to highlight supportive and encouraging behaviours. In this frame, "*protect yourself, protect your family, protect your community…*[56]*"* was simultaneously added to the slogan *"Stopping Ebola is everybody's business…"*. The complete message as developed in the MOHSW guidelines was "*Keeping Ebola out of Liberia is everybody's business. You can protect yourself, your family, and your*

[56] Appendices D and E. D is a handbook developed to guide message content design with E being a booklet for guiding interpersonal communication. The last section of the interpersonal communication booklet contains information on maternal and child health issues incorporated by UNICEF as part of information sharing activities

community - know the different ways Ebola is spread; look for signs and symptoms of Ebola; continue the good practices of hand washing, safe burial, and not touching sick people or dead bodies" (National Guidelines, 01/06/2015). The overall aim of *"…protect yourself…"* was to discourage the development of complacent behaviours to the preventive behaviours that were likely to undermine and derail the achieved disease control gains (between December 2014 – May, 2015) achieved from the collaborative actions of traditional and community leaders in the community mobilisation processes.

On June 19, 2015 a Ebola new case was recorded, but it was quickly contained. Subsequent to the first Ebola free declaration and the brief resurgence, a comprehensive framework for a sustainable eradication of Ebola from Liberia was considered for all message designs. It embodied all key aspects of the major slogans as depicted in the billboard inscriptions inserted above.

Of all the overarching messages, "*Ebola is real and Ebola must go*" are the two most popular slogans that have remained in the cognitions of the people and were also easily recollected by the people. The uniqueness to the recollection of *Ebola must go* as a slogan is due to the slogans attention engagement attributes that draws one into deeper cognitive imaginations and explicitly and implicitly obligate one to act. Music as a common traditional element and tool to communication (entertainment education) symbolic in the culture was also utilized for the imaginative drawing of attention to the slogan and the arousal of deeper thoughts in cognitive structures. Jack, a research participant, references the importance of entertainment education in the culture as follows: *"…and some of our Liberian artists also, because all of us like listening to music, they made a lot of great impact because they dramatized it and we listen to them. Up to now some people can still sing songs with it, so it helped to spread the message."*

The peculiar cognitive engrailment and entertainment education features of the slogan for eliciting cognitive processes to information processing and meaning making were observed during some of the research discussions, especially among the females of the various research groupings. For instance, whilst sitting, most women participants sang

and danced/moved their bodies' unconsciously in consonance with the rhythm of the music *Ebola must go* during some of the discussions. This was in relation to the discussions on what aspects of messages appealed to the people or aroused motivation following which the musical jingles of "*Ebola must go*" were referenced. If persuasive communication is to be effective, the symbolism of music in the values of the people to arouse cognitive structures to information processing, as well as elicit affection for messages from their explicit and implicit meanings for behavioural changes has to be given particular attention.

In brief, the presentation of the modification processes in the overarching messages revealed that the slogan "protect yourself" was more effective in motivating behaviour change. The question as to how the slogan moderated information processing and motivated behaviour changes will be discussed in chapter 9 on the effective elements for communication within the study context.

6.7 Conclusion

The contextual presentation of the respective themes around which the dissertation is conducted indicates that in the perspective of ethnicity (culture) and communication, the numerous tribes and their respective linguistic differences does not promote the use of a single language and information presentation frame for communication. Neither does it promote equal levels of information decoding in all audience. Plausibly, a general frame within which the respective information can be adapted to the linguistic frames for meaning making should be designed for tailoring to the needs of the respective ethnic groups in a persuasive communication intervention. Furthermore, cultural practices per say as acts in the world view of the people are not the causes of the spread of diseases. The processes that interlocks the functions of the practices from their worldview are the problems for which alternative processes for fulfilling the purposes may have to be considered and incorporated in persuasive communication interventions for it to respond to contextual issues in the practices. Communicatively, the context specific processes of communication must be exploited for effective

arousal of information processing and behavioural change motivations. Within these contextual presentations a non-complex and non-theoretical glimpse of the features for effective communication must be adapted to guide swift actions for persuasive communication intervention during emergency situations.

Chapter 7

Data analysis: Sociocultural patterns in Ebola perceptions, content of messages, and behavioural outcomes

7.1 Introduction

The purpose for this chapter is to identify, explore, and understand the sociocultural patterns in the perceptions of Ebola as well as understand the outcomes of messages on behaviours in order to identify and understand the moderating factors in meaning making and intention formation. In the chapter the responses of research participants as derived analytically with the MAXQDA qualitative research software are presented in form of matrices and maps. From the matrices, the significance of the coded categories and their interrelationships for the respective studied area/research groups are visually displayed as squares. Descriptively, the size of the squares corresponds to the number of coded segments assigned to the code of reference and it is representative of the level of significance of a code or categories from the responses for other categories. They also depict the strength of interconnectivities between and among given code and sub-code categories of analytical relevance in the displays. Direct and indirect relationships of the elements of the communication process (source/sender, message, channel, receiver, encoding, and decoding) and behaviours are exposed by the interactions between the rows and columns of the matrices. The interrelationships are shown for the studied communities. These provide clues to disparities in the complexities and dynamics of communication and culture to information processing and reactions. Subsequently, further analysis of the information in the matrix will be utilised to generate analytical maps (this will be the input for the conceptual discussions for chapter 8) within the frame of the qualitative code-correlation and code co-occurrence functions.

In as much as non-quantitative measures are used, the response summaries shown by the sizes of the square of each code per the study area and given interview groups are similar to mathematical research methods that enable the verification and validation of the research by any interested stakeholder given the authenticity of the discussions and narrations. The non-quantitative approach does not, in any way, affect the quality of the research output. The matrices presented are thematic and in accordance with the objectives and research questions as underlined by the concepts of persuasive communication and risk communication for behaviour change during crisis.

The chapter is divided into three main sections. Section 7.2 serves as an analytical summary of the data for all the parent codes of thematic relevance to the research. This provides a simple and holistic background for visualising, relating, and referencing the data analytically on the basis of the studied communities. The argument in the data is that locational disparities have relations with patterns of behaviours. All things being equal, disparities in behavioural analogy should, therefore, enable the identification of influences of culture on behaviours. Nevertheless, for the theme of this research, there were no significantly skewed geographical patterns in the responses either as urban, peri-urban or rural for behaviours and behavioural outcomes to the messages. For this reason, the differences in geographical distribution of incidence and deaths cannot be strictly assigned and explained within differences in economic and infrastructure development levels among the various administrative regions of the country. A general but debatable issue of contention is, however, of traditional burial practices and attitudes as enabling the spread of Ebola but not as the cause of the spread. Explanations to buttress these citations were the novelty of the disease and need to comply with cultural values.

Furtherance to the above, section 7.3 explores in detail the underlying reasons for the commonly refuted acceptance for cultural practices as causes in the spread of Ebola among research participants. The attempt to understand the reasons for the refutations is approached from the perspective of the perceptions held about Ebola and knowledge about sources of its transmissions. The main argument here is that processes in the development of a person is associated with experiences within which the development of knowledge and meaning making occurs. The experiences influence perceptions and

understanding of various issues of life to determine patterns of behaviours. Therefore, experiential knowledge within its sociocultural factors may have influenced perceptions and knowledge about Ebola transmission and behavioural patterns, hence the refutations, which the section analyses from the responses for confirmation or otherwise.

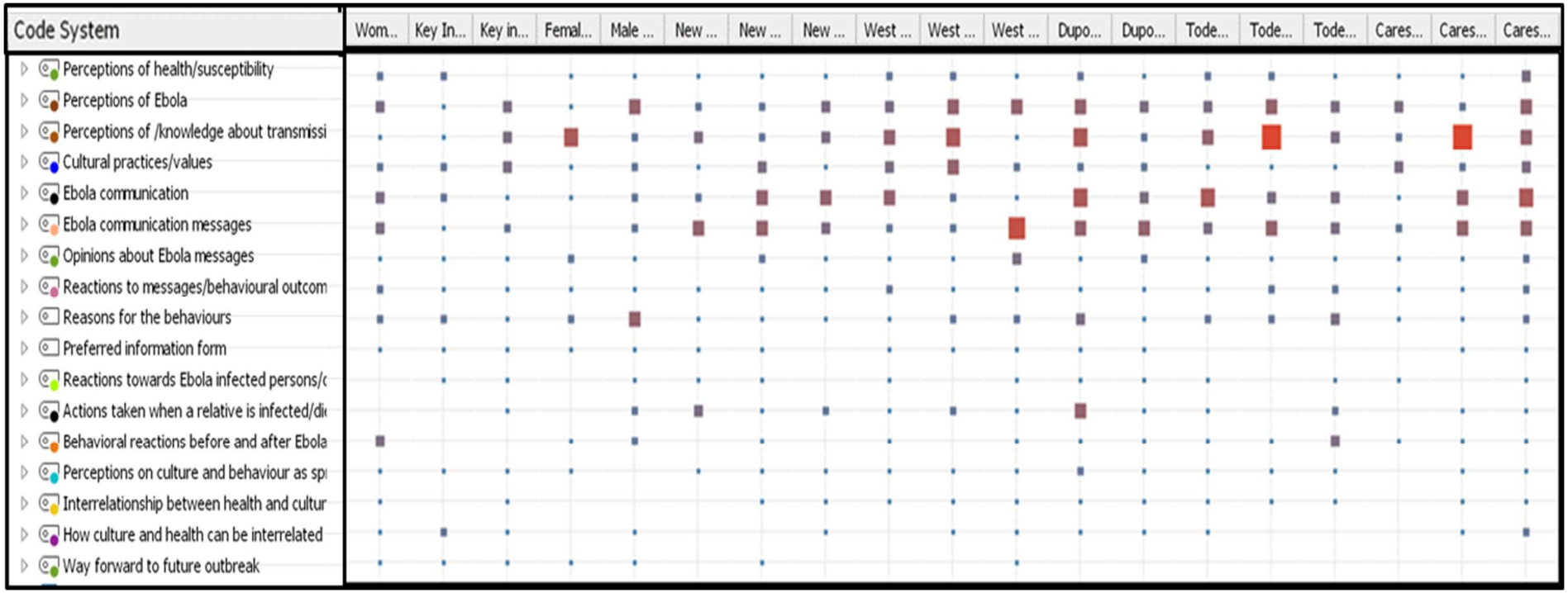
Section 7.4 is the last section of the chapter and thematically discusses the communication aspects of the research using the analysed data. It is argued here that persuasive communication effects and affects information processing, meaning making, and behaviour change if the totality of elements of communication that elicit and arouse information processing are in consonance with that of the system of the targeted audience to whom the information is being communicated. Where there are differences the intended purpose of persuasive communication may suffer setbacks and minimise the intended outcomes of communication. Following, the section explores the system and content of Ebola communication messages and its role in perception formation and behavioural motivations of the Ebola communication management. In so doing the challenges that offset the outcomes of communication during the outbreak could be identified for envisaging the framework that future communications may have to be conceptualised to make them effective.

From these three major sections of the chapter, perceptions of Ebola together with the outcomes of behaviours subject to the content of the communication will be holistically analysed for a broader understanding and conceptualisation of the related approaches to persuasive communication management. To this end, the chapter proceeds with the preview of the parent codes in section 7.2 for the contextual and thematic discussions of the data.

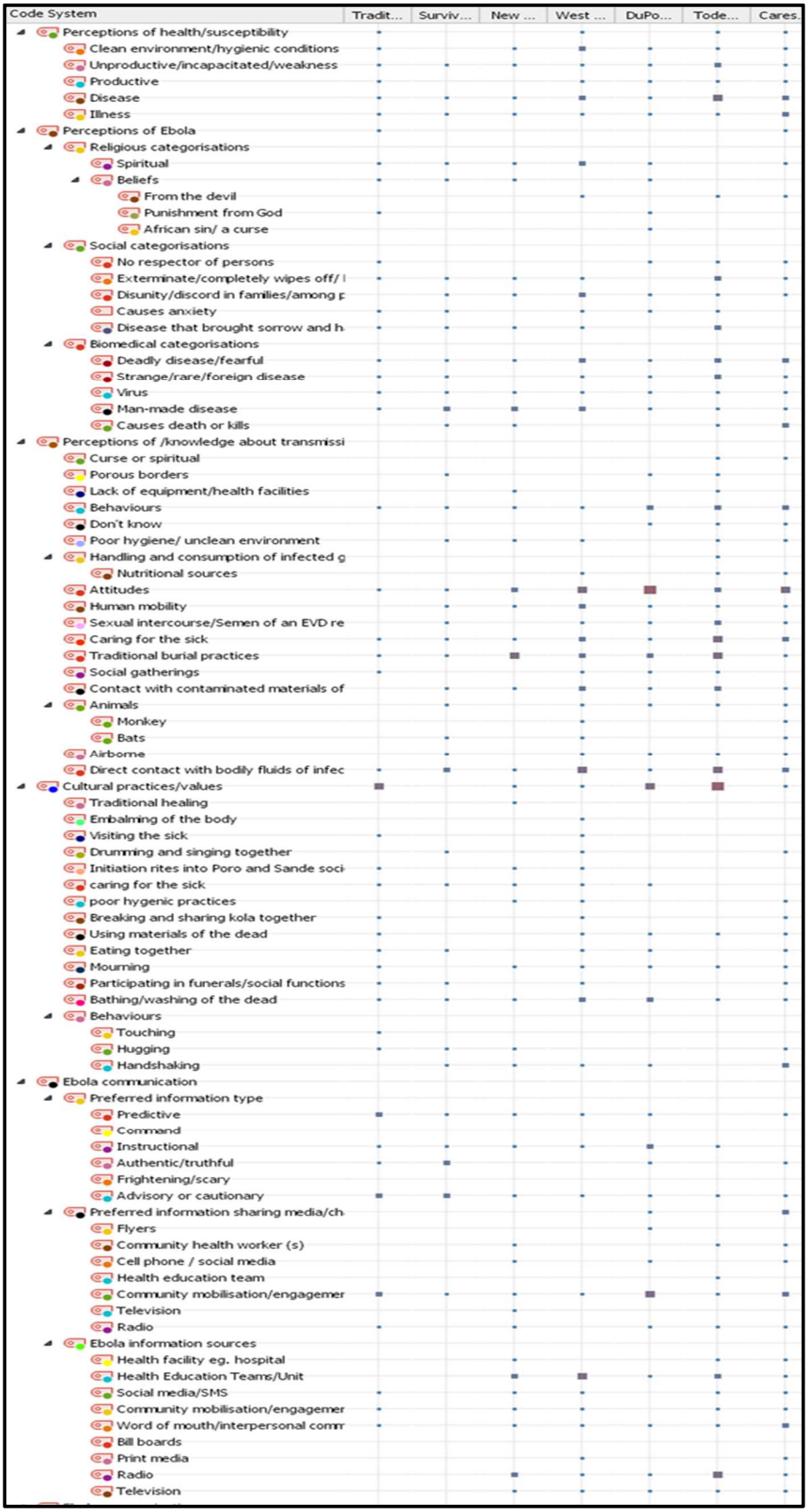
7.2 Parent codes: Summative description and discussions

The discussion of the major codes in the code system in relation to each of the sampled research communities is provided below. The matrix presenting the parent codes is essential in ensuring the ease of reference of the strength/importance of a code and sub-code categories in the discussions and for showing the functional relationships

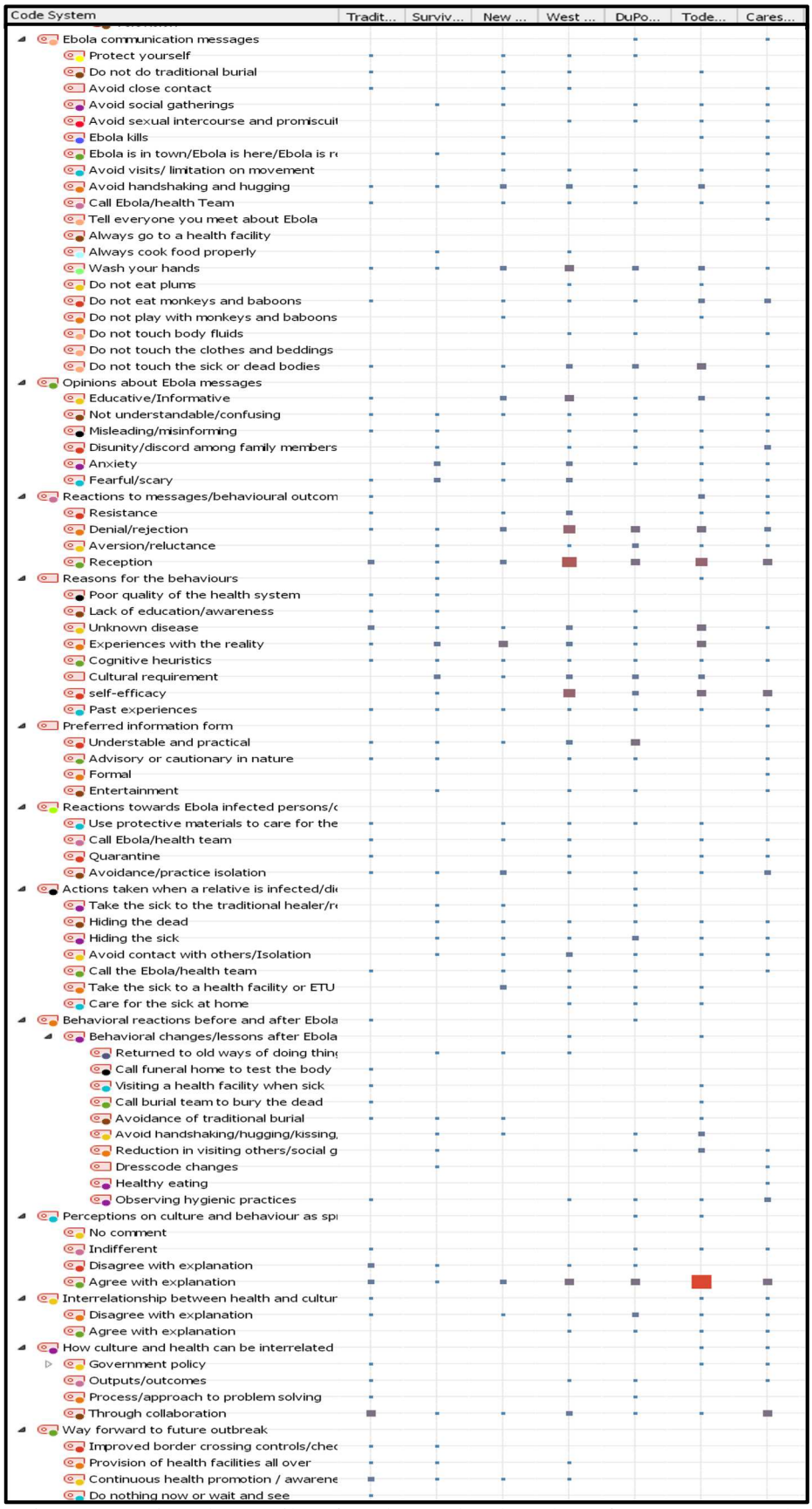
among codes. The need for the matrix presentation also stems from the qualitative nature of the research by which mathematical value references are excluded. The analogy as already indicated begins with the general descriptive properties of the dissertation aligned to the parent codes in matrix 7.1, each of which has detailed sub-codes as presented in matrix 7.2 below. In matrix 7.2 the relationship between variables of a document and codes is visually displayed. The variables of a document per this data are the respective focus groups of each community/group selected for the study. Accordingly, the analysis of sub-categories and their distribution among the sub-groups of the focus groups of each researched community can be compared. It must, however, be noted that sub-group comparison may be referenced where necessary, but it is not the main analytical focus of the section. Descriptively, the size of the squares at the conjunction of the code system and code categories as noted above corresponds with the coded segments assigned to the code in question. Analogically it indicates the level of significance of a code or categories from the responses for other categories, and interpretatively shows the strength of interconnectivity between and among given code and sub-code categories of analytical relevance in the displays.



Matrix 7.1: Parent codes



Matrix 7.2: Details of codes and sub-codes of FGDs per study community, traditional healers and Ebola survivors



Matrix 7.2 continued: Details of codes and sub-codes of FGDs per study community, traditional healers and Ebola survivors

Of particular reference in the above matrices of 7.1 and 7.2 are the high levels of activeness or contributions in discussions on questions pertaining to: perceptions about Ebola; perceptions of/knowledge on transmission modes; reactions to Ebola messages; reasons for behaviour; Ebola communication and reaction to Ebola messages. The trend was common for all the focus groups discussions of all researched communities/groups. The perceptions on the knowledge of transmission modes was the most discussed by research participants in Todee, Dupont, West Point and Caresburg, which were also the worst affected outbreak areas in the Monteserrado County. The high patterns of response displayed in the matrix on these topics are an indication of the level of empirical and experiential knowledge of participants, irrespective of levels of literacy of research participants on the subject matter. In the analogies of communication and information processing, literacy levels are often used as yardsticks in the evaluative frames for assessing education and knowledge levels in the understanding of the messages about a disease in cognitive information processing. Nonetheless, the data indicates that experiential knowledge also impact information processing. Differences in ability to process information with respect to the technicality of the subject matter, literacy levels, and linguistics (the nature of words and phrases for the ease of understanding or message decoding) could also be abstractly inferred from the matrix. Generally, response rates are high for general questions and low for questions that probe for details of some cultural practices.

The response patterns also provide information into the cultural trait of secrecy or uncommunicative character that one is confronted with in discussions on cultural practices, especially those of the Poro and Sande secret soceity. Such uncommunicative cultural traits are for the avoidance of revealing "something forbidden to *foreigners*". For example, questions that are perceived as having the potential to lead to the exposition of details of given cultural practices are either completely not commented on, presented ironically, answered superficially but interspersed with the local jargons without further explanation or diverted. Explicit verbal refusals to divulge information on cultural practices were made during some of the discussions. For instance, on matters relating to the culture in the reasons for the spread of Ebola, the youth group (comprising male and female aged 25-40 years) in

Caresburg in a blame game approach disclosed that the bathing of the death by Moslems was responsible for the spread. However, when the moderator questioningly interjected in one of the contributions by a participant with the question, "what about the Poro and Sande?" another participant quickly interjected with this response:
"Theodora: that one, we cannot bring here. If you are not a member you cannot know. We cannot disclose what is in that here".

Similarly, in one of the groups for the traditional healers' some research participants were very sensitive to the questions. They critically analysed questions to see whether it required the revelation of knowledge on their healing skills and potency of their medicine or societal secrets or not. In their sensitive and critical dispositions, some adopted aggressive and high-pitched voice in their contributions, others posed rhetorical questions back to the moderator and others also interjected others with the phrase "my brother stop, let me come in here", if one notices that the contribution of another could expose "secret" information. A particular case in point was on the question of sharing of experiences on Ebola as either a traditional healer or member of the Poro society. A participant who was often very critical in monitoring the contributions of the others commented in the middle of the contribution of another healer;

> ***Aloysius:*** *Let me tell you one thing…, if I know… like you are Kissi?...* ***(moderator: yes) …*** *You Kissi people you all have society in your area… I want to know…, you are member of society?... (****Moderator: No… I am not member… I did it, but I am not member****) … Let me tell you one thing…. If they say society… 1)* ***you have to keep your mouth close****… Is not for those who are not in society to covering your culture society… Our culture, we can expose our culture… but not the society, Is not the society…. The society those that member of society, they will never, they may never gave you the background of their society…, even that American people self…, they have society… but they never tell you black man…, how, what they have their society or what they do there with their society…, how the society they look at it, they will never tell you…*[57]

[57] This participant was talking in high pitched voice and aggressively trying to make his point. But the moderator explains that he was not forcing them to expose their society or tell what is in the society, but want to know their view on the Ebola as members of the society. It was after the explanation that he calmed down saying…Ok I understand.

Another participant followed up his point with this summary:

> ***Maurice:*** *Society to add is 1) agreement. 2) defiance… these are two things in society. Agree, defy! Society you join society, agree or not. Society is agreement, you and I we agree and then we don't expose out.*

The group, notwithstanding, was very informative and provided much insight into their experiences with the Ebola outbreak and contributions to the communication management process.

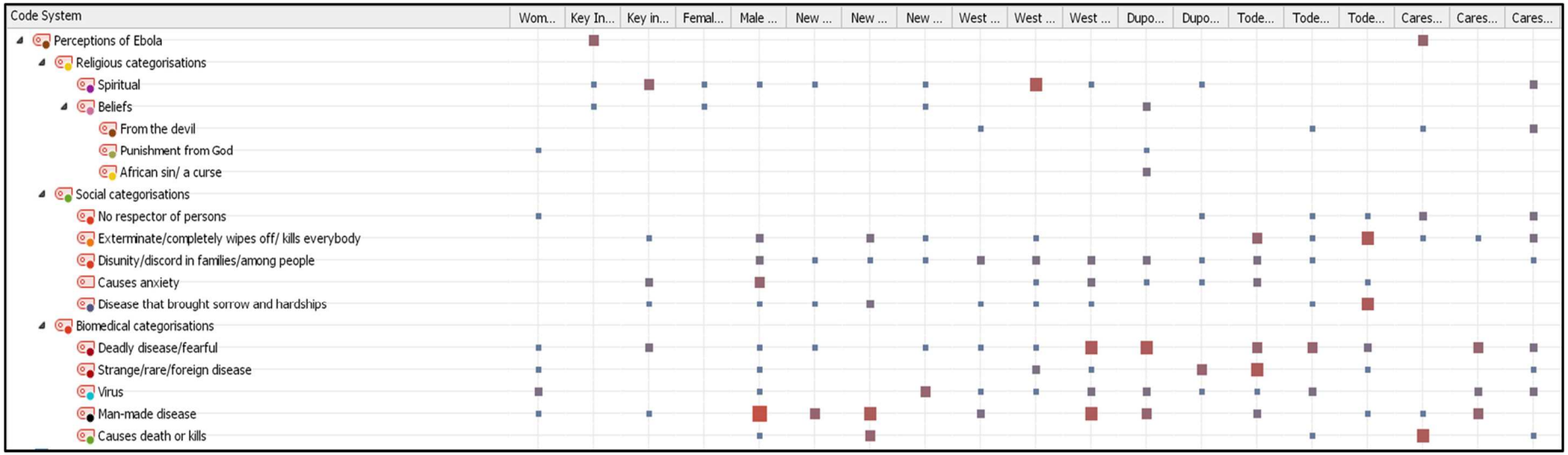
Another high non-culture specific response patterns visible in the general overview was the recounting of the debilitative nature of the Ebola viral disease with its implications in perceptions of susceptibility and intention formation on recommended behaviours. Contextually, the debilitative nature of Ebola is conveyed in the perceptions held about Ebola in the matrices 7.3 and 7.4 below where the responses to perceptions about Ebola and that of the functional code relationships to transmissions are reviewed. In the themes of the codes, matrix 7.3 thematically presents the data for the perceptions of Ebola. From this theme, the meanings made about the disease are explored for its relations in the patterns of behavioural outcomes as per the perceived risks, as well as its relations to healthcare-seeking behaviours. The analogical assumption that is pursued in this theme is that depending on how a disease is perceived corresponding behaviours would be enacted and a corresponding search for treatment options (preventive and curative treatment or traditional and conventional approach to treatment) will also be sought to pattern the perceptions. There is therefore a direct relationship between perceptions of a disease and the preferred type of treatment. Additionally, from the perceptions about Ebola, the manner in which information was processed as per its comprehensibility and reliability could be determined.

In association, matrix 7.4 below visually provides analogical insight into the understanding of how information was processed in relation to the behaviours such as hiding of the sick, denials among others from the message outcomes. This analysis utilised the analytical tool of code relations browser for interpretative comparison of functionality and relationships for visualising the relationships. In the code relations browser segments of document coded with both codes or where codes overlap are

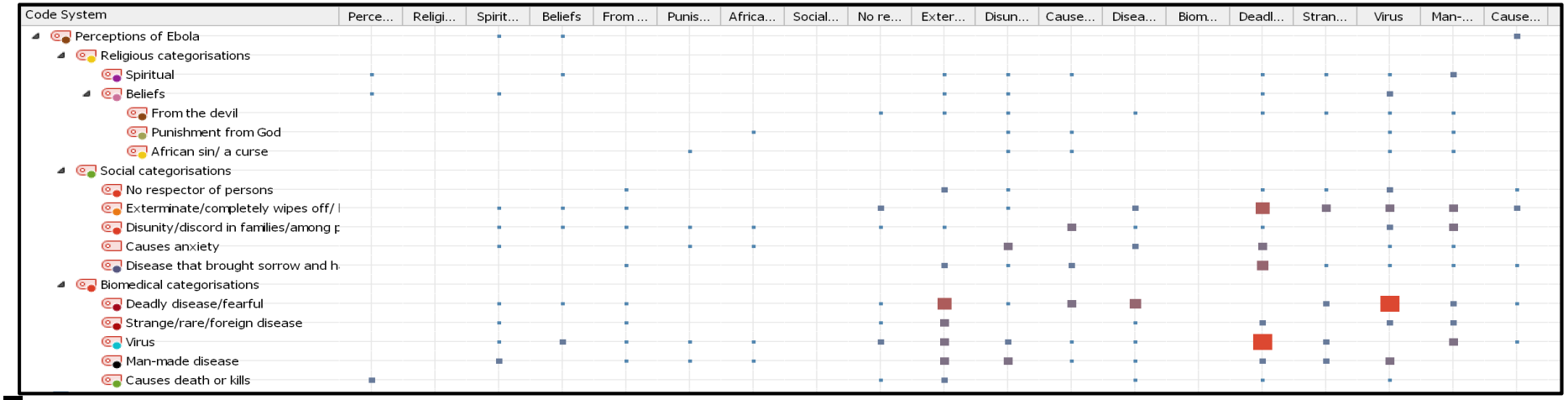
displayed. In the code relations browser, both columns and the rows are formed from the codes. The individual squares intersecting the codes indicate how many segments were coded both with the code of the rows and of the columns. A larger symbol indicates that more segments are coded with that given code. For instance, the code deadly in the column intersects with man-made disease, exterminating and disease that brought sorrow and hardships in the row. Virus on the other hand intersects with deadly/fearful in the column and row respectively for interpreting reactions to messages based on the perceptions about Ebola.

The perceptions of behaviour which were also provided in form of descriptions of the disease by the research participants have been classified into religious, social, and biomedical. Data for the categorisations shows the sub-codes of social and biomedical as highly populated with responses in the matrix. For instance, higher responses are recorded for the biomedical categorisation, but with particular reference of Ebola being a man-made disease. This perception is widely held among male Ebola survivors, FGD participant groups aged between 25 and 40 and for traditional healers/leaders. Interpretatively, the probability of low perceptions of susceptibility and non-compliance with Ebola information is also likely to be high for these categories of respondents given their perceptions about the Ebola disease. Correspondingly, there is the likelihood of higher incidence and fatality rates occurring for categories of persons within these groups[58]. The data of matrices 7.3 and 7.4 below explicate in details the narrative descriptions of research participants with respect to the relations between perceptions of the disease, information processing and message outcomes (patterns of behaviour resulting from meaning making of the information communicated about the Ebola).

[58] Message outcomes for showing behavioural patterns was, however, not analysed within behavioural differentials among the research groups as that was not the focus of the research, likewise for perceptions of susceptibility and incidence and death rates.



Matrix 7.3: Perceptions of Ebola



Matrix 7.4: functional code relationship analysis: perceptions of Ebola causes vs. transmission mode

In the responses on the question on perceptions of Ebola, lay descriptions and local terminologies were provided for narrating the gruesomeness and horrific experiences directly and personally lived in the immediate environments. The experiences were indelible in the memories of the people. On such general behavioural and communication questions the strangeness, life threatening, dehumanising, socially (disuniting, psychological and emotional disgruntling) and economically (impoverishing) debilitating effects of the Ebola outbreak were elaborated and expressed. In Todee and its environs for instance, participants had a pseudo name in the Kpelle local language for Ebola known as *Tsuukpe3*, meaning finish all (kill everybody). According to the research participants the name derives from the pattern of successive and indiscriminate deaths that characterised households' incidence and transmissions of the Ebola. The explanations had it that once a person in a household got infected, especially if the person, first to contract the disease (case zero) is the head of the household, then all other members of the household were bound to be infected and killed by Ebola. Such patterns of deaths associated with households were also perceived and described in phrases synonymous to complete elimination or wiping off from the face of the earth, hence the name. For ease of understanding the responses have been partially improved upon without altering the original tone of the narrator.

> **Cosmos:** "*the other name we know for Ebola, really, in our surrounding area is tsuugbee33, finish all…it comes from finishing all the family…, meaning that when it gets in the house…, and you as the head for the family is in the house… as they say lelehe for the house dey… and you as the head contracts it, or maybe you contracted it from somebody somewhere, everybody will get it. … The name come from the Kpelle region… tsuukpe,… enter the whole house and finish all. …***Ann:** *when it get in your house everybody will die"*.

> **Pious:** "*for me in my tribe as a Kpelle man…. In our dialect we used to call it finish family…. I used to hear our people telling us that this disease can finish family… because when one person gets it and brings it to the family … everybody will go before it can stop"*.

> **Pierre:** "*that what my brother saying… this disease came after… because nobody knew a disease like that…, but the way it started going in Loma… we see effect like that…, the disease catch you say "except I kill you" … nobody will tell you to go…., your whole generation will go"*.

The seriousness or dreadfulness of the Ebola was also described in phrases or sentences expressive of the emotional and economic burdens associated with the loss of family members. Below are some examples of participants' narrations;

> **Karen:** *Ebola na baaad thing. ....* (Interjection) **Josephine:** *Bad thing…, that when you hear that it has even killed somebody … that you cannot see the body…, even your own man self… you cannot see your body. ….* (Interjection*)* **Evelyn:** *Even your own child …***Charity :** *Na bad disease.*

> **Karen:** the *reason Ebola bad… Ebola really affected us… At the moment we are with the children alone… their uncles or our husbands have died… they have left the children with us* ***(hmmm all the other women sigh)****… We really catching it (We are really feeling the impact) (****Hmmm chorus again****) … Because we miss the upbringing they provide…, they are no more…. So we the women are really suffering from the orphaned children they left us with…. Because sometimes you go in the garden…, you plant the pepper…, the pepper does not grow well…. the 2 or 3 months before the pepper starts bearing and you will not say I will only do the garden …., you will start doing contract… at least to get money to buy soap for the children to take bath…, buy food for them…, until that pepper gets mature you sell it… So it's not easy… The Ebola sickness it really, really affected us.*

Another name for Ebola among the youth of some Kpelle speaking ethnic communities is "DV" (diversity visa)[59]. DV is a description and explanation for Ebola as it relates to the non-discriminatory nature in the social and economic characteristics of persons who could be infected with the virus or got infected with it.

> **Stephanie:** "*DV when it enters any house, anybody can get it"*.

> **Ivy:** "*when you play diversity visa everybody can win. Tsuukple…, it means it can finish a family… they put it in your house…, it grap one person…, your uncle…, then everybody going…Because they got some belle, they put it in your house…, they say tsuu kpe3"*[60]

[59] Diversity visa derives from the American Visa known as diversity visa but is adjective symbolically used to imply non-discrimination, equality in terms of susceptibility to the disease, absence of favouritism or partiality and, fairness

[60] This contributory explanation was made by an old woman of above 65 years. According to her, in the local culture and parlance, the name has connotations with local beliefs and practices in cases of bewitchment or casting of spell/curse on a person or family, whereby a pot is taken and the name *tsuu kpe3* is mentioned and the curse evoked on the person or family, after which the pot is hidden and placed in the house of the victim. The effect of this curse is the occurrence of sequential and unexplained deaths in the family or household.

Furthermore, the indelible footprints, freshly recounted and vividly narrated by some participants were interspersed with culturally symbolic communicative gestures such as sighing and brief pauses.[61] The gestures provided more observatory insights into the culture, behaviours, and sensitivity of the people and on the cognitive processes of information sharing. From the gestures, the accuracy/authenticity of responses and placement of the responses in their rightful perspectives in the cognitive processes of the people and their psychological orientations on the Ebola communication were formulated. For instance, whilst most women just sighed and remained silent or sighed throughout the process of recounting a problem, the men first sighed and verbally presented the whole problem with a few sighs or a big sigh at the end of the narration, a sign of masculinity and boldness or capability to hold the bull by the horn. These cultural traits, for instance, provide guides into the gender-based approaches in psychological and emotional communication of a problem, as well as the problem-solving approaches intrinsic in the values and in cognitive processes of the people. The gestures also provide knowledge on how meanings are made by the people for guiding how the content of a persuasive communication can be designed. This also has relationships with the cultural functions or societal roles in age and gender of community members and in social interaction processes.

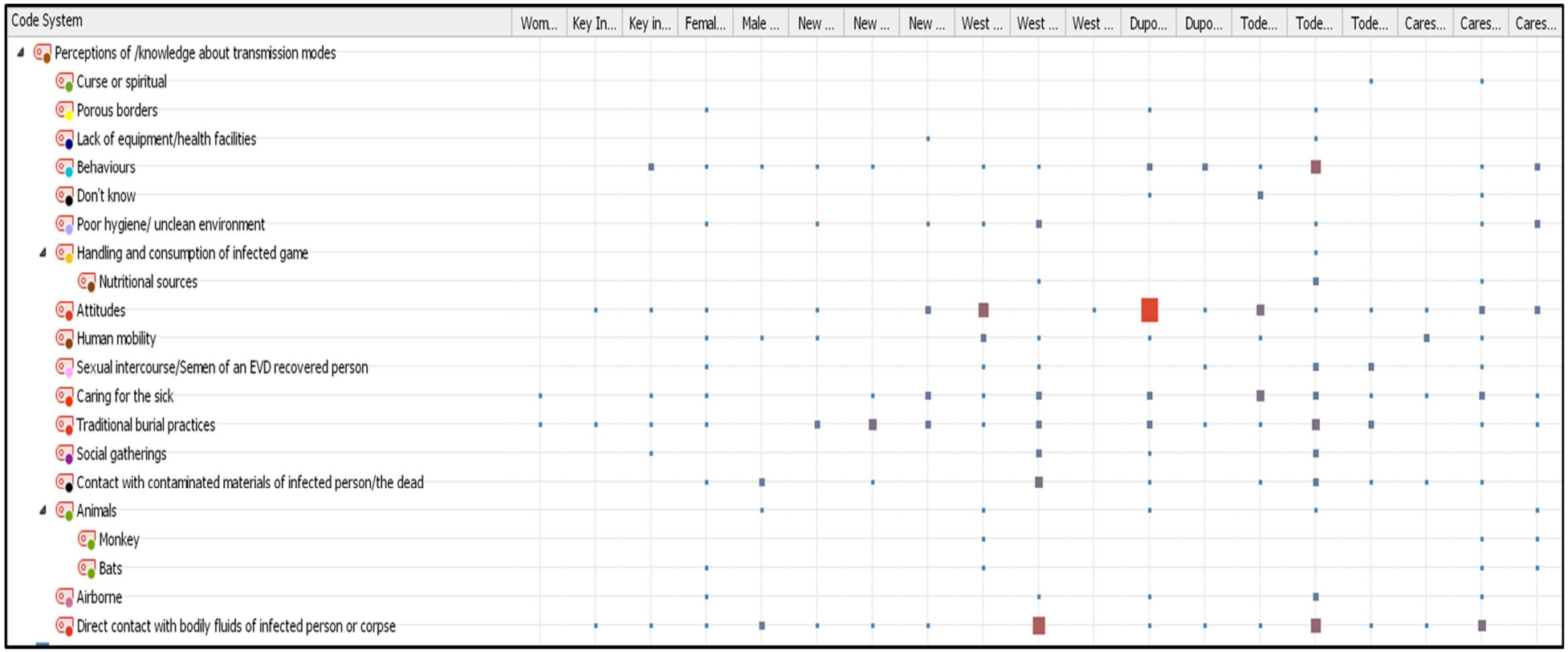
To summarise the description of the code system of the research and brief discussions of some of the findings thematically reveals that in the planning of persuasive communication interventions, thorough information and understanding of the backgrounds of target audience on their understanding of the problem at hand have to be undertaken for the effective management or achievement of desired outcomes from the intervention. This is necessary owing to the relationships and interconnectivity that inexplicit, but underlying reasons for behaviour generally have on meaning making and outcomes of information processing, especially for differential groups of people be it ethnically or geographically. Following, a detail consideration is undertaken for understanding how sociocultural group differences and backgrounds of the people moderated behavioural patterns in section 7.3.

[61]Examples portrayed during narrations was the sound hmmm, silence with a dropping of face or with tears in the eyes, propping of the chin and hmmm (a typical gesture made to symbolise that a situation or problem under consideration was and is not easy to handle psychologically or emotionally, or that one is still harbouring the pain of the problem emotionally).

7.3 Understanding the socio-cultural patterns in Ebola knowledge and health behaviours: Perceptions of Ebola transmissions

In this section an elaborate exploration of culture and its influences in meaning making, information processing, and behavioural outcomes are analysed for unveiling possible theoretical associations and implications towards the development of a health communication framework. Herein to be addressed is the research aim of understanding the influences of socio-cultural patterns on health behaviours and Ebola knowledge which will be explored utilising information of the matrix 7.5 below. Analytically, the process to be adopted in addressing this aim will foremost involve a discussion on the mode of the Ebola transmission from the perspectives of research participants. This is visually and descriptively presented in matrix 7.5 of the perceptions of modes of transmissions of Ebola. The categorisation of patterns in the data and knowledge on the mode of Ebola transmissions were in terms of social (behaviours, attitudes, religious/cultural beliefs, and practices), economic (nutritional sources) and biomedical (environmental and zoonotic sources) factors. However, in matrix 7.5 below the alignment of the code is in accordance with participants' response perspectives or submissions and in relation to the communication management system.

In matrix 7.5 the columns contain information for the document system (studied communities and key informants) and the row is made of the code system. The symbol and size of the square as noted in the introduction is synonymous to the segments of a document coded with the given code or level of response per code. According to the responses in matrix 7.5 below behaviours, attitudes, traditional burial practices, contact with bodily fluids and contaminated materials of infected persons were the modes by which Ebola was transmitted among the people. Common among all the responses was the problem of attitudes which also stands out among the responses for all the researched communities. Factors such as mobility which was critical, given the pattern in the spread from the index case to the endemic state, where the pattern of infections took the form of urban to rural was not significantly coded. Mobility as a factor was captured under porous borders but explanations were confined to international movements (from countries such as Guinea to Liberia). Details of codes on the modes of transmissions is provided in the matrix below.



Matrix 7.5: Modes of Ebola virus transmission

Prior to this research, it was not uncommon to find the assignment of the main reasons for the spread of Ebola to religious beliefs and practices in the media. The assigned reasons were not exclusively undertaken by journalists, but also by people in academia. These reasons valid as they are, according to the research data were not the core variables underlying the behaviours that enabled the spread of the disease. In a more critical analysis and in accordance with the perceptions of the people, core to the behavioural motivations were the identity related factors and psychosocial development processes in behaviour formation and motivations of the person[62]. Notwithstanding, large margins of deviations between the research data and the media reports will not be produced when the underlying causes for the spread are thematically aligned and considered in the broad framework of social factors (culture) and their moderations in the psychological dispositions and cognitive processes of behavioural motivations.

In particular, the behavioural differences observed in the different phases/stages of the Ebola epidemic owed allegiance to a multiplicity of interrelated variables in behavioural motivations and information processing. The motivational variables included on the one hand, the empirical experiences and observations made by the people on the dangerous and destructive nature and effects of Ebola. Closely related to the experiential knowledge, on the other hand, are the positive corresponding outcomes in incidence and fatality rates that were achieved through enhanced and continuous changes to the disease control mechanisms and processes of communication.

The experiences and acknowledgement of Ebola as a merciless, dreadful and scary disease with no regards for persons, irrespective of the socio-economic status, age, academic Laurens or profession etc. of its victims, enabled individuals to boldly resist social pressures towards the adherence of some cultural practices in order to protect themselves. Acts of defiance to cultural values nonetheless manifested at the peak of the outbreak. At the peak of the outbreak, where perceptions of susceptibility were

[62] These collated perspectives it must be acknowledged were after six months into the declaration of the country as Ebola free. As such experiential knowledge and understandings about the disease may have impacted initial perceptions and led to changes in the causes provided in the data.

high, participants cited instances where they refused to travel to villages of their origins or communities to visit sick relatives, including parents and siblings when information of the ill-health or death of a relative was conveyed to them. Participation in their funeral ceremonies was also not honoured. In the culture such defiant acts such as refusal to visit the sick or participate in the funeral of a close relative are principally deemed as not loyal, dishonest, and irresponsible and are culturally unthinkable, but had to be unwillingly undertaken. Dysfunctional feelings in emotions were often created in the person for the failure to comply with this value out of personal safety considerations. Such dysfunctional emotions continue to persist in some research participants. The narration of a traditional healer who recounted his confrontation with such a situation is provided below. His narration provides an example of how people managed with dissonance in cognitions for their failure to comply with values of the culture.

***Hubert**: They created and fed Ebola. Oh, my people in Dolosalebabel, the Poro and Sandes, they have a place of delivery where pregnant women go to deliver. There was this pregnant woman from here, who went there for delivery and contracted the disease there. On the day of her departure, when she was preparing to leave for Lofa…I said to the others around… "mark it, something will happen and the people did not believe me". When she went, she contracted the disease and died, but the people still did not want to believe that she died from Ebola. They said that she went to deliver and died as a result, providing names of the certain probable diseases that she might have died from. The woman was not brought to our village. When she died they said that her corpse was taken to a church. I asked which church, but they couldn't provide the specific name of the church. As such, I started doubting the information. My brother in-law, the husband of my sister attended the funeral and contracted the disease from there. Seventeen (17) people died from my family. Now I have only 2 family members who never contracted the disease, all the others died. My brother and I are the only surviving ones. (Sighing deeply) …Hmmmmmmm…that my neighbour who died, when I heard that she has gotten the Ebola, I told my brother that she would die so he should be careful, but it was sympathy, sympathy made Ebola to spread widely… so if out of sympathy as an empathic person, I should sympathise with my neighbour, cry with my neighbour, should my whole family contract the disease? If that is the case, then I will stay away, I will stay away even from my brother. When my brother wanted to go there, I asked him not to go. But he told me that we now have the responsibility to "**maintain and recycle**", (replicate) what has been done for us in the past by others as traditionally demanded. Then he was telling me, **"your part there oooo… your part oooo… come on you taking your part oooo".** (Enacting the cry of his brother meaning you*

> *have to play your role too). From all that "your part ooo", that he was saying, I just told him that, but we are still living. I left and came home. Later, I fell sick and I stayed at home and I told my brother that I have gotten Ebola so I have to "cell" (I have to quarantine myself). When I told him, he started to cry. In the night he called me and I heard crying, but that was not far from my house. He said that he wanted to call to see if I am alright. I told him that I am taking medication and getting better. I voluntarily stayed away. So out of fear and the empathy we came close to death. If not for my decision not to honour the tradition, we would all have died.*[63]

From the above, empirical experiences significantly motivated opinions and message reception. Nevertheless, that alone, as could be deducted from the above narration did not convincingly motivate all persons to change their behaviours owing to the desire to comply with the cultural values. This implies that other factors combined with or moderated experiential knowledge to guide information processing and enable message reception.

As already mentioned and visualised in matrix 7.5 the major cause of the endemic scale and spread of Ebola transmissions according to research participants were the social factors of behaviours and attitudes. Behaviours and attitudes were typical for the study areas of West Point and DuPont. Cultural requirements of traditional burials classified into burial practices and usage/handling of contaminated materials of infected persons were also salient in the transmission of the disease, but their acknowledgement in the causes were subjective. Caring for the sick was significant, but compared to contact with bodily fluids of an infected person including sweat, the later played a major role in the reasons for the spread of the disease than the former. Rhetorically, some of the codes could have been merged during the coding, but were nevertheless considered individually in the analysis given their context of use for communication clarity to the people in the Ebola management system. For instance, traditional burial practices and social gathering could be assigned to a single code as funeral ceremonies in the outbreak framework. However, research participants

[63] This narration has been grammatically edited into the Standard English for consistency in the flow of the narration and clarity owing to the high level of pidgin language used and local terminologies/jargons adapted for the complete narration.

considered the burial practices in the frame of washing the dead body or corpse and other non-disclosed practices performed before the burial of the corpse.

Generally, traditional funeral ceremonies involve gatherings with the family of the deceased by neighbours and well-wishers/sympathisers. Pertaining to the gatherings, consolation visits including stays together with the family are organised upon the news of the dead by family members, neighbours and all sympathisers (including friends, church/society members) living far and near. The processes or series of activities of the social gatherings involved in funeral ceremonies may take prolonged periods of time ranging from a minimum of about one week to a couple of months depending on the personality/status and ethnical background of the dead vis-à-vis the requirements of the culture of the ethnic group. On the actual day of burial, sympathisers again travel from far and near to pay their last respect and bid farewell to the departed, who in the African philosophy of life is not dead but transitioned to the ancestral village.

Subject to the culture of the respective ethnic groupings, social gatherings take place immediately after the burial or a day(s) thereafter amidst eating, music and dancing. This gathering is normally aimed at raising funds from sympathisers for the upkeep of the family or support the alleviation of costs incurred on the departed. The fundraising could take the form of material and financial donations. Philosophically, gatherings after the burial are social coping mechanisms aimed at reducing the financial burden of the living. Within the frame of these traditional processes of mourning and burying the dead, social gatherings occur in varied forms from which physical contacts with various disease-causing agents through handshaking, hugging, meals served etc. are unknowingly and sometimes irresponsibly exchanged. Such social gatherings enabled Ebola to spread rapidly to become a nationwide epidemic.

Contextual visualisation to some aspects in the processes of mourning the dead and the placement of the processes of funeral ceremonies/social gatherings in the rapid spread of the Ebola Liberia has been provided in section 6.1 of burial practices under the theme of cultural practices.

Other conglomeration of people at a specific area in the community for the organisation or performance of social functions including community durbars could also be classified within social gatherings. These were also distinguished by research participants to refer to meetings at marketplaces/trading centres, places of entertainment such as drinking pubs and discotheques, workplaces, schools, and places of religious worship such as churches and mosques. Likewise, direct/physical exposure to viral contaminants could technically substitute for contact with bodily fluids of an infected person and contact with materials of an infected person. Nonetheless, their respective relevance in the cultural practices[64] and significance for the better management cases/incidence and in the tracing of probable infected persons, underlined the differentiation in the Ebola communication, herein, also separately coded.

Political and infrastructural reasons involving porous borders with neighbouring countries such as Guinea and Sierra Leone, poor healthcare infrastructure and mobility factors undisputable in the Ebola transmission were also assigned. The level of significance in the reasons are negligible, except for the human mobility, vis-à-vis its interrelationship with social gatherings which was the root cause of the countrywide spread and localised endemic scale in certain counties.

Environmental factors involving indiscriminate defecation and disposal of human waste, the uncollected human carcases on streets, especially in Monrovia (at the peak of the outbreak) and secret burials in communities were cited for the environmental transmission modes, which accounted for four (4) percent of the responses. Zoonotic reasons initially provided and used in Ebola communication messages as sources of Ebola were very minimally cited. Categorically, those who responded as not knowing are those who continue to disbelief the naturally occurring or biomedical cause of Ebola as virus resident in animals/primates existent in the natural ecology of the area. Rather, they hold on to the propaganda theory that the disease was strategically/tactically introduced into the ecology of the West African sub-region by

[64] Considered here were example, the wearing of the clothes of the dead and sitting on a mat to mimic the dead by a sister in-law for the raising of funds or collection of donations for the family and the transportation and washing of the clothes of the dead by the children at the riverside.

Western governments through some research projects/trials. Genuinely, the knowledge about the cause of the disease was admitted as being unknown to the indigenous people on its onset. Notwithstanding, opinions are still strongly held even after the eradication that Ebola is a man-made disease. This can be referred from perceptions of Ebola in matrix 7.4 above compared with matrix 7.11 on reactions to messages. Some of the agitations in this regard are the opinions strongly held by some traditional leaders/healers. Below are examples of some of the opinions;

> ***Isaac:*** *"…any sickness... there are common sicknesses here, likewise other viruses…The first virus that ever came to fight disease… it will frighten you… like "lepros" … any natural thing that come, the "lepros" it will stay in you…but this Ebola virus was created; the male, male virus created within the laboratory… can they break it?… they can't… because it was too strong…such that it cannot* ***stay idle and not react or cause no harm)****? No! … if it get 3 days in you, you will die… (****long pause-15 secs) ...*** *my friend natural virus that come… in a space of time… it start breaking your cell down bit by bit…. Because first and foremost, the food one eats serves as a counteracting force or element against natural viruses in the body of a person and provide immunity. But in this case all the nutritional elements necessary to fight the viruses and keep you healthy are rather making you sick)… fortunately the viruses will not enter in you…they are just studying your body to* ***attack you****…it just came… and just wipe away once and for all…(****others laughing)…****they made it to weaken your body…you can't even stay to say you have* ***recovered/defeated it****… (****moderator: - it made us to run away… (others laughing)…*** *they make us running away!… In 3 days' time, during Ebola…when Ebola came in Liberia here… in 3 days' time… you die straight…that is the incubation period we are talking about…into the one you will be put under observation…but that thing that came in Liberia… in 3 days' time it kills you…so in 3 days' time?…natural sickness that kill you in 3 days' time?…No!… I swore to my colleagues…this is not natural…any chemical can kill you… it's only a poison that you cannot neutralise that will kill you…****so it was poison the people brought to this place****… ****John (interjects)****: e for break your inside (it breaks down your cells internally) … They can't bring this to the Arabs… because they have Engineers to test them… to test the virus in that matter****…"***

> ***Ibrahim: "(interrupts to clarify)*** *ok, ok, I am sorry… You see, you see, what my brother is trying to say is…you see natural virus, you don't get from different things… from experimenting with different, different things… I know that very well…, this I can say with certainty… What the people bring they and said…Ebola will kill you all ooo… they brought it… (laughs)".* [65]

[65] The statement "*they go pack the blood bed e-carry bath*" is a paraphrased scenario for briefly recollecting the source of a case of a spiral infection in a community due to burial practices. The scenario

Relationships provided between the perceptive causes and reactions to message contents and the general communication management system frame will be discussed in detail in the subsequent subsection. The analysis would be on the content of Ebola messages for the derivation of the functional relationship between knowledge on the transmission modes of Ebola and ability of messages to elicit information processing and behaviour change. Noteworthy is that the stage of reception (compliance with recommended behaviours or changes in behaviours) in the light of the phases in the Ebola management according to Hon. Nyenswah, the Director of the Ebola Management System occurred at the peak and third phase of the outbreak. The remarkable disease management feature that symbolises reception of Ebola communication messages was the reduction in incidences. The reception stage was characterised by the following: 1) Adaptation and utilization of community mobilisation strategies; 2) Adoption and intensification of local language usage in message framing and communication, as well as strengthening and utilising entertainment education strategies. 3) Efficacy of recommended and instituted control measures vis-à-vis the relative ease of implementation. These may be reconsidered in detail in the subsequent chapters that will discuss the interactional relationships among the factors that influenced intention formations to motivate behavioural changes

From the data, three broad categories (social, environmental, and zoonotic/scientific factors) of themes on the knowledge in the mode of transmission could be classified. These have social associations and relations in culture and in anthropology as a discipline of study. Culture is dynamic and flexible and it is subject to change under given contexts through proper consultation and collaboration. Considering the categories of factors discussed so far, the scale of the Ebola epidemic can be said to be primarily strengthened by attitudinal behaviours which is referred to as unbelief and stubbornness by research participants.

The attitudinal behaviours of disbelief/distrust and stubbornness are generally an identity trait in the psychosocial development process of a person. The identity traits

was that of a group of people who packed together the beddings of the dead person they bathed before burial who had apparently died from Ebola.

referred to are influenced by the African perspectives of the worldview; namely the cosmologic and ontological dimensions and their philosophical meanings for life and wellbeing of the person. The trait of distrust in the Liberian is rooted in fear and self-preservation. These, generally are influenced by the perception that success is dependent on unseen powers by which one may possess more powers over the other. As such the other person is often perceived as a potential enemy that have to be dealt cautiously with, thereby making distrust to be deeply rooted in the people.

Furthermore, the assigned reasons provided by discussants for the entrenched behaviours and persistence in keeping with the cultural practices are premised on the social processes involved in the upbringing of the child and the person in particular referred to as *"Liberia ts3ele3*" by a discussant. Thus, underlying the entrenchment of these cultural identity traits is their early introduction and inculcation in the development process of the person at tender ages. Cultural traits are often imparted to children either by traditional institutions through the "bush schools" and by parents or elderly members of the society. More often than not, acts of fear, isolations, and pain inflictions accompany the impartation of cultural values in children. Through the acts of fear, isolation, and pain infliction the adherence to cultural practices is nurtured and deeply imprinted in the psycho-cognitions of the person that enhance automatic enactment even without any physical compulsions for compliance.

Nonetheless, the persistent enactment and sustenance of culturally appropriate behaviours irrespective of compelling physical evidence or "logical reasons" are reinforced by the existence of well established, recognised, and vibrant traditional institutions that ensure the enforcement of cultural norms and values. Primarily, the traditional structures and institutions function to protect and preserve traditional knowledge and skills for both the present and future generations. Technological developments of the 21st century have all the same penetrated the cultural systems, thereby reducing the overarching and dominant influence of the traditional institutions on information processing and behaviours.

Moreover, uncertainty in outcomes of some pragmatic decisions that needed to be made was also cited as moderating information processing. The overt manifestations

of such uncertainty influences in information processing were the stubborn behavioural patterns participants cited. The decision-making uncertainties actually have their basis in experiences of past crisis situations of the country. Specifically, the peculiar political developments of the recent past, in form of events of the country's civil war did mediate information processing and behaviour formation on Ebola. Among research discussants, especially males aged 40 and above, the said stubbornness in behaviours was attributed to the lived experiences from the country's civil war. The scene of the civil war used for explication the moderation of uncertainty in information processing on the Ebola outbreak was that of the singing of rebel groups in the forest.

According to the research participants such singing and advancement tactics of the rebels from the forests on the launching of their attacks on communities during the country's civil war were misconstrued for children playing and singing in the bushes. The horrific atrocities experienced as outcomes of the uncertainty reaction (the continuous stay in the community) to the singing of the rebels, have since become indices that mediate and moderate information processing and behavioural enactment. Accordingly, the assessment of the genuineness or otherwise of any information beyond the limits of local knowledge, that may also be uncommon in ecology of the immediate environment is received even more sceptically. From the above, the unfolding events of life became avenues or schools from which, and by which, life's lessons have been informally learnt to mediate information processing and affect behaviours. In these ethnical and historical dispositions of the people, strong psychological orientations of distrust/mistrust/disbelief have been further developed that mediate cognitive processes to information processing to complexly affect behaviour change endeavours in the absence of local system inputs to persuasive behaviour change.

Hitherto, it is pertinent for rhetoric expediency and ease of clarity to explicate the relational functionality or interconnectivities of the above variables as moderators in information processing and behavioural motivations respectively in the thematic frames of the questions underpinning this dissertation's conceptual framework. Of considerable introductory relevance here are the questions of, namely, the content of

the messages; the clarity of the messages and their cultural appropriateness or interconnectivity with cultural values and norms; and the management of social relationships based on the messages. Thus, answering questions 1 - 5 in chapter 1 of the conceptualisation framework of the dissertation. It must be noted that some of the questions, such as message design and the general Ebola communication management system, appropriateness of messages, and message effect on social relationships have been partly discussed in the previous chapter where they are thematically and functionally related. These would not be necessarily considered as major discussion variables in the following subsection (s).

7.4 Content and nature of Ebola messages in perceptions and behaviours

This section focuses on the nature and pattern of communication in the management of the Ebola outbreak. It addresses the research objective which explores the nature and content of Ebola messages for the understanding of the role that the messages played in shaping perceptions in people and in changing behaviours. The elements and processes of communication as they effected and affected information processing are considered in terms of their properties for information processing arousals and behavioural motivations on the Ebola in relation to approaches to communication in Liberia. Constituent in the section are the five subsections of Ebola communication; Ebola information sources, dissemination channels and messages; opinions about messages and outcomes; interactional relationships of the preferred channel and preferred information type; and behavioural outcomes of messages. Subsection 7.4.1 is the introductory theme and overview of the subsections of communication. It presents the data for the elements of communication coded from the research data as well as serve as a prelude to the detail and conceptual analogical discussions to the respective elements of communication. At a glance, the data in the matrices 7.6 and 7.7 generate an understanding into the moderations of the sources of information on meaning making and behavioural outcomes in the comparison of referenced sources of information against preferred channel of communication and preferred type of information. The processes and properties by which the source of information

persuades intention formation is an inherent aspect in the analysis of 7.4.2, where it is analysed in detail.

In 7.4.2, the sources, also regarded interchangeably as channels of information, are presented. Both verbal and non-verbal types of communication were cited in the sources of information as either a process or a structure in the function and management of communication. The different sources mentioned elicited different levels of information processing arousals in the people, with oral communication approach having a higher level of information processing arousal compared to written communication in the verbal type of communication. Non-verbal communication was essential, but its information processing effects as presented and analysed are integrated in the oral type of communication and its interpersonal approach as the common feature of communication in the study area. Telecommunication sources of information though available is not peculiar to the system.

The basis for assessing the levels of elicitation of information processing and intention formation among the sources/channels are solicited from the opinions of participants about the Ebola communication messages and outcomes of the messages which forms the subsection 7.4.3. The challenges to decoding of Ebola information in the process of communication as argued from the data is due to the absence of elements that effect and affect intrinsic information processing arousals. The intrinsic elements are associated with affective aspects of the person, as acquired and influenced by the values and norms in the society of the person. The behavioural outcomes as identified were, therefore, associated with the absence of context-specific intrinsic information processing elements for enhancing meaning making in the communication and not necessarily the result of linguistics or technical comprehensibility of messages.

Subsection 7.4.4 analytically explores the interactional relationships in the channel/source preferences against preferred types of information. The purpose is the identification and conceptualisation of the precise communication variables that elicit information processing and persuade behavioural changes in an intervention. Specifically, this is from the perspective of message encoding for meaning making in the communication process. The exploration of the persuasiveness of the variable as

argued is based on the holistic and integrated nature of both intrinsic and extrinsic information processing features in the information and the communication process.

Related to the above, subsection 7.4.5 explores the decoding element in the communication process. The variables enhancing decoding are analysed for their sociocultural characteristics and patterns of their functionality in persuading behavioural changes. Although, intrinsic and extrinsic information processing variables in encoded messages are noted as enhancing meaning making in information processing, ongoing experiential knowledge of given situations were identified as a variable that either intrinsically or extrinsically enabled meaning making in cognitive processes. Additionally, the development of new patterns of knowledge situationally (over the ensuing period of the outbreak) is identified as having changed the dynamics of decoding during the Ebola communication management. The overall goal in the patterns of behaviours changed temporarily making individual wellbeing to be prioritised above that of collective wellbeing in the cognitive processes of decision making. The overall goal nevertheless, was the wellbeing of the family unit and subsequently the society.

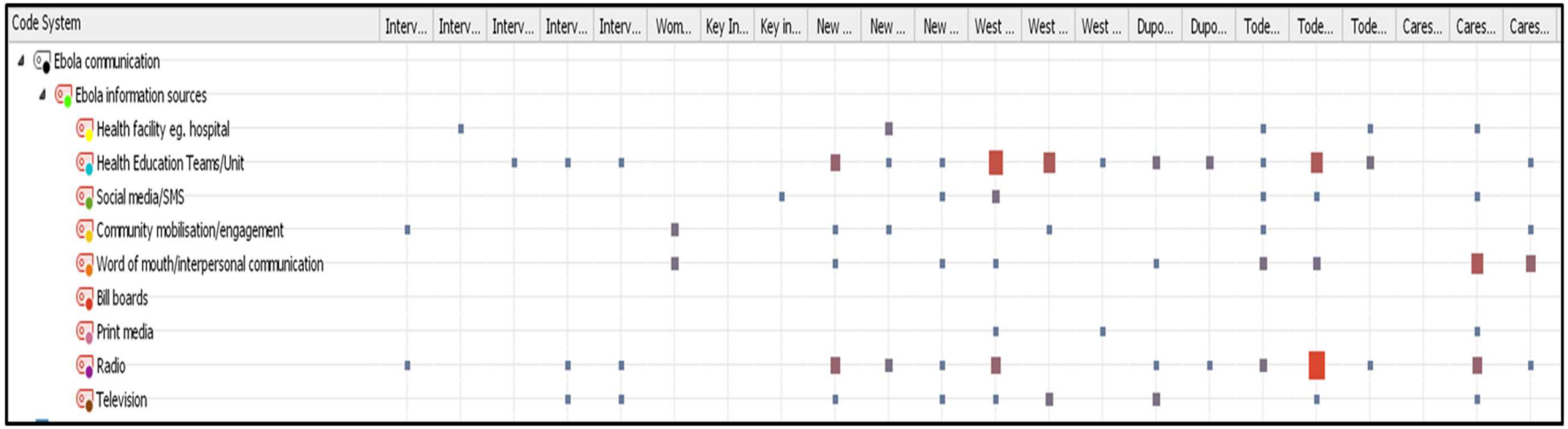
In the above, a systematic presentation of the sectional previews of the communication system in the management of the Ebola has been provided. Following is the systematic presentation of the details beginning with the elements of communication in 7.4.1 below.

7.4.1 Ebola communication – sources, message contents, channels, and outcomes

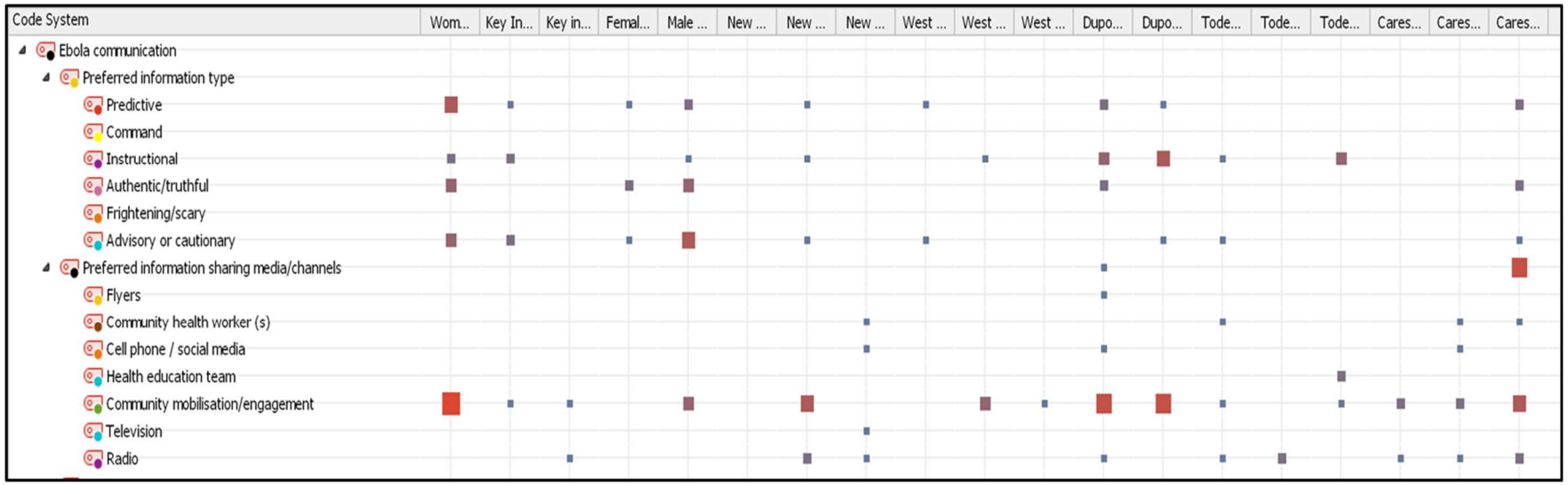
Ebola communication in the research encompassed the channels and sources of communication; the content of the communication and types of information; characteristics of the major elements in any communication (source, message, media, and receiver) and its functional relationships to communication outcomes (message decoding and reactions/feedback). These elements of a communication system are subsumed under the parent code Ebola communication in matrix 7.6 below and are further sub-divided into the respective elements of communication as already

mentioned. For purposes of presentation visibility, the message content had been detached from the general communication matrix. Discussions are, however, considered logically as provided by the Lasswell's communication model and in accordance with the provided responses/opinions of the research participants. The code symbols as explained in the introductory paragraphs of the above remain the same for interpreting the size of the squares connecting the code system and document system of the coded data. This subsection is basically an overview of the various aspects constituent of section 7.4 and will as such not be explained in detail. Matrix 7.7, on the other hand, provides a visual presentation of the types of information preferred by research participants and the preferred channel of communication.

The responses in matrix 7.6 could be broadly classified into the following sources; audio-visual (radio and television), interpersonal (community mobilisation, word of mouth, and health education team), print media (newspapers, flyers, brochures), and telecommunication (SMS and social media). According to the data, interpersonal sources and audio-visual served as major sources of information to majority of the respondents as visualised by the size of squares in the matrix. Nevertheless, community mobilisation of the interpersonal sources is the most preferred channel for information dissemination as indicated in matrix 7.7. Specific to the characteristics of information, the preferred nature of information are those that are predictive (indicate consequences), instructional (indicate systematic procedures to follow), and advisory over commanding information. Detail analysis for exploring the functionality of sources of information in information processing and meaning making are not undertaken in this background information which precedes the discursive analytical subsections. Information in the matrices are, however, the basis of discussions and are referenced in the complete analytical discussions of the succeeding subsections.



Matrix 7.6: Ebola Information sources



Matrix 7.7: Preferred information channel and type.

7.4.2 Ebola information sources and dissemination media or channels

Ebola information sources and media utilized during the outbreak varied, but were mostly linked to a common purpose of disease control and management. These included the following verbal and non-verbal channels:

- interpersonal sources (family members, neighbours, friends), and intrapersonal (observations),
- health facilities, e.g., hospitals and clinics,
- telecommunication service providers and social media sources,
- health education teams of the ministry of health,
- community mobilisation (members/representatives from communities having membership to a local community, organisation or holding leadership position within the local governance structure),
- print materials and audio-visual sources (newspapers, posters, radio and television transmissions/broadcasts), and
- billboards.

Notably, the health education team of the Ministry of Health's initially consisted of trained public health workers. Aforementioned, the education team was reconstituted to include leaders and community volunteers from the communities under the community mobilisation framework of the modified IMS. Community volunteers and leaders selected were provided with trainings on topics of causes and general symptoms of Ebola as well as management of Ebola cases. Trained leaders and community volunteers became members of the communication taskforce to the Ministry of Health. Members of the taskforce could be classified as mobile communication units or information sharing sources that went into the communities (or to their people) to verbally and interpersonally create awareness and share Ebola information. Their awareness creation and information dissemination activities were carried out from household to household as well as at the respective gatherings of religious institutions and associations. The respective linguistics of the ethnic groupings was employed by members of the taskforce in communicating the Ebola

information to the people. Thus, a systems-level communication approach was adopted and integrated to enhance communication effectiveness.

In the broad categories of communication, verbal interpersonal communication types were the main source of information identified by the majority of the research participants. The verbal communication forms were variedly named and interchangeably utilized to explicate specificity in contextual submissions and reflections. These verbal interpersonal/intrapersonal communication channels and sources as classified were health education teams/unit, community mobilisation or community engagement, and word of mouth. Analytically, the classifications are specifically and contextually derived to the source of the information. This is in association with the choice of introductory phrases/sentences used by the trained volunteers and community leaders during the home visits /community outreach programs. The introductory phrase used in the announcement/declaration of purpose of the visit or mission also has cultural undertones, where one announces where one is coming from and purpose of a visit to its host. Examples of such introductory phrases/sentences influencing the classifications were, *"Good morning/afternoon/evening. I am/we are (Name of the person/taskforce members), I am/we are coming from (e.g., the community mobilisation team….or from the education team of the Ministry of Health… Or we are here today bringing to you information from the……"* Additionally, familiarity of members of outreach teams in the community either by virtue of residence, ethnic affiliation in the community and by profession also impacted the categorisation of the interpersonal information sources.

Conceptually, the above influenced the assignment of information source either according to the management strategy and system (community mobilisation) or coordinating agency/institution (health education unit/MOH). Utilisations of the phrase word of mouth to the management system were specifically qualified, whilst those of intrapersonal sources were often left unqualified. The intrapersonal sources specifically involved information obtained by observing happenings in the immediate and distant vicinity of the person of person(s) who is/were either family member(s), friend(s), and neighbour(s) in the same or other communities – experiential

knowledge. These responsorial distinctions of participants have been maintained, owing to their significance in the analogy for determining the mediatory and moderating influences of information sources in cognitive processes and behavioural motivation outcomes. The determination of the moderating influences is essential for the model development in this dissertation.

Verbal information sources were extensively utilized to share information on the Ebola and its management. Cumulatively, interpersonal sources of information were the main source of Ebola information[66] on the Ebola for research participants, including Ebola survivors for all the communities researched. From the matrix, audio-visual sources in terms of radio and television were also much referenced in the sources of Ebola information by both participants of the urban and peri-urban communities studied. However, references to television sources were low within the audio-visual sources. A participant in one of the peri-urban communities categorically mentioned that just a limited number of people in his community own a television set. This implies that a limited number of people obtained their information from television broadcasts. Radio transmissions by both public and private stations contributed substantially to the Ebola information dissemination in terms of geographical coverage, but their impact on intrinsic motivations to behavioural changes were marginal. Generally, the coverage of the media according to the Director of Health Promotion Division is also limited: *"We used the media, TV and radio mainly but coverage is not to all parts of the country…."*. Print media (newspapers, brochures etc.) was also essential in the dissemination of information but on a limited scale.

Non-verbal visual communication tools in form of publicly displayed billboards, bus stop posters, wall drawings on fenced walls at vantage locations in towns and cities were seen/observed (during the research stay), but were not provided as sources of information by research participants. Modern telecommunication media also contributed as sources of information. On a regular basis, GSM mobile network operators (namely, Lone Star MTN, Orange Liberia) supported Ebola awareness and

[66] Main source was defined not only according to the one giving the message but also that motivated information processing of Ebola related issues, thus, the consideration, thinking about and taking of the necessary actions

educational information sharing in form of SMS to their clients. Other internet communication approaches through social media such as Facebook and Whatsapp were negligibly recorded. Basically, the limited scale of telecommunication infrastructure in Liberia (mainly available only in the capital and some big towns) and service quality (poor network transmission/reception), coupled with the low purchasing power of the people, does not make telecommunication and social media options a recommendable communication approach in Liberia. Though not the focus of this dissertation, low levels of income and telecommunication infrastructure development generally affect communication in developing countries. For instance, the Director of Health Promotion Unit categorically disfavours the utilisation of internet and telecommunication options for communicating behaviour changes owing to the challenges in accessibility of telecommunication in general. He remarked: "*SMS was used but on a limited scale because people to do not have the time to read, and or the financial resource to buy a scratch card on their phone for such purposes*".

The framework of personal Ebola information sources and channel preferences presented exposes indirectly the varied levels of information processing arousals and behaviour change motivations experienced by the people. The indicated sources and the preferred channels show that different types of communication media or channels elicit different levels of information processing and intention formation on behaviour change in people. The influence of the source and channel in behaviour outcomes were often ascribed to cultural affinity influences than to situational consideration factors. The output relevance of the above communication elements to the overall model development necessitates further identification of interrelationships in terms of the source and channel vis-à-vis channel preferences and message types to behavioural motivations and outcomes. This requires the mapping of the interrelationships from the multiple interactive code frame from a code co-occurrence analysis whereby the visible display of associations in the research participants' responses could be generated. Discussion of the interrelationships, nonetheless, is considered in the analysis of relational interactions among factors of information processing and behavioural motivation on the Ebola communication.

Having presented the sources of information for exploring the contributions of channels of information to information processing arousals on the Ebola management, the following subsection will be devoted to the presentation of the interrelated factor of message or content of Ebola communications. This is for the better explication of the responses on the descriptions of the content of messages in relation to preferences and behavioural reactions.

7.4.3 Ebola messages, opinions on the messages, and message outcomes

Primarily, Ebola messages were developed by the Ministry of Health and Social Welfare (MOHSW). The design of the generic frames of messages for use by all stakeholders was derived from the WHO Technical Guidance for Social Mobilisation. International collaborating partners assisted financially and materially at the phase of intensive transmissions during the outbreak. Traditional/community leaders were mandated to design and disseminate information to their people in their respective local languages based on the generic Ebola information frames. Local contribution in the message design could be categorised under technical support towards the cultural appropriateness of messages. The local forms of the technical inputs were provided by artists in music and theatre/cultural performance industry and later by the tribal traditional/ community leaders. The contribution of local artists/musicians targeted the conformity of rhythmic and artistic features of messages to entertain and arouse processes in information processing and behaviour change in the Ebola message dissemination, whilst tribal and community leaders addressed the linguistics and culturally acceptable frames of message presentation.

Processes to message development and dissemination involved design, pre-testing, and modification by the MOHSW. Progressively, the process of design and modifications was undertaken throughout the outbreak phases to enhance their effective processing and motivate behaviour change. According to the manager of the IMS, the director of the DHPU, and the WHO representative for Ebola communication, the message development strategies and design initially adopted fear arousal patterns to persuasive communication in information processing and behaviour change. The content of

messages including visual communication tools designed were frightening or scary in nature with overarching phrases such as Ebola kills and there is no cure for Ebola etc.[67] Generally, the umbrella phrases Ebola kills; there is no cure for Ebola that were framed created anxiety in the people and caused negative non-compliant behavioural reactions. Both Rev. Sumo, the Director of the DPHU and Ms. Eluwaga, the WHO representative, admitted to the negativity of the message content on behaviours during the individual research discussions. Following is the respective contributions of the above resource persons;

> *"Initially the messages emphasized that Ebola was deadly, as a result people were not sending the sick to the ETUs. As such the anthropologists were used to identify the reason, which exposed the referral of the messages on the Ebola as being deadly being the cause. The messages were then modified to read Ebola is real, which was also later modified to read Ebola is real but there is hope and finally we must all chase Ebola out. For instance, when we said Ebola is deadly or showed bodies being put into plastic bags for burial, it was not good to the people so we had to redesign our messages".*

> *"The whole approach was to let the people know that Ebola is dangerous so the message designed initially was like Ebola kills, which rather turned out to have a negative impact on the people as it created fear in them. As such people were not ready to send their sick ones or go to the ETUs because they say if it kills and there is no cure for it why should we go there.[68]"*

Similarly, a participant indirectly made this comment on the outcome of the scary messages;

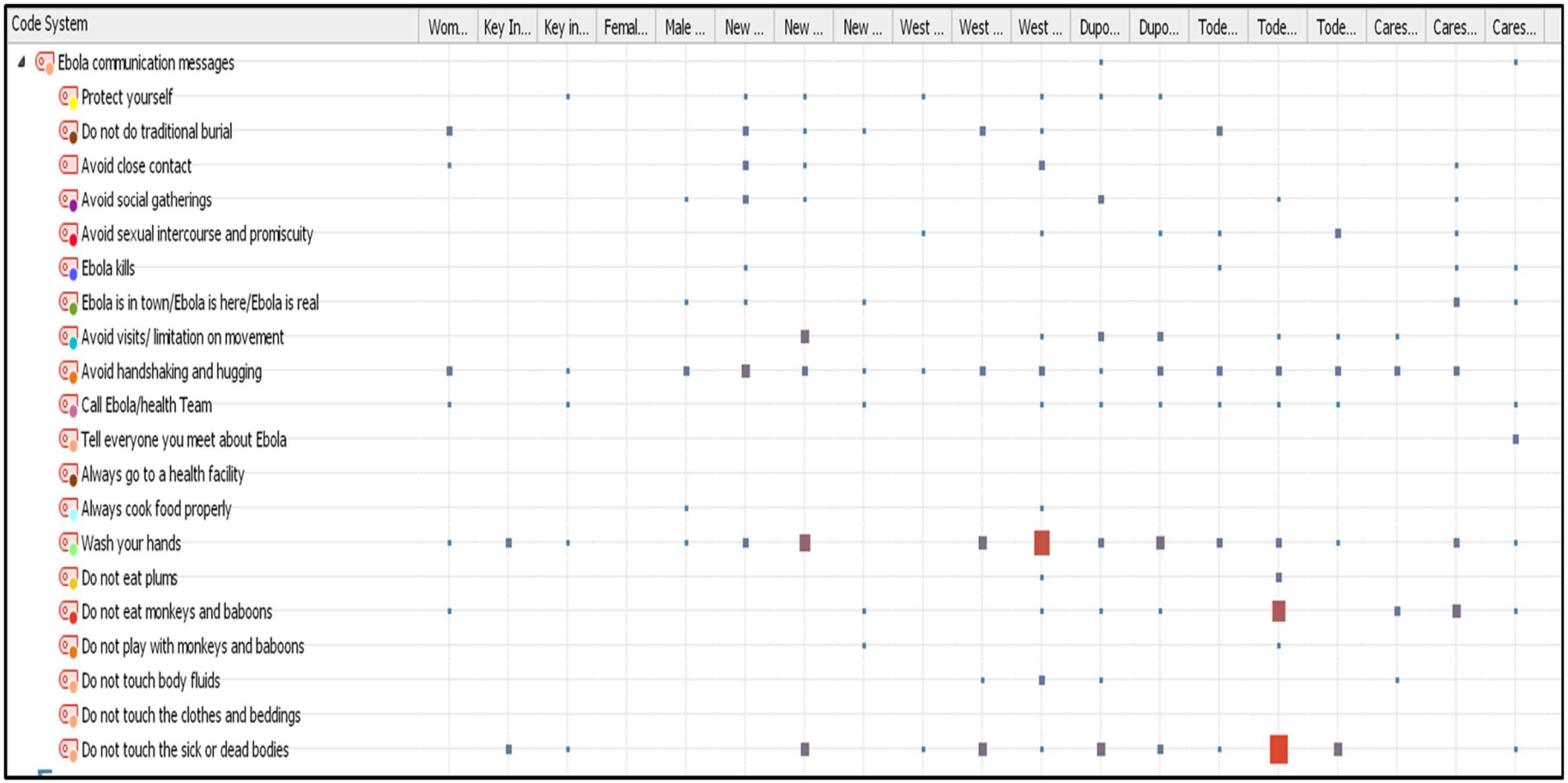
> *"**Silvia:** "Ebola kills, Ebola kills that they were saying put fear in people…other people took measures to stay away from people hiding the dead or the sick, it was only close relations who touched the sick and dead,…. **(Interjection by Philip)**: yes some of them, they hid the infected person…, and took them to different places, **saying "oooh we know that when we carry her to hospital they will say he has gotten Ebola" (Interjection by Theodora with a non-verbal confirmation gesture of mmmhm – thus, yes)**…., **(Philip continues)**… **so they were scared for that***

[67] Posters of the messages can be referred to in Appendix F.

[68] There as used here stands for the Ebola Treatment Units, the specially designated isolation centres for treating Ebola infected persons.

> ***reason…,they*** *took them to the next place for protection…, but they were not protecting for that thing".*

The overarching initial message in Liberia was *"Ebola kills*"; "*Ebola is real*". The adjustment to this initial message and the subsequent adjustments made to ensure compliance of messages to the outbreak trends were: "*Ebola is real- but there is hope*"; "*Ebola must go"*, "*Stopping Ebola is everybody's business*. *Protect yourself, your family and your community…"* The recollected content of messages provided by research participants has been compiled in the matrix 7.8.



Matrix 7.8: Content of Ebola messages

In matrix 7.8 peculiar disparities in the characteristics of appropriateness of message contents to behaviours/lifestyles within geographical and administrative contexts could be deducted. Indirectly, information about the main reason(s) for area specific Ebola transmission modes in the country could be deducted from the recollected messages of participants. Thus, the recollected message contents are environment-behaviour specific and had interconnectivities with the contributory factors for the intensive Ebola spread. In the contexts of their dissemination, the message frames referenced situation specific transmission challenges in the message content to elicit information processing. The linguistic composition of the messages, thus, capitalised on systems level communication elements and attributes for message encoding and decoding to ensure the understanding of the reality of the disease and persuade behavioural compliance. However, this was not at the initial and mid outbreak phases of Ebola as indicated by the key informants Hon. Nyenswah and Rev. Sumo.

The relationship between message content and area specific transmission mode is synonymous to the strategic change[69] management approach in organisational and community development in systems planning. Systems' planning is a change management tool which adopts strategic perspectives or systematic processes to planned change processes at the organisational or community level. The adoption of this tool in change interventions is mainly for purposes of improved performance and effectiveness of change management.

From the research data, traditional burial practices that were highlighted by media reports including print media and academic literature as fuelling Ebola transmission is relatively and marginally retrieved in responses on the message contents. The minimal reference to traditional burials as noted earlier on may be due to the avoidance of narrations that may lead to the divulgence of information on issues central to the values and norms of the culture which may be deemed as a privy to only members of secrets

[69] Strategic change is a process whereby an entity in the process of improving or maximising its competitive organisational position consciously identifies and aligns all areas of its activities, socially, politically and technologically to its environments. The same concept is used in community development planning activities of NGOs in the developing world, thus the process of identification and management of cause-effect relationships or input-outputs analysis.

societies or ethnic groups.[70] Nonetheless, retrieval of message contents was often aligned to the prevalent daily activities and sustenance needs perceived as responsible for Ebola transmission in the respective communities. For instance, whilst participants' in the Todee study area easily recollected messages related to nutritional sources of game hunting and consumption and the handling/touching of the dead from the messages disseminated, participants of West Point and New Kru Town (both urban slums) easily recollected sanitation and hygienic behavioural action messages of hand washing. These disparities are subject to the considerations of cultural and behavioural appropriateness in the framing of Ebola message contents. Communication, therefore, conformed to situational factors for the enhancement of information processing to motivate changes in behaviour.

Generally, the common messages retrieved from the focus group discussions are wash your hands, avoid hugging and handshaking, do not touch the sick or dead bodies, do not eat monkeys and baboons, avoid visits and call 4455/the Ebola case management team if someone is sick or dies. These messages also provide indices about the influences of culture and behaviours on health in general.

The perceptions of messages and reactions to messages serves as an index for any logical and systematic extrapolation and understanding of the interrelationships in Ebola transmission and management and the influences of culture and behaviour on health. From the interrelationships, the generation of a generic frame for a context specific health communication model in accordance with other influential communication and persuasive behaviour change variables such as message decoding etc. could be philosophically extracted and conceptualised for epidemic management.

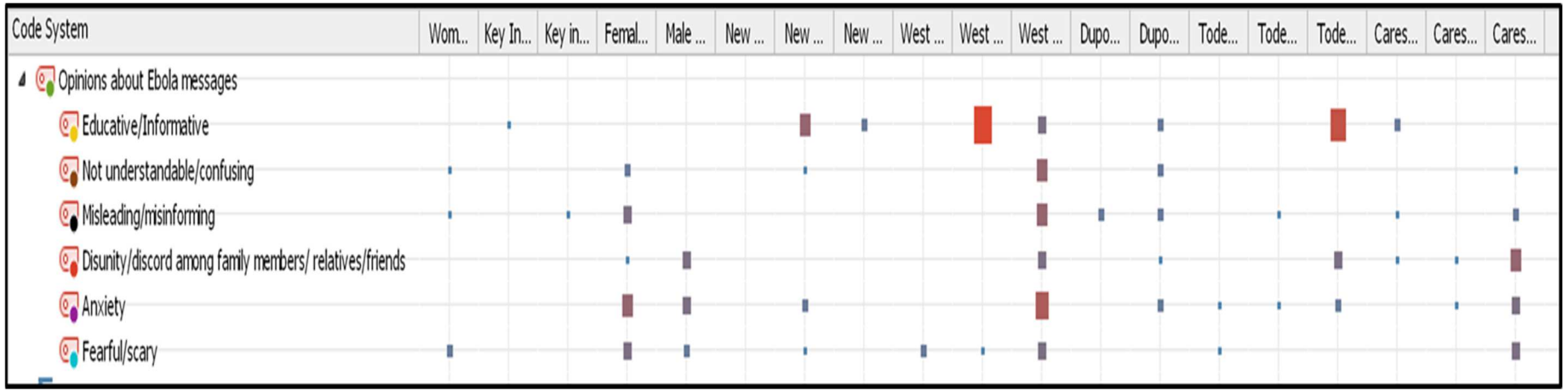
The non-verbal evidence of message decoding in any communication process is displayed by the reactions or outcomes of the message recipient upon receipt and processing of a message. The reactions may either be positive or negative subject to the intrinsic influences of the core values refined by norms and beliefs of the person

[70] The relative marginal reference by participants here is subjective, as none wanted to fully accept responsibility by assigning the spread of Ebola to traditional burials. This was a common observation during the research even among the elite and government officials who were informally talked to.

that moderate the decision determinant in cognitions and information processing. These determinants are connected to the functionality of the ecological adaption needs in the culture and of the person. As a result, the differences in message reactions by different persons to the same message in the same context cannot be easily explained by the encoder. This is because the perceptive lenses for understanding the message may be completely different from that of the decoder as exposed by the research discussants. Message encoding and decoding are, therefore, subjective and complex without essential knowledge of the behavioural motivations in a person or message recipient.

Generally, it could be argued that behavioural motivations are moderated by the symbolism of meanings inherent in values, norms, and beliefs upon which the appropriateness of an action is perceived or directed and from which shared meaning is generated. The undercurrents in behavioural motivations, thus, relate to the subjective symbolic meanings of the values, norms and beliefs of a culture to a person which subjectively affect perceptions and descriptions of (a) message(s) by different recipients. Behavioural motivations are, therefore, deduced from the environmental adaptability essentials in a culture either as one that gives credence to individual values or social harmony. In this frame, the more diverse the recipient base and characteristics, the more varied the pattern of descriptions of a message may take as could be verified from the research.

The perceptive descriptions of the messages by participants are educative/informative, incomprehensible, misleading/misinforming, causing disunity in relations, anxiety and, fearful/scary as provided in matrix 7.9.



Matrix 7.9: Perceptions about Ebola messages

Explanations provided in the case of educative are that the Ebola messages were thorough; in that they specifically explicated the appropriate actions for infection avoidance and incidence management. Some of the responses in the descriptive nature of the messages as educational are *"the information broadcasted was very helpful and a working tool for survival"; "it was educative. It informed us on how deadly the virus was and how we can prevent ourselves*". Other descriptive characteristics of the educative/informative messages were the relation of issues in the messages to daily activities of the people for their common understanding. There were also exceptions to the content of the messages. In the exceptions, the messages were said to be general, not sensitive and not specific enough to practically guide and motivate compliance. Emphatically, the educative or informative responses for the messages were often attributed to the framing of the Ebola messages in the ethnic languages and their dissemination by ethnically identifiable persons, approaches, and structures of communication. Example is this response by a participant "Simon: *And somehow you hear on the radio, you will not understand the English very well, but with those on the field, they will make it simple for you."* The linguistic cultural characteristic input in the message design, amplified by the source in the dissemination, positively complimented message processing, understanding, and reactions.

The insensitivity of messages was also discussed in relation to the descriptive code of causing disunity in families or relationships. Nuclear and extended family members, partners, and good friends felt shunned, neglected, disrespected, and unloved when refused entry or not given audience by persons believed to be of blood relations or loved. The reason for the development of such thoughts and emotions was the advice of Ebola messages against touching, avoidance of visiting/movements, and avoidance of unprotected sex. A research participant named Richard summarizes the perceptions about the Ebola messages as follows:

> "*….so it created the atmosphere that one could not understand each other.*"

Owing to the pluralistic context of culture in Liberia, the above-mentioned acts which were at variance with the cultural values of the people were not easily appreciated as disease control measures. Rather, various connotative meanings including pride were assigned for the actions that accompanied the messages. Functionally, the behaviours that were discouraged fundamentally promote societal harmony and strengthen psychosocial and coping needs among the people. Their discouragement and the messages in particular were, therefore, interpreted as an affront to the culture.[71] The effect of the seriousness of insensitive nature of the messages to the culture could be inferred from the direct submission by Fred:

> *"This Ebola it damage some part of our culture. It never did well with our culture because those, those, of cause those messages that came about telling us not to do XY thing and those who were trying to let's say… sat on it(kept strictly to it), this kind of messages, it did not lead us to what is Ebola, so they were just broadly selling and creating fear in us.**(started talking emotionally from this point with a high pitch voice)** It's just the broadly selling… that created fear in us that made us to go on a rampage to be shut down. So, it did more harm within our culture. Because if they have not brought this kind of messages that has fear, we could have better catered for our people who are having the disease and sicknesses. But after they created this fear thing in our mind, we run away from the people, so our culture's dimension got cheated totally."*

Embedded in the disuniting factor of Ebola messages was that of anxiety upon hearing that one personally has Ebola or a family relation has tested positive for Ebola. A sense of tension and agitation was created in the person or family and sometimes among neighbours because of the fact that the messages mentioned initially that Ebola kills and Ebola has no cure. One such state of anxiety created in a person upon receiving the information on one's Ebola status is provided by Bernard, an Ebola survivor:

[71] The significance of the burial practices in the psychosocial and coping needs can be inferred from the narrations on burials provided in chapter 6.

> *"Hmmm, personally, I will not announce in public that I have Ebola… Since it's now that I understand that Ebola. Yes, it made me to feel sad, you think about your dead, and sometimes, you become very very sad because of a thing like this… this virus… that will render you completely incapable and make you feel bad… Actually, the very first day they came to me at, JFK…, they told me… you are Ebola positive… I told them buuutttt…, you know, even when my family called me, I didn't even want to pick the call to talk to them. But what can you do, you just answer them. So myself, I became… I was almost like a wounded lion, but what can you do? You can't move from where you are to get back because you start to think that, there is no cure… one cannot get cured, so you knew you were going to die. So the only thing that you do now, you pray. You pray it will change. You are there with fever, who will help you, who will help you? You will be infecting others… Why did I get this thing here…, your only precaution here…, who can answer you… how can you get healed… only God can solve your problem. So your approach will be not to tell anyone that you have gotten Ebola. Yeah! Because everybody that you will tell, will tell you that you are going to the centre (ETU)… you will go to the centre. Even the way they will announce it to you…the way they will look at you… look at you and tell you…, where you sitting we cannot help you. You will hear this from big people, who will come and tell you, you are positive…. So you know that you going now (you are going to die)… you begin to think seriously. I pray with you… you will get angry, you will worry, you will drink down."*

The above remarks indicate that the messages were in the philosophical sense educative, but psychosocially not affective.

Comparing the descriptive categorisation of messages for educative and incomprehensible in in matrix 7.9, the assertions that the messages were incomprehensible cannot be strongly purported and generalised. The categorisation of messages as incomprehensible by participants was not strictly considered per the scientific attribute of lack of understanding due to the technical nature of words/phrases or the grammatical composition of the messages. The messages it could be attested to had little or no medical jargons, therefore, the lack of understanding of messages cannot be assigned to education and knowledge levels of the people. Rather incomprehensibility was perceived in terms of inconsistencies in the content of messages compared to existing experiential knowledge in cognitions. Thus, people could not reconcile intuitively how practices or behaviours performed since time immemorial would suddenly become problems for which reason the practices have to be abandoned. Example of difficulties in reconciling experiential knowledge with the

recommendations of the Ebola is cited by an Ebola survivor as follows; "…*even when my mother died in my hand, there was nothing sure that Ebola is real because the people talk about running stomach, in the country, vomiting was there, running stomach was there before Ebola come*…." Thus, the similarities of Ebola symptoms to commonly occurring ecological disease affected the recognition and understanding of the messages. Notwithstanding, some of the standard English messages broadcasted on the media were not easily understandable to the less or non-educated ones as cited by Victor: "*Some people like us, but me, I knew when they break the English down I can understand it but they carry higher I will not understand it. So when they talking on radio you will not understand it, except you are well know it.*"

From a metacommunication perspective which is explained as "message about a message" by Saarni (2013), the actual meaning in the messages based on the verbal and non-verbal aspects of a message was not effectively integrated in the message encoding to positively impact decoding. Cumulatively, categorising the messages either as positive or negative in the affective functions of a message (the communicative impact on emotions and intrapersonal processes) revealed a general negative perception of the Ebola messages. The negativity of the messages was highly connected to the embodiment of cultural values, beliefs, and norms that determine the appropriateness or otherwise of actions/behaviours than to the simplistic or superficial connectivity between the vocabularies of words, message processing/understanding and outcomes. This brings to the fore, the need for identifying and understanding the core factors that mediate and motivate information processing in cognitions in a persuasive communication, both intrinsically and extrinsically.

The research data indicates that the context of culture and its functional complexities in a person is basic to the elements/factors of information processing. Culture is, therefore. intrinsic to information processing in any communication context irrespective of language and other socio-economic characteristics of the communication partners. In this vein, the rhetoric of rationality often argued from the logics of education and knowledge levels is limited. This is because the absence of a factor/element from among the totality of factors/elements that moderate information processing and reactions in a person affect message decoding. That implies in

communication the factors that affect information processing including values and the ecological embodiment of the person as well as the general needs for human adaptability cannot be neglected in philosophical discussions of message comprehensibility. The interrelationships between the elements core to a person and their influences in information processing and intention formation is an essential element that should guide the modelling of interfaces for context specific epidemic management in behaviour enhanced disease transmissions. The identification of the main element(s) could, however, be attained through the identification of interconnectivities in elements of information processing and receiver/decoder preferences for message sharing which is considered as the next sub-section.

7.4.4 Interactional relationships of channel/source preferences versus information type preferences

The focus of this subsection will be the presentation and discussion of the relationships between the various preferred channels and the type of preferred information. The aim is to explore in detail the precise and underlying factors that moderated information processing of the Ebola communication as a form of concept map for identifying communicative cues. The analytical tool adopted for the purpose is the code co-occurrence model of MAXQDA for analysing and visualising relationships between categories.

In the qualitative analytical function, the different information sources and channels in behavioural motivations to information processing of a communication system are juxtaposed against each other. From the multiple codes frame, the conventional channels of information in a communication system are related to the actual sources of information that aroused behavioural motivations/reactions in research participants. This is further juxtaposed against the type/nature of information to show preferences for sources of information. The juxtaposing of the general (sources providing information on Ebola), to the specific (source of information by the respondent that affected information processing) and further to the preferred/predictive (future preference) information channels as they moderated information processing and

behavioural outcomes are then visually displayed. The generated figure 7.1 from the analytical model visualises relations in the categories.

In the figure, the interconnectivities among the communication elements and decoder preferences are displayed by the connecting/broken lines as automatically generated by the MAXQDA analytical software. The visual presentation is logically explicated in the broad frame of the Ebola communication codes to show relationships or interconnectivities. Primarily, within the interrelationships of the map one identifies instances in the research discussions where the same code/factor was referred to, to either expatiate a point, is given as a reason or cause for some behavioural actions or provided as a best approach to the related Ebola communication elements.

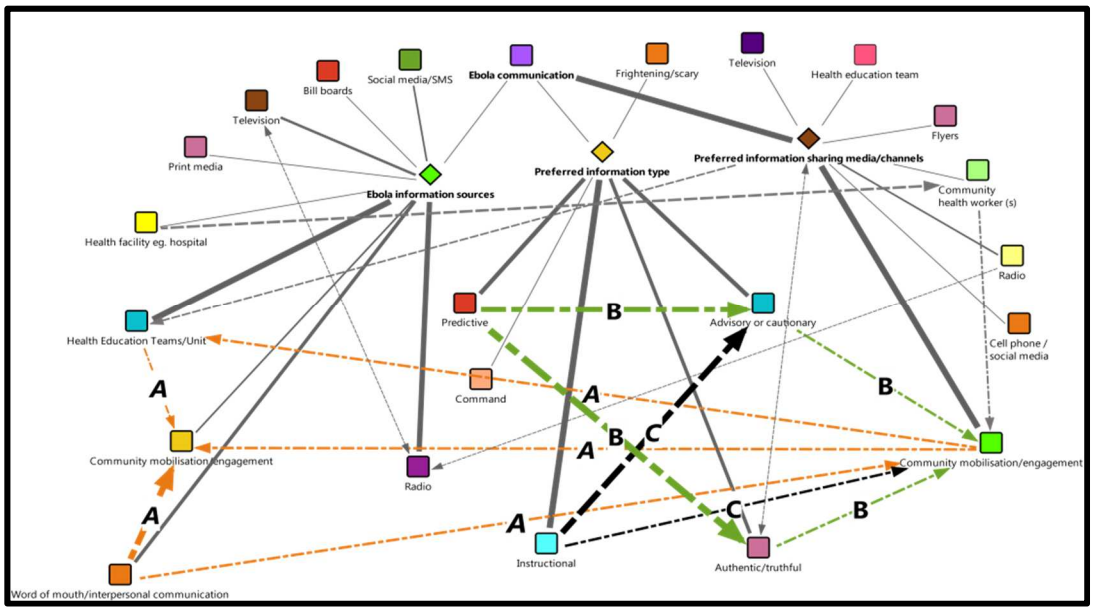


Figure 7.1: Interrelationships in Ebola communication elements

Juxtaposing parent codes, including the sub-codes of information sources, information preference and media/channel preferences against each other, the geometric shapes A, B and C are visualised. In A, health education unit/teams, community mobilisation/engagement, word of mouth/interpersonal communication for sources of Ebola information and preferred information sharing channel is visualised. In B, the linkages address the characteristics of some of the elements of community mobilisation that makes it a preferred channel of information. CB, on the other hand, describes the type of the preferred information in relation to the preferred channel (community mobilisation). The interconnectivity shows a verbal/oral interpersonal

communication preference among the research participants to non-verbal communication. The generated relationships in the model are consistent to the cultural approach of information sharing, which is basically interpersonal and oral in nature. Accordingly, a communication source and media that is identifiable and common to the cultural context of the people is preferred above others. Reasons for the preference are synonymous to the characteristic functionality of culture in a person by which understanding is enabled. Aforementioned, this function of culture in the enablement of understanding occurs through shared/common language; the unwritten standards set for actions (norms), and the lenses for self-recognition in social identity.

Another index aspect in the preferences is that of information type. Five (5) types of information were considered; namely, predictive, command, frightening/scary, authentic/trustworthy, and advisory/cautionary. As it is characteristic of the high-context [72] culture, the frame for the assessment of the authenticity of information and its arousal of action is not necessarily dependent on the direct and explicit descriptive words employed in the process of communication. Rather, the authenticity of information is perceived relatively in its predictive qualities [73] within the cultural conceptions of reality. This is depicted in the model by the strong relationship between predictive and authentic in the preferences of information in behavioural motivations. Measures of authenticity or trustworthiness of information for reaction often emphasize source considerations in relation to social identity and the culture's top-down decision-making approach to arouse information processing and reaction. This consistency is seen in the relationship between authentic and community mobilisation as the preferred channel of information sharing in the model. Owing to these cultural

[72] High context of culture as used here derives from the definition of Edward T. Hall (1976) (p.39) where meaning in communication according to him is made through implicit contexts involving gestures, tones, nuance and social. However, as used in the frame of health and intercultural communication management of this dissertation the term is defined from the perspective of a cultural map in intercultural communication using the characteristics features of trust building, communication, persuasion and decision making as well as cohesion and separation of groups of people. Herein, high context of culture is considered as a system of culture where communicatively trust is based on relationships, with the use of nonverbal cues forming essential aspects of the communication process; messages are implicit and their meanings are found in the words metaphorically used in the communication; persuasiveness of actions are based on practical approaches or application first with a high sense of familyhood existing among persons from the same tribal or geographical context.

[73] The research definition for predictive was being able to realistically show futuristic differences between current situation/problem and recommended actions

characteristic influences, information that is rationally and visibly authentic and utilizes the rightful descriptive words in the information may still achieve limited levels of information processing and reaction arousals.

Furthermore, another characteristic preference for information aimed at persuading change according to the research analysis is its instructiveness (tells precisely what to do or uses practical approaches). Contextually instructive information is couched in advisory tones of ironic idiomatic expressions to motivate reaction. The message content and presentation adapt metaphors and tones in their formulation and communication to guide message decoding. From the metaphor and tone constituents of the message, the advisory and predictive outcomes of information are relayed in the Liberian cultural context of communication to psychologically arouse and affect emotions and intention formation to persuade action. Simultaneously, these cultural contexts of communication and persuasion manifest in the code co-occurrence analysis model above. This evokes the interplay of the functionality of culture and its characteristics among the elements that effectively impacted persuasive communication and behavioural changes in the provided preferences. From the research analysis, the interconnectivities in the preferred presentation of information to behaviour change is triangulated to show strong interconnections between predictive, instructional and advisory messages, with predictive and authentic also having very strong interrelationships.

The relationships in the code co-occurrence model further draws attention to the context of persuasion or motivation as one that is biased towards lived experiences[74] and practical application in the assessment of capabilities. Herein, practical application in the assessment of capabilities by the people are understood and considered holistically from the perspective of the availability of essential variables needed for a person to competently and successfully undertake an action with minimal effort. Constituent in this perspective was the need for the reconsideration and organisation of community visits/outreach programs as part of the communication management system on the Ebola. The community outreach programs though appropriate and

[74] The motto often used is “seeing is believing”. Experience involves past and present occurrences/happenings and is used to assess and determine type of decision to take or action to initiate

effective were inadequate to singlehandedly influence behaviour change and enhance change management goals due to the low perceptions of capability. This necessitated the complementation of the educational/awareness programs with the distribution of sanitation materials and demonstration of practical hygienic approaches to infection prevention/avoidance. The materials (water storage containers fitted with taps-buckets and chlorine) provided and the practicality of the appropriate recommended behaviours (proper way of washing the hand with soap/ use of disinfectant) from the demonstrations enabled self-efficacy or capability assessment to rise in the people and reduce Ebola infections. Additionally, the recommended behaviours were then incorporated in the daily activities of the people as the recommended behaviours learnt proved efficacious.

Stemming from the fulfilment of the perceptions of capacity to enact the actions; thus, the practicality and simplicity of the recommended behaviours and their proven efficacy in infection reduction, behavioural intention formation increased to enhance persuasive Ebola communication and management. In the light of the above, it could be concluded that community mobilisation though preferable and a better persuasive option to behaviour change compared to the conventional media is capable of effectively arousing information processing and behaviour change but under conditions where perceptions of capabilities (self and collective efficacy) are high.

From the patterns of relationships in figure 7.1, the interplay between culture and communication in the behaviours and the patterns of influences of the cultural approach of communication on information processing manifests as the interconnectivity in preferred information type to communicate change and community mobilisation/engagement in the channel. The influences of the art of communication in the culture in information processing and outcomes in message decoding could be inferred from the matrix 7.10 of participants` responses in the characteristics of the content of messages and preferred approach of information sharing below.

Matrix 7.10: Preferred features of a persuasive message

Consensually, responses of the research participants indicate that communication that persuades or motivate them to enact the recommended act(s) is one that is understandable and practical in characteristic. Entertainment which is a common cultural approach to communication in Liberia was, however, not the major considerable persuasive factor, though that is the next in preference. Impliedly, the entertainment format of an information sharing strategy may not necessarily arouse the maximum level of information processing to motivate behaviour change if the content of the entertainment is perceived as incomprehensible and impractical. Thus, other cultural indices, including language that enhances understanding and is sensitive to the culture must be included in the entertainment strategy to arouse information processing and motivate change.

Next in preference to entertainment as could be visualised are advisory/cautionary information forms, which are also common in the art of communication in the Liberian culture. Formal information in print and written forms were generally not preferred. Partly attributable for the non-preference of published or literary sources for information sharing is the generally low levels of education among the populace and also the weak economic status/ high poverty levels which affect basic needs and purchasing powers. Nonetheless, contributory to the least preference is the cultural approach of information sharing which is oral and interpersonal in nature. This oral and interpersonal information sharing approach inadvertently limit the preference for literal information forms since it does not adequately arouse affective emotions in information processing in the communication process.

Essentially and especially in multi-ethnic settings, the complexity of message comprehension in information processing or decoding in communication is related to

the complexity of the linguistic features and affective functions of the message in terms of composition, context of application, gestures and in the tones of speech of the message and the channel of communication, This substantially affects persuasiveness of communication and behaviour change, especially in situations where persuasive communication is externally designed and communicated conventionally with little or no incorporation or consideration of the culture of target audience as was the case in the Ebola outbreak in Liberia. Though simple linguistic phrases of "do not" or "don'ts" prefixed the messages, they initially failed to arouse information processing and motivate behaviour change because of culture's functional influence in message comprehension. The dimension of the consistency of culture in the function of a person through the complexity of language features to decoding in a communication process is explicated by the responses to the information preference forms on features of a persuasive communication. Thus, for effective message decoding and persuasive behaviour change to be achieved, the functions of culture and the complexities of linguistics in communication need to be harmonised.

The consistency of the above remark to the research data in matrix 7.10 and figure 7.1 on culture and cultural variables as they shaped message decoding and persuasive behaviour change could be inferred from some of the sampled responses of respondents below. For example, citing comprehensibility and practicality and the approach of communication from the linguistic and entertainment perspectives as the reasons for messages that persuaded behaviour change, Davidson made this comment:

> *"…yes the song that I was saying, that the people there sung… had words in it that really used to move me (persuade me)…."**Ebola now come e can kill quick quick"**…, When I heard that or people hear **that kind of word** it **can kill quick quick**, you feel the other words that are behind it, even if you do not understand it, you try to be careful because of it kills quick quick."*

Similarly, Isaac, a traditional healer, noted that for information to be comprehensible it needs to be practical and simple by relating it to the daily activities of the people:

"so information…we want to get a good information and source that from our own practising that is… wash your hands before you eat…if you touch anything you should wash your hands…."

In the direct and unedited pidgin English submission from Ben, a relatively old research participant of the Du Pond Road study area, indicated that the use of local language in communication also enables understanding for the arousal of information processing and persuade change. He remarked; *"put it in that Bassa because some people you see, old man you talking to, because we are not understand the English, you got to put in the Bassa dialect or your Kpelle, you put in the Loma, the vernaculars…"*

Additionally, an Ebola survivor named Abubakar also noted that messages should not only be comprehensible, but should also enable adequate prediction of outcomes to arouse information processing and reaction. His remark is as follows:

> ***Abubakar (Ebola survivor):*** *"the first thing is that message is a something that affects people, message is a phase that also gave information to people to be rescue from thing that is ahead of them. so message to design for a people to carry out is that, the message should be designed to the common people, should be as plain to their local language" (First and foremost, a message affects people and is a process involving the prediction of an event to enable people to plan ahead or be proactive and avoid experiencing those predicted effects. The message should, therefore. be designed to the ordinary people in the simple and local languages).*

Thus, the cultural and linguistic preference characteristic of message design and content does not only relate to preferred information approach, but it also has a relationship with behavioural outcomes.

Rhetorically, the assessment of the effectiveness of the communication strategies and modes (both verbally and non-verbally) in the management of Ebola from the code co-occurrence analysis indicates that the traditional approaches of information sharing are more effective and efficient in arousing information processing and reaction in persuasive communication. Thus, visiting people in the communities and homes (house-house or door to door) to share information and provide specific instructions on how to practically prevent transmission and manage Ebola cases is also more preferable to respondents and effective than the conventional media approach.

Furthermore, identifying and understanding the relationships and influences of structures of a cultural system in behavioural motivations may be essential in the planning and design of health communication strategies or for behaviour change programs. Of particular interest are the structures of high-context cultural settings at the macro and/or micro system level. The structures in the respective systems mediate cognitive processes owing to their oversight authority in the local governance polity of the systems and in the determination of system's values, norms and beliefs and their enforcement. In cognitive processes of intention formation of the person, the structures function in the assessment of meanings and expectancy outcomes for decisions and courses of actions to take. The meanings and views of messages/information for their desirability are perceived through the lenses of the structures which determine desirable actions and mediate behavioural outcomes in the society. Thus, the characteristic and functionality of the cultural structures manifests as influences in message perception and decoding/ interpretation in the outcomes of communication.

In sum, the above analogy of these relationships exposes the fact that the presence of cultural cues in a message are useful in arousing information processing in cognition. However, the mere presence of or utilisation of features of a culture in a message is inadequate to motivate behavioural changes. The eliciting of intention formation in behavioural change motivation through information processing arousals must rather parallel the ability to enact the recommended behaviours following which cultural factors would then fully motivate behavioural changes. Ability here includes resource availability and processes involved in the enactment (practicality). Thus, messages must be able to arouse information processing and at the same time resources for enactment of the recommended behaviours must be available to complement information processing arousal for behavioural change to occur. Either than that, information processing may be aroused but no appreciable level of behavioural changes may occur.

In the above analysis the interconnectivities in the dynamics and complexities of functions of culture in the patterns of meaning making and behaviours to persuasive health communication on Ebola had been explicated with respect to what arouses information processing and drive intention formation. The discussions concentrated

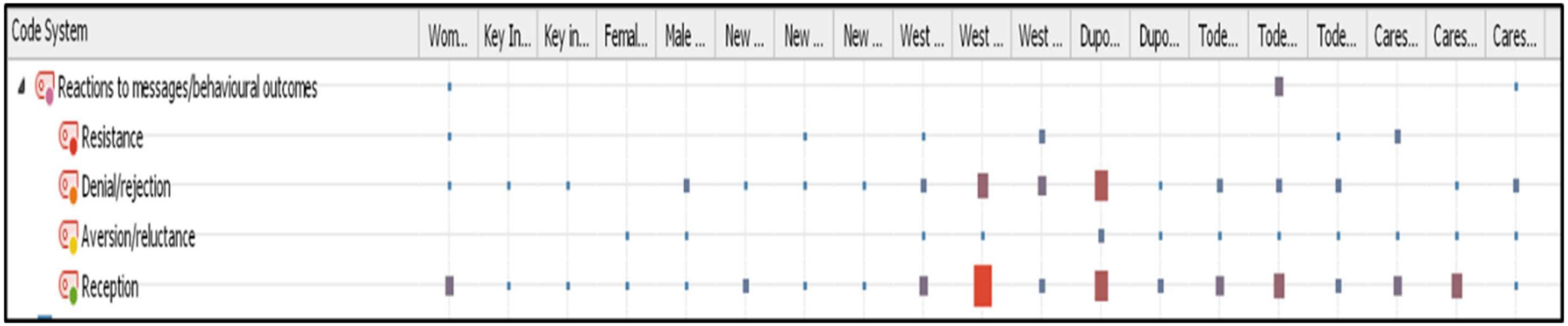
mainly on the communication elements of sender, media and receiver dimensions, excluding the feedback element. In the next section, consideration is given to the feedback element in a communication process for the formulation of a holistic understanding of the interconnectivities of all the elements in the Ebola communication management process and how culture functionally interplayed on the elements to affect the communication system and strategies. Conceptually, the feedback was considered from the perspective of behavioural reactions or outcomes to the messages which forms the presentation and discourse of section 7.4.5 of the research objective of exploring the nature of content of messages and their influences on perceptions and behaviours.

7.4.5 Behavioural outcomes to Ebola messages

The rational for the consideration of feedback to messages relates to the essentiality of identifying and understanding in a comprehensive framework, the significant factors upon which message decoding to Ebola information processing among the people was affected and directed or moderated by the cultural system of Liberia. Within the framework, message encoding and decoding in a communication process could be explored and understood either as integrates of culture as a system unit (factor) and culture as a process of decision making (assessments of values, norms, and beliefs considerations). In so doing, culture will be explored as the dynamics of system complexities (linguistics, social structures and influences, parameters of socio-economic coping, including psychosocial significant arousals) functional in the processes of information processing and behavioural motivations. In such a frame, the totality of a persuasive communication management could capably assess the root causes of complex behaviours in the appropriate perspective and effectively adapt processes and strategies to indices that arouse information processing and persuade behavioural changes in a relatively short period of time. In brief, feedback consideration is to enable the verifiable identification of inputs and the vivacity of their functional relationships in communication and information processing in behavioural motivations for a holistic modelling or design of a system-level persuasive communication model.

According to the research analogy, reactions to the information communicated were varied and had relationships in the Ebola outbreak trends/phases and communication strategies in the management system. Noteworthy, the timing of the research (after the declaration of Liberia as Ebola free) impacted research responses to this question in comparison with pre-research data, but insignificantly. This is because respondents in most cases specified the exact period within which the response for the given behavioural reaction is being referred to/provided. Some of the phrases employed for the contextual placement of responses were, “when the Ebola came many people did not believe”, “when Ebola came first/when Ebola start….”, “after many people have died…”, “we used to deny…”, “some people were still doing it…” etc. Additionally, a check for consistency in the responses for response credibility per the behavioural reaction were undertaken by crosschecking the responses with other related responses (reasons for the behaviour) for both their specificity and generality. This was done through the mapping of interconnectivities in the categories of codes and sub-code analysis. By this approach, understandings into whether the response(s) provided was specific to the person or general were also obtained. The code co-occurrence utilized in the data analysis enabled a higher degree of certainty in crosschecking the response credibility for the behavioural reactions in the analysis. The interconnectivities are to enable the identification of interrelationships between culture and behaviour in the spread of Ebola and interrelationships between health and culture in general. In the light of this, other independent researchers should be able to verify the credibility and viability of the data or validate the research output.

The feedback consisted of the four fundamental behavioural reactions by which message understanding or message decoding assessments in outcomes could be assessed. The broad behavioural outcomes or reactions to message parameters as provided in matrix 7.11 are reception, denial/rejection, resistance, and aversion.



Matrix 7.11: Behavioural outcomes of messages

The conceptual definitions of the parameters adapted in the behavioural reactions are as:

- reception (acceptance of the message and performance of the recommended behaviours);
- denial/rejection (firmly rejecting the truthfulness of messages and recommended behaviours due to fear, mistrust, and anxiety);
- aversion/reluctance (lack of understanding due to inconsistencies between the known/lived experiences and the unknown, uncertainty, lack of confidence in the source of the message owing to identity differences/characteristics between the sender and receiver);
- resistance (acts of refusal: demonstrations/protests, disruption of activities/violence, issuing of threats).

According to the data in matrix 7.11, a high number of respondents could be visualised for adherence to or reception of the messages. As already noted in the introduction to this section the data of matrix 7.11 is inconsistent with the literature or official Ebola reports on behavioural reactions and on the challenges to Ebola management in Liberia as reported by the key informants Hon. Nyenswah, Rev. Sumo and Ms. Eluwaga. Following are the submissions of the three on their responses to the question on the channels used in communication and their perceptions about the contributions of the channel to the containment of the Ebola.

> ***Hon. Nyenswah***: *"when the epidemic broke out, actually we placed emphasis on conventional interventions, focusing on public communication through the radio stations and Television. But we realised that the incidence and fatality was still increasing despite the daily broadcasts in the media. It was very challenging. We were holding update meetings every day, the technical team. People were denying that Ebola was here. There were all sorts of rumours. There was disbelief, mistrust and distrust in the government and health workers due to rumours among the people and fear of stigmatization was also contributory to the problem and denials among the people. Actually, it was not until we involved the chiefs, faith-based organisation and community leaders in our activities, when we streamlined our incidence management system by putting a focus on social mobilisation that we saw a gradual change and decline in infections and deaths through to the final declaration of our country as Ebola free. The involvement of the engagement of the communities through the traditional leaders was very important in changing behaviours because community transmissions was the main reason for the continuous spread and*

growth rate in infections and fatality. Behaviours were the major cause of the scale and damage of this epidemic. A lot has been learnt from the initial efforts made towards the Ebola epidemic.

Ms. Eluwaga: *When the messages were not changing behaviours, we had to call in anthropologists to find out the reason following which there was a twist in the messages to address the issues of the people.… Eventually, clear strategies were developed using community engagement and solutions which proved very useful in gaining the trust and support of the people in reporting cases, quarantining the sick for 21 days in the community.*

Generally, much of the reception provided by research participants were associated with the period of community mobilisation and were related to the practice of hand washing and calling of the Ebola hotline for reporting of cases at a later stage in the outbreak phases. Furthermore, participants were more inclined to relate issues to the third phase of the Ebola and to the community mobilisation activities if moderators failed to follow up on responses. To put in perspective, the phases of the Ebola outbreak according to the key informants are grouped into three (3) major phases, with a fourth and final phase marking the period after mid-November, 2014 – May, 2015; thus, getting to a state of control, where infection and death rate declined through community involvement in the management system. The three major phases are medium (March – mid July, 2014), high (mid-July to mid-October, 2014), and low (November, 2014 through to control/complete containment phase). The final phase consists of minimal infection chains to the complete eradication or zero mark (May 2015 – September, 2015). The final phase was, however, characterised by occasional sporadic flare ups that were quickly contained till the final declaration of the country as Ebola free in April, 2016.

Characteristically, patterns of reactions to the Ebola messages display corresponding patterns of increase or decrease in death rates in the various trends for the incidences and deaths. For instance, considering the death trends, there was a steady growth in the rate of infections and deaths recorded between end of July and October in the first phase of the outbreak. This was also the phase of denial by all and sundry, including the trusted traditional/community/religious leaders of the viral causation of Ebola. Parallel to the denials was the non-involvement of the traditional/community/religious leaders in the communication management process in this phase of the outbreak.

Within this phase cumulative deaths also peaked (around end of September, 2014) reaching a figure of 3,696 deaths in Liberia. Appreciable declines in death rates were said to have been recorded from the end of October, 2014 through November, 2014 and beyond with the involvement and support of trusted and valued sources of information.

Behavioural changes / message reception was conditionally moderated by factors of no direct relation to the technicality of the message itself. The moderations are explorable from the complexities of culture and their functions in the meanings and perceptions of reality, not excluding the religious dimensions which often assigns infection to divine choices. The religious dimension was, for instance, convincingly perceived among most traditional healers and highly superstitious individuals such as Wilson.

> *"***Wilson (traditional healer)**: *to my understanding Ebola has so many signs but then this Ebola that we are talking about is something like a sickness that people overlooked when it was coming here. Later on when it was getting serious before people started taking precautions.* ***And then when you come on the number of societies; the way Ebola catch (infects) you is different, the way Ebola catch me is different. But those that were already chosen by Satan, these are the people that receive Ebola. Then at the end, the way you free is different. The way you free from Ebola, e different from the way I free from Ebola.*** *The way I will explain it openly is different, if I know that you are a member and you and myself in the same society, the way I feel from it and the way I know it I will explain it in detail. That is how I will say it[75]".*

Based on Wilson's response, it could be inferred that message reception was specifically persuaded by experiences with discrepant rises in death rates. The basis of the religious perceptions held and propagated within certain circles are rooted in the relatively short period of time within which deaths occurred or were recorded among members of given families and in given communities. The discrepant and high death rates recorded in families' generated fears in the people to undermine the religious perceptions and persuade behavioural changes. Subsequently, value judgements in

[75] Societies referred to are and the various sub sects within the Poro society. This traditional healer believes and relates infection and death from Ebola to sin and types of religious acts/acts of appease for the cleansing and restoration of a person from the respective sin but fails on grounds of secrecy to disclose in details because of non-membership of the moderator to a Poro society.

thought processes underwent adjustments. A reverse thinking process from the individual to the collective, which is unusual of the culture, then ensued. In the ensuing changes, perceptions of reality or meanings of life as dependent and interdependent through relational connectedness in social harmony underwent challenges with concerns for the survival of the individual and immediate family members, taking precedence over that of the societal harmony. An example of how people failed to comply with some of the cultural norms and values is presented by Elena. According to her, her sister fell sick in the village and she was informed that her sister needed help but she failed to visit her sister. Some days later, the sister died without her going to visit her. This is how she narrated her story:

> *"in the interior, there was another case there. The people in the community were saying that my sister was going to die and she needed my help citing cultural reasons, but I failed to visit her and she died. For me, the things that people say when one refuses or report someone, was making people to go through very bad emotional experiences since, in our culture we need to show love and help each other. It was because of these. These made people to deny that Ebola was in Liberia and they hid the sick"*

Philosophically, the main aim for digressing from the value of collectivism to individualism was, however, for the achievement of collective survival benefits in social harmony and not individual benefits per say. For example, the cultural dynamics to value judgements and norms in perceptions of social harmony promotion as was refined in terms of movements (unplanned/unannounced visits etc.), had the overall goal of maintaining social harmony. Explicit cases to the restriction of movement both at the individual, household, and even at the village level for the purpose of both individual safety and collective security of communities were cited in the studied rural areas of Caresburg and Todee.

In Caresburg one of the elders of the village, ***Alfonso*** remarked: *"we didn't allow people to go from village to village"*. Similarly, some communities in the Todee catchment area also mentioned that they restricted strangers or non-community residents from being accepted or welcomed into the communities as narrated by Cosmos;

> *"…prevention, even in my town, the people make a law there that if any stranger from elsewhere enters in the town, nobody should accept that stranger in the town to stay in the town because Ebola stay around. So*

what the people used to do, when somebody enter into the town we tell you to go back to where you came from. That is what we do".

In an extreme situation, Evelyn, also from one of the Todee catchment communities, noted that people hid themselves during the day in the forest to avoid human contacts and came home in the evenings as a protective measure for the whole family; *"…me self…my neighbor's son got it… the whole family died… I left town for the bush with my children".*

Other remarks on receptive reactions to the Ebola messages and the context of reception relate to personal and gruesome experiences as cited below:

Jasmine: *"for me I say yes e true, when I see big car carry plenty body take for crimination- (I believed it was true after I saw many corpses being transported in big trucks for cremation)"*

Stephen: *"When Ebola started, the people said it's not true. We denied the information. Some said that president Sirleaf want money. We didn't believe it. We denied it. But when people die plenty we believe. No one wanted to die."*

Message reception was thus enabled by personal experiences lived from the effects of Ebola which led to increases in perceptions of susceptibility to redefine social harmony. Nevertheless, the utilisation of cultural communication approaches and ethnic languages further enhanced identity indices in the message processing, understanding, and reception to a greater extent as indicated in the sampled responses of section 7.4.3. The influences of the cultural variables in the enhancement of persuasive communication could also be traced to the nature of trust of high-context cultures which is based on relationship/identity characteristics in the source of information. Given the intrinsic moderations of "source–identity" relations in information processing and intention formation, it could be said that communication would be efficacious only under conditions where credible cultural variables manifest. Accordingly, the presence of credible cultural variables in a communication would arouse identity features in information processing and elicit positive emotions, for directing psychosocial perceptions and understanding. Following, commonalities of values and norms that assure affinity and boost/motivate confidence for the formation

of the recommended behaviour as elaborated in the above responsorial examples is needful.

Even though the matrix indicates a high level of receptivity to the messages, a broad and cumulative analyses of responses in the frames of either positive or negative for message effectiveness, shows a generally negative behavioural reaction to the Ebola messages. Comparatively, except for the adherence, all the other 3 parameters (denial, aversion, and resistance) on the behavioural reactions were negative; hence reactions to messages cannot be generally classified as positive for all the phases of the outbreak. Likewise, messages cannot be considered as effective to changing behaviours from the onset of the outbreak. A cross section of the responses provided below on the outcomes does confirm the generally ineffectiveness of Ebola messages in motivating behavioural changes.

Given the general negativity of the impact of the Ebola messages, it is also necessary to explore and understand the nature in which the general ineffectiveness of Ebola messages manifested in the behaviours of the people. The purpose for the exploration is the identification of the moderating factors that influenced information processing in the given behavioural outcomes. The first of the behavioural reactions to be considered is resistance. Specifically acts of resistance, for example, were exhibited through intentional touching of the sick or dead, which was often referred to as Liberian attitude of stubbornness and carelessness[76]; denial of entry into homes; and forceful prevention of the case management team members from transporting the sick from homes, or putting the dead in protective bags for burial. An example of resistance in behavioural outcomes of messages is provided by Simon and Faisal respectively. Both narrations have been edited grammatically;

> *"When somebody said something, you just looked at the person. My own brother died and when he died my mother went there. She went into the room where his body laid. She said that his spirit was there and that he was our brother but I told her that Ebola was around. She asked me whether is it because I am complying with the information that the people are sharing, that is why I do not want to go with her. When she went there she entered the room*

[76] Most cited under cultural requirements in the code co-occurrence matrix of behaviour in map 2 of the preceding sections

where the people were bathing the body and I learnt there were 7 people who entered the room where the corpse was being prepared for burial. When they were about to go and bury the corpse, the Ebola case management team arrived. They protested and said he did not die from Ebola but from yellow fever and that was how they went and buried my brother traditionally. They carried and transferred the body for burial without even thinking of distancing themselves at a distance of 1 meter. And my mother said that it was not Ebola but just malaria. Then she also started having symptoms of headache and started vomiting. So then, everyone became scared and started protecting themselves from getting infected. She did not even live for 2 days after displaying the symptoms and she died…"

"…when contact tracers go to a place where they are gathering information then the family member of that place will reject that, saying that person will not go anywhere and they will put up resistance and what have you. It happened in many areas that we worked with to intervene. So these are some of the challenges that we have".

Resistance in behavioral outcomes to messages as enacted in the above examples were attitudinally and affectively influenced by uncertainty. The dimensions of message denials[77] bothered on the reality of Ebola. Denials of the reality of Ebola were enabled by the commonality of symptoms of Ebola to known diseases and other epidemic outbreaks in the ecological region of the country. For instance, Jane an Ebola survivor indicated that the period of the outbreak (rainy season) of the Ebola were the same as that for the periodic cholera outbreaks; likewise, were the symptoms of Ebola such as diarrhoea common during the same period. The narration of Jane below explicitly describes how the symptoms of Ebola in comparison with the known diseases of the area strengthened the denials to message. The full excerpt of Jane's description is as follows;

***Jane**: In my case, that auntie of mine who died, I actually fed her. Because sometimes we know from experience that, during the rainy season, that's the time we start noticing all these things (symptoms) more especially for diarrhoea, cholera, that's the time we start seeing these conditions because of the water that we drink, sometimes too you don't experience it. So when it happened I felt very very bad, because I allowed myself to go through the process[78], thinking it was going to come and help us. But since then, the people*

[77] Message denial is directly related with past experiences in the reasons for behaviour and is intertwined in cultural requirement. Refer to map 8.1 for code relationships and the definition of past experience and relatively detailed discussion in the succeeding section.

[78] Complied with the instructions provided in the Ebola messages and called the case management team for the necessary actions to be taken and was also taken to the ETU for treatment. But that compliant act went against her as she became stigmatised and people in the community began to shun her.

left, they don't take our things again and that's how we all get on our own self (depend on our self).

The only extreme case of resistance that culminated into highly unprecedented aggressive behavioural reactions involved the compulsory and forceful imposition of quarantine by the government on residents of West point. The quarantine completely prevented any form of movement in and out of the community to the displeasure of the people as access to their economic activities and sources of sustenance were denied without any material support from the government. Richard of West Point explains the reaction as follows: "*the information that was spread out some was false, misleading. Some were because of fear. Some really did some quarantining way of doing things, so it created the atmosphere that one could not understand each other. Some people went on a rampage.*" The acts of aggression involved demonstrations and rampaging by residents. Unlike the recorded Guinean case, however, no life of a health or donor agency worker was claimed by the inhuman acts of those aggressions.

The analysis of the outcomes of messages of the Ebola reveals both affective and cognitive responses in the reactions to messages and message decoding in particular. This implies that both factors moderated information processing but with different levels of outcomes. The discussions which are of a post-epidemic response nature perceived messages as effective in changing behavior, the effectiveness of which was tied to the process of information sharing (interpersonal approach). In the negative outcomes, however, the pattern of message decoding was predominantly moderated by affective variables within the values of the culture. Characteristically, the enactment of the negative behaviors was also more pronounced within the micro-unit of the family and at the individual level than at the scale of the larger community. This was as a result of the lived experiences from the discrepant deaths that aroused fear and need for cognitions in processes to information processing in people. Perceptions of susceptibility became heightened and reduced the general acceptance for behaviours that had the propensity to put the general community at risk of infections and destruction.

Also, from the changes in the reactions to messages (from resistance and denials to adherence), one also notices that in the stages of an epidemic outbreak, processes of learning and behavioral changes do occur even for societies with highly entrenched cultures through the experiential knowledge obtained in the unfolding phases of an outbreak. The high levels of adherence to messages are associated with the length of time in which Ebola was experienced to allow new knowledge to develop. In this vein, time needs to be identified and considered as a constituent factor in the process of message decoding as it allows unfolding events over time to impact intrinsic and extrinsic variables to information processing of a persuasive communication intervention.

7.5 Conclusion

To summarise the Ebola communication management cannot be generalised as compatible with the process of communication in the context of communication in the Liberia. The incompatibility has less to do with the technical linguistic properties of the information disseminated. Rather, the approach to communication was central with regards to the incompatibility of the process of communication to the context specific process of communication. Furthermore, behavioural outcome which indicates the nature of decoding of Ebola messages revealed that the systems of values and norms as well as time in knowledge development and behaviour formation moderated cognitive responses in the persuasive processes in information processing. Nevertheless, this is not purposively analysed and considered in the planning of persuasive communication intervention. This implies that the environment of a person irrespective of the culture affects cognitive processes to information processing, be it directly or indirectly and it needs to be understood in the organisation of persuasive communication intervention.

Basically, interactions in the happenings of the time, namely, period of occurrence of the outbreak and expectations in the larger context of the culture in terms of the portrayal of oneself as having the rightful behaviour in the society limited favourable cognitive and affective information processing. Thematically this could be categorised

as affective dysfunctions in information processing caused by uncertainty arousals in cognitions due to inconsistencies in latent and revolving knowledge. Under such conditions, meaning making and intention formation to persuade behavioural changes in contexts where people are dogmatic to change need to flexibly and strategically adapt to on-going happenings in the frame of time. The flexible and strategic adaption process would allow new knowledge to be formed and favourable patterns of processes in information processing to ensue. To this end, and in the light of the analysed data, sociocultural factors it must be noted arouse and elicit information processing and intention formation on behaviour, but it does not always moderate the pattern of information processing for the appropriate meanings to be made and for the preferred behavioural outcomes to occur.

Having presented the data for exploring the influence of socio-cultural variables on the perceptions of Ebola and in meaning making to the messages, the next chapter will explore in detail the contextual placement of behaviours and behavioural motivations in persuasive communication scientifically as an interplay between communication and culture.

Chapter 8

Data analysis: Understanding the motivators of the Ebola behaviours - an analytical interrelationships model perspective

8.1 Introduction

The rational for this chapter is the conceptual analysis and modelling of the research data, which is aimed at the development of the overall output (development of a contextual epidemic communication model) of the dissertation. Unlike chapter 7 where the data analysis and presentation was approached from a documental (studied communities) perspective and from which the generality or otherwise in patterns of responses could be verified through the locational disparities, this chapter focuses on the analytical modelling of codes and their categories in form of concept maps. The concept maps are conceptual display of the relationships or patterns in the categories of the codes and their sub-codes. Furthermore, in this chapter the question of what motivated the people to abide by or reject the messages conveyed in the Ebola communication and the underlying reasons in the motivations would be analytically considered.

In section 8.2, the respective patterns of behaviours observed in the Ebola communication are modelled subject to the reasons provided for their enactment from which varied conceptual knowledge are derived. Within the analytical model, linkages in the code with other codes are explicitly shown interactively as either a cause or effect as well as an antecedent of the behaviour in relation to the characteristics of the message. The argument generally pursued here is that no behaviour is merely enacted for the sake of its enactment. Rather behaviours are needs motivated and oriented such that the needs underscores how meanings are made of an information in persuasive

communication. The proposition is that the reason why needs in behavioural motivations are difficult to perceive and visualise explicitly in information processing may be due to the absence of conceptual analysis of the behaviours, especially when the behaviours are normatively and spontaneously enacted. Additionally, the dynamics of how the needs function in information processing are also not understood, explored, and integrated analytically in the design and implementation of persuasive communication intervention especially in emergency situations. To know how a given behaviour is motivated, it has to be analysed conceptually to understand its functional interactions in information processing and behavioural outcomes to messages. In the absence of such a conceptual analysis and categorisation of the analytical outcomes by themes, the formulation of the appropriate information in the contents of a persuasive communication interventions may not generate the intended outcomes. This argument forms the basis of the subsections that will be conceptually analysed and explored from the data in the next section 8.2.

8.2 Patterns of Ebola behaviours

Different behavioural outcomes, both positive and negative, are identifiable in the analysis of the outcomes of the communicated Ebola information/messages. A number of reasons were also outlined as accounting for the observed behavioural patterns. Exploring and understanding in a framework the patterns of behaviours resulting from the information communicated forms the aim of this section which is approached from the perspectives of the reasons for behaviour as the main code of analogical interest. Foremost to the discussion is the analytical model of figure 8.1 which visualises the empirical and philosophical explanations into the reasons for Ebola reactions in the Ebola communication management. The framework provides an experimental case for the contextualisation and verification of persuasive variables to behaviour change in a given culture and for communication management in uncertainty situations or epidemics.

Through the code correlation and code co-occurrence functions, extrapolation of interactions and relationships in the codes or categories to Ebola information

processing in the cognitions of the people are displayed in lines of connectivity as per the reasons explaining the behaviours in figure 8.1. The width of each connecting line is synonymous to the segments that the given code is referenced in the documents by participants. Additionally, it represents the saliency of issues from the coded segments for which attention has to be focused.

The parent code (reasons for behaviour) and its sub-codes had been used as the index code for the derivation of code co-relationships and for the verification of the rationality of behaviours; namely, the intrinsic and implicit intention formation variables or decision-making criteria in the cognitive processes of the people. This has been automatically centralised and highlighted in red to emphasize the variable of analogical consideration and for the identification of the relationships in the patterns of flow in the analogy. The code sub-code segments model maps out a selected code, its sub-codes and segments coded with these codes in the broad frame of the research data. The emphasis, however, is on the code itself and not the document coded. The line width reflects frequencies and the model highlights codes with very strong interconnectivity in the overall response frame. The mapping was undertaken for all the codes as they relate to reasons for behaviour from the broad frame of the sub-codes. Sub-codes with specific relationships that are indexed to the sub-codes of the reasons for behaviour are boldly highlighted in the visual interconnectivity map.

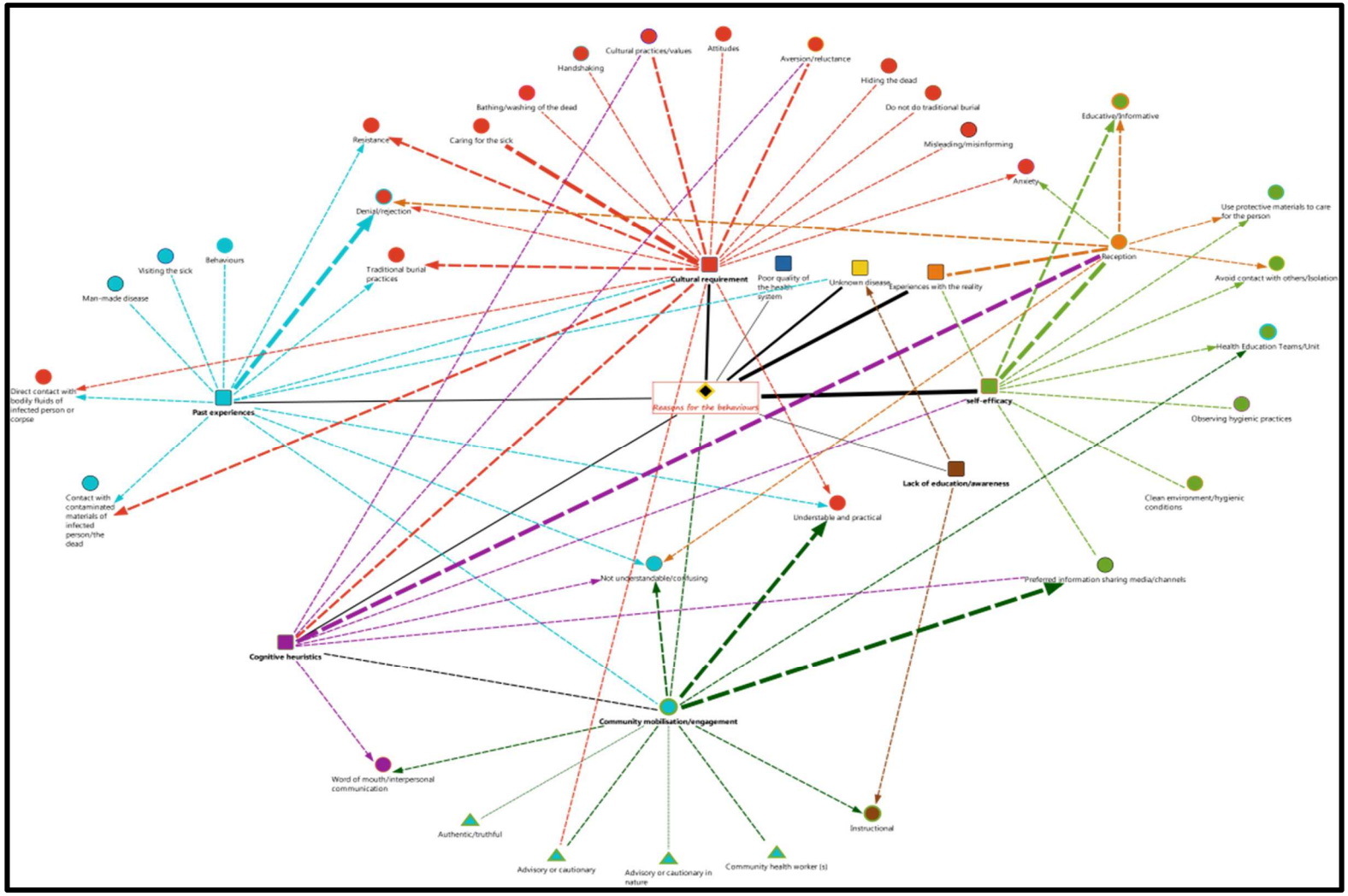


Figure 8.1: General overview of behavioural relationships in Ebola health communication management

The respective sub-codes for the reasons of behaviour in map 8.1 and their explanations as conceptualised in this dissertation are;

- poor quality of health care system (poor state and limited number of infrastructure, quality of health service provision including attitudes of healthcare workers [lackadaisical], and availability of medication),
- Lack of education/awareness creation on Ebola,
- Unknown disease (breaking out for the first time in the country, having no historical reference),
- Experiences with reality (high rates of deaths, thus, experiencing numerous deaths in the family, neighbourhood, and community in general or loved ones in a relatively short period of time),
- Cognitive heuristics (set of rules that guide a person in making decisions under conditions of uncertainty. Contextually, they are the social norms or values concerning what others would deem appropriate which is given priority over individual interests/preferences/judgements and cited as reason for behaviour. Here, perceptions of risks are assessed mainly using social context parameters in the processing of messages),
- Cultural requirement (principally acknowledged and practiced values and norms that calls for supportiveness for family members, neighbours, and community as a whole, especially in situations of uncertainty and often essential for the physical portrayal of affection and care, aimed at promoting harmony in general. The common axiom locally used is to "show feelings"; it is automatically practiced and implicit owing to its embodiment in the character formation of the person).
- Self-efficacy (confidence in personal ability to successfully implement the recommended behaviour complemented by the ease and effectiveness of the implemented actions from which personal motivations were heightened and sustained)
- Past experiences (similarities in characteristics of symptoms of the Ebola, thus, fever, vomiting, diarrhoea, and headache in relation to known diseases such as malaria and cholera; vis-à-vis the outbreak period (rainy season) of the index

case to which strong correlations to past disease outbreaks could be referenced).

In the base map of reasons for behaviour, strong patterns of relationships are provided for self-efficacy, experience with reality, unknown disease, and cultural requirement respectively. Average to low levels of relationships were recorded in the respective order for past experiences, cognitive heuristics, lack of education/awareness, and poor quality of health system. Past experiences, for instance, had analogically been discussed thematically in contexts of referencing unknown diseases. There was a general admission of education/awareness created on the Ebola. The problem, however, was with the ability to decode and enact the messages within the cultural frames (values) for information processing. This, according to respondents, was due to the inappropriate characteristics of the elements utilized in the communication process for which behavioural changes were delayed. Nevertheless, an overview of the map shows that cognitive heuristics strongly interrelated with message reception and cultural requirements to show the relationships between values and norms and their moderations in message decoding. Rhetorically, the low reference to the quality of the healthcare system for reasons of behaviours relate to the general patronage/ reliance on traditional healers in healthcare seeking behaviours of the people. The various patterns of relationships as mapped out conceptually can be clearly visualised in figure 8.1a below.

The analogically modelled patterns in reasons of behaviour in figure 8.1 contain three broad categories of conceptual relationships which will be considered as subsections of section 8.2. These are namely 1) patterns of relationships in message decoding and behavioural outcomes, 2) the relationship between efficacy and message reception in Ebola management, and 3) the relationship between cultural requirement and Ebola management. The patterns of relationships in message decoding and behavioural outcomes constitute subsection 8.2.1. The subsection argues that the totality of elements of a system, be they structural or functional elements, affect how information is interpreted and understood. Utilising the alphabetically labelled interactions in figure 8.1a, further subsections are derived within this subsection for the various elements of the system. The elements of the systems that affected and effected

information processing and meaning making in behavioural outcomes are explained within the framework of their interactions from which probable conceptual frameworks of persuasive communication interventions may deduct.

Following, and presented in subsection 8.2.2 is the second mapped relationship on the detail analyses of the inherent and precise property(s) of efficacy (collective and self-efficacy) from which message reception was enabled to persuade behavioural changes. The argument here is that, generally, per the theoretical construct of efficacy, message reception may be enabled where the assessment of capabilities to implement a behaviour is high. However, the research data reveals that empirically the parameters for the assessment of capabilities are varied and are also system and situation specific. Hence, the need for exploring in detail the dynamics and relative importance of efficacy in the relationship in persuading message reception. This identification may be useful for future utilisation in persuasive communication interventions.

The last but not the least analogical relationship of relevance in section 8.2 is the subsection 8.2.3 where the relationship between cultural requirement and the Ebola management as they affected information processing are discussed from a conceptual framework perspective. In the analogy, the argument held is that values are central inexplicit features of information processing. In information processing they arouse meaning making but from the implicit meaning in the content of information from which the consistency with that of the system and person is assessed. As such, the encoding of messages must scrutinize the implicit and subjective meanings in the words of the content of the information for given contexts in the planning and management of an intervention.

At this juncture, the discussions of the respective subsections will be considered starting with the relationships in figure 8.1a and subsection 8.2.1 below.

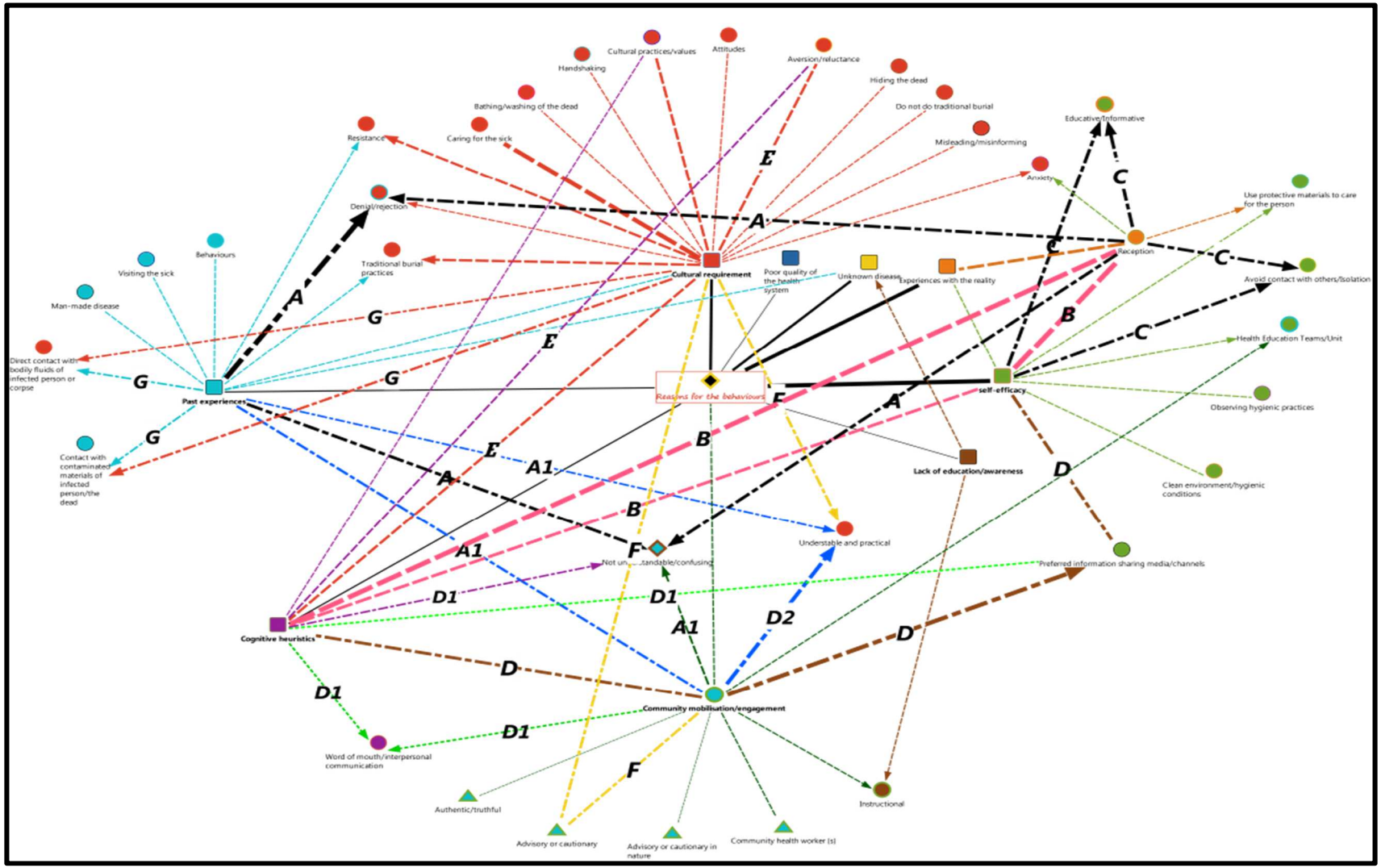


Figure 8.1a: Layers/patterns of relationships in behavioral reasons

8.2.1 Patterns of relationships in message decoding and behavioural outcomes

The process of derivation of the visualised relational patterns or frameworks proceeded procedurally, starting with the code with the highest reference of the index code, reasons for behaviour. Systematically, a multiple level of code interconnectivities was derived for each of the sub-codes of the index code from the code sub-code segment model by which the integrated sub-codes for all the codes and their interconnectivities were generated visually by the MAXmaps of the MAXQDA software. From the mapped patterns of interconnectivity, knowledge blocks of relationships on culture, intercultural communication and communication, environmental conditions and their motivations in behaviour formation, perceptions and meanings or message decoding are graphically explicated or visualized as a process. These could be referenced in the derived figures, where nodes of interconnectivities are alphabetically labelled to show interrelationships for where the code or sub-code was used interchangeably or linked to the other code by respondents. Thus, a comprehensive framework to understanding communication from the structural/systems-level in epidemic management could be ascertained in combination with other findings from the analysis. For instance, in figure 8.1, the knowledge blocks derived from the nodes are depicted by figure 8.1a. The knowledge blocks also termed frameworks are A; AA_1; $A_1A_1D_2$; B; C; BC: BD/DB; DD_1; D_1; D_1ABD; E; EDD_2; FD_2 G. The respective sub-codes for each of the blocks are described and conceptually explained as a subsection below.

8.2.1a. Knowledge block A - Past experiences; not understandable/confusing; denial/rejection, and reception

Past experiences herein referred to as experiential knowledge encompassed knowledge concerning the symptoms in relation to common outbreaks such as cholera, which exhibits the same symptoms as Ebola for which message processing inconsistencies in cognitions were generated. An example of how meaning making in cognitions was impaired through the inconsistencies between experiential knowledge and the uncompleted process in the learning process of an ensuing phenomenon is provided by Faisal as follows:

> *"when the Ebola broke out, many people did not believe it… (Ayonga interjects: it is the symptoms) …so people reacted in different ways. For example, if one has malaria, one experiences an increase in temperature and the head gets warm. If one gets diarrhoea, one experiences watery stool and frequent visits to the toilet. These things were also associated with the Ebola. For this reason, people had a different concept about it. I can recollect on one of our contact tracing exercises to the family of a sick person, where one of the family members stood up and told me that, when the body temperature rises and the body gets warm it has always been malaria but now when our bodies get warm it is no more malaria but Ebola…. The same way if one vomit's it's no more malaria but Ebola. So people were confused among others because that was the first time we were hearing about Ebola. So there were many reactions and the people had different concepts about the entire information that came".*

In the alignment of messages to experiential knowledge in cognitions due to disease characteristics as provided above; two reactions were derived from the Ebola message; namely, denial of the reality of Ebola and later reception as a result of observations made and lessons obtained (such as the high number of deaths) in the cause of the outbreak during which new experiential knowledge was gathered; thus, the process of learning from experiences. An example is given by Constance, an Ebola survivor, on how lessons learnt and observations from the ongoing crisis of deaths persuaded message reception is provided as follows: *the way people were dying. It was killing us, it scared me. You yourself, you get scared. You will do all you know. You yourself, the way your stomach will run, it was not funny… yeahhh".*

Knowledge block A in the analogical map is the contextualisation of the challenges of the persuasive communication intervention in changing behaviours in the perspectives of research participants. Communicatively, this could be conceptualised within the patterns of the disease manifestations within which meaning making and message decoding transpired or was impaired. The aspect of communication in terms of encoding is explained by figure 8.2 with its mapped relationships below. Philosophically, the behavioural motivations as in the research data could be

considered in the framework of the uniformity and non-uniformity relations in the characteristics of a phenomenon for explaining and making meaning in the process of knowledge construction or acquisition. Herein, the phenomenon is synonymous to diseases or epidemic outbreaks. The uniformity in the associations relates to the symptomatic properties of Ebola in relation to other locally endemic diseases whilst the dissimilarity pertains to the causation and effects of the phenomenon of Ebola in comparison with the other endemic diseases of the same symptomatic characteristics as the Ebola. An example of the uniformity is expressed by Juliet, a volunteer and research participant of the peri-urban research community of Dupont: *"…personally, before I will call the health people to come for a sick person, I check the person to make sure that he or she is having Ebola before, because the vomiting and diarrhoea is a common sickness that we have here".*

From the perspective of message design (encoding) the relational characteristics in knowledge block A is also analogically related to the Ebola communication messages as visualised and explained in the figures 8.2, 8.2a and 8.2b. To explain this encoding relationship and for an effective analogy of the interplay, a preview of the characteristics of Ebola, the complexities in the characteristics of the Ebola outbreak which affected its message decoding, and management in general have to be outlined and understood. The characteristic framework of the complexities as provided in the research data is as follows;

- Ebola is completely unknown / uncommon in the ecology;
- the symptoms are, however, common to other ecologically prevalent diseases;
- commonality/similarity in period of outbreak for Ebola and other known diseases - the period of the outbreak marked the period that outbreaks of the ecologically prevalent diseases such as cholera are witnessed/experienced;
- no drastic behavioural changes are required for known outbreaks cases such as cholera - the daily lived behaviours and cultural practices are not abrogated. They are continuously lived even during the outbreaks of the ecologically prevalent diseases, without causing very high scales or epidemiologic levels of transmission;

- the virus gestation period for the prevalent diseases in a person is relatively longer and the rate of deaths is low. The magnitude of deaths is comparatively low or negligible,
- prevalence of propaganda messages of religious, social, and political dimensions to the perceptive causes and transmissions of Ebola.

The totality of these Ebola characteristics in relation to the transmission mode in the lifestyle of the people created a situation of uncertainty in decision making for its management both psychologically and structurally at the individual, societal, and national level. Hence, the message decoding inconsistencies, the incompatible behaviours in message outcomes, and the unspecific behaviour change communication approaches. The dynamics in the characteristics of the Ebola according to the director of Public Health Promotion Unit, Rev. John Sumo, thereafter, saw to the provision of risk communication training for staff of the unit of the Ministry of Health. The veracity of the complexity of the disease characteristics to message decoding is modelled bi-dimensionally, first from the code of the Ebola communication messages as a single code in relation to all the codes of its interactions in figure 8.2 and its inherent extracted sub figures. The emphasis of figure 8.2 is the identification and understanding of the properties of the Ebola messages for their strengths and weaknesses in persuading behaviours.

The derivation of relationships in figure 8.2 involved foremost the derivation of all codes coded from the parent code Ebola communication messages. Following, the single code analytical model was used to further derive related segments coded with each of the codes of the parent code from which a network of codes and how they are related subject to their code of reference from the coding system was undertaken to generate figure 8.2. Figure 8.2 provides a broad visualisation for all the codes and their interactions with other codes for interpretation. The various relationships in the blocks from which meaning making and persuasion manifests are alphabetically labelled in terms of their message and behavioural outcomes. These are alphabetically and primarily labelled as A, B, C etc. based on the relationships generated from the modelling. The relationships A, B and C are delineated for visual clarity and interpretation. Relationship A in the interconnections focuses on outcomes of

messages, relationship B references specific messages that are subject to change in the process of decoding as a matter of time in the message outcomes, and relationship C provides the characteristics of communication messages whose outcomes in the process of message decoding is complex or near to impossible. Below is the overview for all relationships followed by the respective explanation on the relationships of relevance to the research objectives and questions.

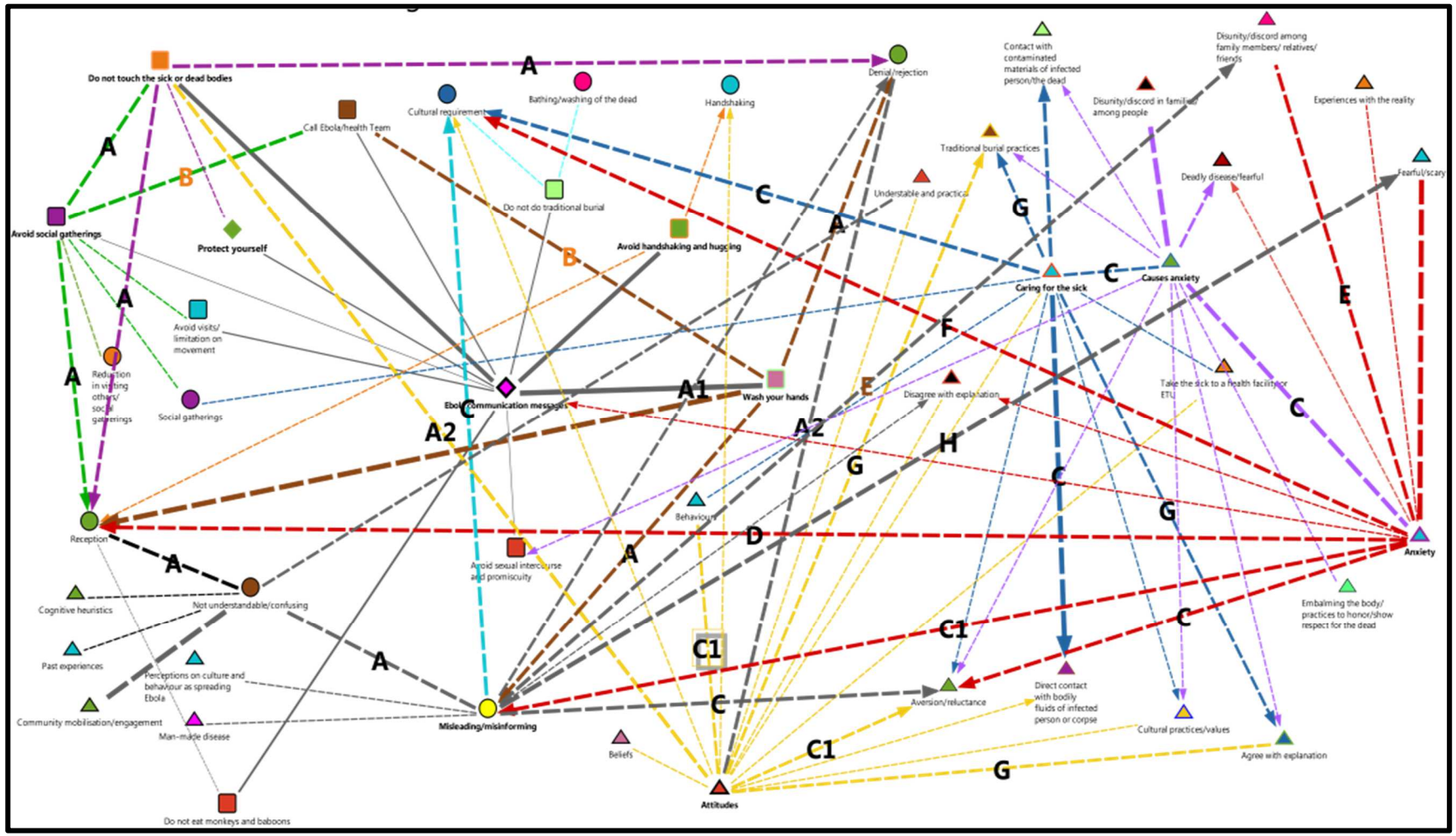


Figure 8.2: Interplays in content of Ebola message content and disease characteristics

In figure 8.2a, the analogical relationships for the most coded segments of data for the Ebola communication messages labelled A and B are presented. However, both interactions A and B are commonly interpreted to show message and outcome relationships. General to interaction A is the outcome in the Ebola messages that advised against touching of the dead and encouraged the washing of the hands, with B providing examples of messages that fall within reception in the outcome of message communication. Descriptively, the outcomes in the pattern of relationships for the commonly referenced communication messages is that of denial and reception. The outcomes in the decoding of messages are described by the codes misleading/misinforming, not understandable/confusing and attitudes in information processing and intention formation for the perceptions of messages. These outcomes may rhetorically be traced to the characteristics of the Ebola management outlined above.

In the relationships, the nature of communication messages (relative position in the value and norms of the people) and time (as an index of experiential knowledge formation and decoding) as factors relevant in the management of a persuasive communication intervention are shown. For instance, do not do traditional burials as a message may be considered an uncompromising value that cannot be permanently changed because it has no relations with changes over time in reception. The nature of message (encoding) and its relative consistency with values could, therefore, be referenced as one of the interface variables between culture and communication in persuasive communication from the modelled relationships of A and B in 8.2a below.

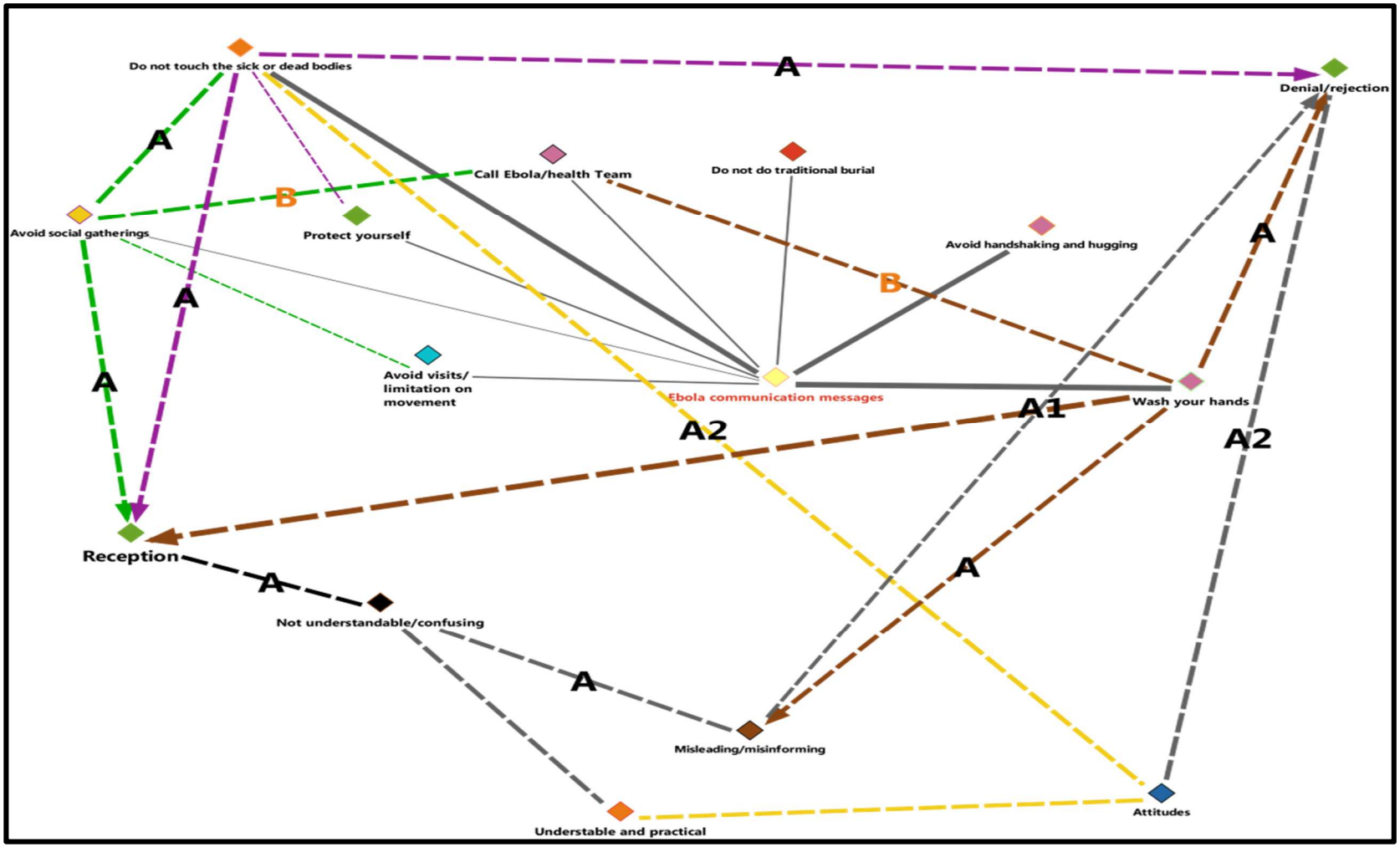


Figure 8.2a: Code co-occurrence for the messages wash your hands and do not touch the sick or dead

The uncompromising areas of the value system such as the traditional burials from the design of messages is explained in figure 8.2b. In this figure, the relationships in the message do not do traditional burials of the communication messages indicates how values affected decoding from its perception as a requirement which is composed of practices that encompass the worldview of the people and for which reason value-oriented behaviours cannot be easily adjusted in persuasive communication. The interactional relationship in figure 8.2b labelled C, as derived from the message code do not do traditional burials show the hierarchy of relationships foremost in the knowledge about causes of disease transmissions (cultural requirement), perceptions of Ebola messages (misleading/misinforming), anxiety and aversion in both behavioural outcomes and perceptions of Ebola. The relationship in C indicates that anxiety due to the nature of messages limits cognitive information processing and accounts for aversive behaviours in people. Similarly, C1 reveals the same pattern for explaining the relationship but in terms of caregiving as a cultural requirement and value. Relation C2 is a description of behaviour within its underlying causes (cultural values) and the process by which information processing in cognitions occurs (emotionally – causes anxiety) from the perceptions of messages. The CC1C4 relationship indicates the explanations by which behaviours were rationalised by research participants. Below is the visual interactive relationship for the message do not do traditional burials.

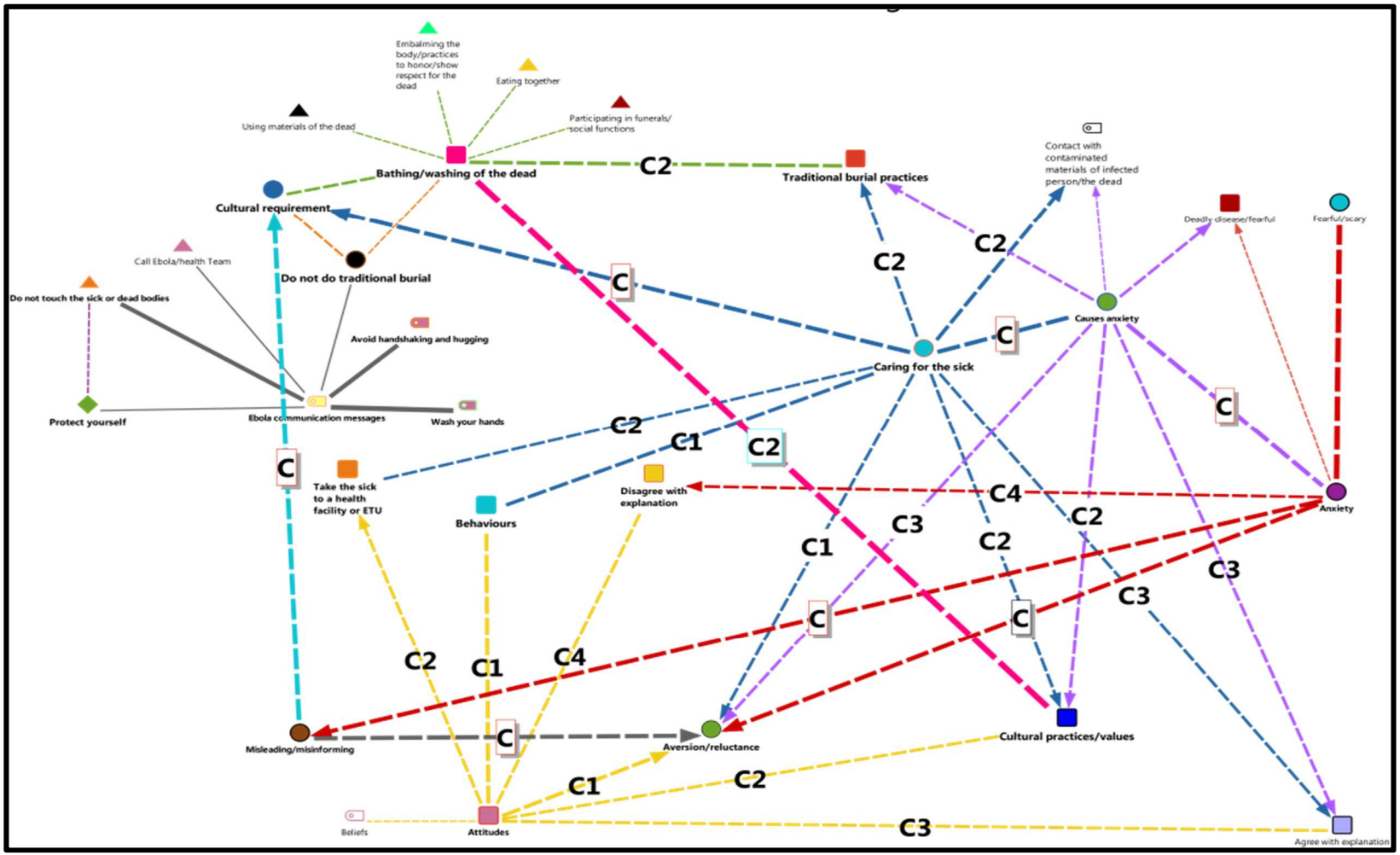


Figure 8.2b: Code co-occurrence for do not do traditional burial of Ebola communication messages

According to figure 8.2b above, values as discussed in chapter two and their salience are generally acquired through the socialisations in the development process of the person and do very much moderate cognitive and emotional processes in message decoding. This does not imply that the extrinsic variables are not essential in a communication process. Rather the mediatory capacities of extrinsic variables to arouse information processing in cognitions and motivate behaviour changes are relative; subject to given cultural settings and the type and nature of behaviour in question. Cognitively, the interactional relations in message encoding and decoding in behavioural outcomes and the context characteristic of conditions within which Ebola broke out in this knowledge block A, reveals that there was in the process of information processing a mismatch in information. The mismatch in information processing related to explaining and harmonising the ensuing and uncompleted process of learning in knowledge construction and acquisition and that of existing experiential knowledge for understanding and meaning making in the Ebola communication. In this wise, the problem of Ebola communication can, on the one hand, be conceptualised from block A as a dysfunctional knowledge acquisition process in the framework of experiential knowledge for explaining and making meaning of a phenomenon. Nevertheless, to enhance the achievement of the expected outcomes in behaviours the integration of context specific variables in message content among others is necessary.

8.2.1b. Knowledge block AA_1 and A_1D_1 - Past experiences, not understandable, community mobilisation and past experiences, community mobilisation, and understandable

In this knowledge block, the relations demonstrated referenced both the problem and variables for solving the problem. Similar to A, the pattern/framework demonstrates the prevalence of information processing inconsistencies in cognitions as a result of disease complexities in relation to past experiences both for the individual and society as a whole. Explicit and implicit communication variables deemed appropriate for eliciting positive information processing were message clarity and practical demonstration. These were considered and deployed in the management frame for the elimination of the inconsistencies between existing knowledge and messages in cognitions. Thus, the context of communication had to be adjusted from public or mass to context specific communication. As such, community mobilisation was adopted for purposes of its commonality and cultural characteristics in the context of communication. The moderating influences of community mobilisation in the data was ascribed to its properties of identity (trustworthy/credible), linguistics, context of communication (interpersonal) and shared meaning to message perspectives both intrinsically and extrinsically. Explicitly, these properties aroused information processing and reception as can be referred from the examples of the following participant submissions;

> ***Tony:*** *"…people going around… the people coming around and giving information, at the same time you hear the same thing on the radio…".*

> ***Simon****: "…But people mobilising to go around was the best. Because someone will not have radio, but those going around were educating us how we should take care of ourselves. And somehow if you will hear on the radio you will not understand the English very well, but with those on the field, they will make it simple for you".*

> ***Jack****: "personally, what I will recommend is community-based initiative (CBI)… what they have already started by involving the community members into some of the issues for creating awareness. Let the community leader and every group in that particular community be involved in spreading the message. Yes that will be much preferable because if we are using radio, some of the rural areas are not having radio…so I believe that if everyone in the community is aware, they try*

to help their own people spreading information. That is much preferable".

Explored from the root causes, the motivation or intention formation of the individual to conform to information received from a credible source in the context of the culture (collectivistic in nature) is aroused by the need for consensus building and promotion of social harmony. Embedded in the motivation is promptings for the avoidance of interpersonal and intrapersonal conflicts as one seeks to avoid blame and accusations referred to as social costs in cues to behaviour. Thus, behaviour has to conform to that of identifiable others in the normative. Equally, the credible source employing the requisite linguistics, both verbally and non-verbally, enables the rightful decoding of messages explicitly (as is scientifically) and in their shared meaning to holistically affect knowledge levels for information processing and reaction. Summarising, the framework from which the moderating influences of the credible source in persuasions ascribes to is that of the characteristic of shared identity, including values and ease of communication to influence message decoding both normatively and informationally. This implies that shared values and easy communication by the channel and source elements in communication was an essential intrinsic and extrinsic element in message decoding to Ebola. So that AA_1 and A_1D_1 could be conceptually termed the problem analysis/identification and problem-solving approach relationships in the knowledge block.

8.2.1c. Knowledge block B – Self-efficacy; cognitive heuristics; reception

The above self-efficacy, cognitive heuristics, and reception sub-codes were referenced to changing behaviours. The process of information processing following message clarity that enabled message reception involved an assessment of capabilities to implement actions such as avoidance of contact to others, handshaking etc., not touching the sick, and avoidance of traditional burial practices among others. These messages were subjected to the values of the person emanating out of the socialisation process of the person in the environment or context of the culture for intention

formation on adherence to the Ebola communication message(s) or otherwise. For instance, implicit in traditional burial practices at the micro-level of the family is the efficacy element of coping both, economically, socially, and emotionally and at the macro-level of the society is the promotion of social harmony (expressing love and unity for peaceful co-existence with each other). Comfort, an Ebola survivor references, the element of coping from the perspective of the cultural values in the expression: *"…we love togetherness, meetings, always happy and when something happen someone will care for one another"*. In this pattern of intention formation/decision making, consideration was not primarily based on the explicitness of the message and ease of implementation, but on the expected outcomes in terms of the values of the person and norms in the society. Another example is the explanation on reasons why the people are compelled to conform with social values and norms is the contribution by Alfred Lane: "*If you do not join the society in our system here then you are not a member of the society. In the hinterlands for example, they cannot give you a place to do farming … For men, in my Bassa area, if you are not a member of the society you are not given the right to marry and be part of any meeting, any occasion and anything that happen concerning men…., Any problem that come your way, they will not pull hand there (support you). So, one is forced to join the society"*.

From the above submissions it could be inferred that the ability to manage any social costs in outcomes to message adherence was the major intention formation or decision-making variable. Though self-efficacy was considered its subjectivity in moderating information processing to message requirements was measured in relation to social costs. A more detailed understanding of knowledge block B could be obtained in C below as B and C are interconnected. Conceptually, they can be classified into the framework of variables in intention formation or decision-making variables and their relationships in moderating information processing.

8.2.1d. Knowledge block C: Self-efficacy, reception, educative/informative, and avoid contact with others

This pattern demonstrates an example of message content that was enacted as message was understood both explicitly and implicitly to affirm self-efficacy. The frame demonstrates superficially the relationships in the characteristics of self-efficacy and reception to message decoding. Characteristically, the message was explicit and easy to understand as well as educative/informative (specifically provided instructions as to the exact actions to take from the perspective of message content). The interrelationship between self-efficacy and reception in message decoding is explained from the contribution of Charles in one of the FGDs in the expression:

> *"…it was not done once or twice, it was just a continuous process. People came in and in fact gave the instructions, gave the information. And then they did not just give the information, but they also brought materials so that you and myself will be able to follow. So, they don't just say wash your hands, but they came with bucket and chlorine and that is what they did. So, you say this is true. So, people came and showed us and it was just better. But if you do just come and say it is real, wash your hand and just do it, we snob it, we just make fun of it".*

From the message characteristics and the above research participant's submission, it is explicit that the assessment of confidence and capability levels for the implementation of the recommended behaviours was aroused in people when structural changes occurred in the context of communication. The interpersonal context of communication in the totality of its moderating influences affected self-efficacy in terms of levels of knowledge and values as message was practically and perceptively understood. Contact avoidance for instance, has in the context of the culture very high social costs implications, but through community mobilisation the complexities of Ebola were culturally contextualised to the people's understanding, thereby, eliciting adherence in the communication process. Community mobilisation in value assessment, was, however, complemented by experiences or experiential knowledge as shown by the interconnection to A in the whole map to enable adherence. Knowledge block C from a research perspective conceptualises the characteristics of intention formation variables or enablers to persuasion.

8.2.1e. Knowledge block BD – Self-efficacy, cognitive heuristics, preferred channel, community mobilisation

This knowledge frame references the element of channel in a communication process as an intrinsic element to information processing in relation to intention formation. BD provides understanding into the moderating influences of channel in information processing and behavioural persuasions. DB could be traced to the question of what encouraged behavioural changes. Related to BD is DD_1 where the characteristic of culture related components of interaction (community mobilisation, interpersonal, oral communication with emphasis placed on non-verbal elements) moderate communication to affect message decoding and impact persuasion. For instance, in community mobilisation to information sharing, the source/channel of message, interact interpersonally with the people in a face to face manner employing, verbal and non-verbal communication features from which message decoding in the process is achieved. Example of such a context could be extracted from the submission of Rev. Sumo "… *The use of the town elders/town criers, the religious leaders and chiefs was valuable because they know their cultural practices and can better explain for example death issues using local knowledge and language better to the understanding of the people…"*. Specifically, per the properties of interpersonal communication to arouse information processing in the preceding quote, the relevant emphasis for the presentation of the properties of interpersonal communication is found in the phrase "using local knowledge and language better to the understanding of the people".

Generally, in the interpersonal interactive process, the sender and receiver associate with each other. During the process the receiver decodes similarity /identity aspects directly and indirectly from the interaction. Through the identity aspects including common values, trusts or credibility is adjudged which assure the receiver of personal abilities to also enact an action. The inherent elements in the association and interaction from which shared meaning in perceptions are decoded, persuade the receiver to act in accordance with the information or message. The moderations of community mobilisation in this frame for information processing and decoding in persuasive behaviour change could be theoretically traced to socialisation processes of the person in a culture in social psychology. Thus, the map and its relations including

D_1ABD guides in the understanding of cultural contexts and contexts of communication to information processing and persuasion both as a process and as an outcome.

8.2.1f Knowledge block E - Cultural practices/values, cognitive heuristics, and aversion

This chapter demonstrates the context of values in information processing and behavioural outcomes. For example, aversion in the research was cited as some of the behavioural outcomes to messages. The message, do not touch the sick, for example, was inconsistent with the cultural value of caring for the sick. Culturally, the act of caring for the sick is a salient value symbolic for physical expression of love and solidarity in collective cultures, including Liberia. Failure to care for a sick relative could result in irreparable damage to relationships, which in extreme situations may degenerate into depressive health problems due to emotional pain or imbalances. The difficulty in reconciling the preventive information of not touching the sick within the cultural value of caregiving was, for example, questioned by Juliet in relation to the apportioning of blame of the spread of Ebola on cultural practices. This is how she formulated it:

> *"…for example, my brother got sick, it begun with a running stomach and I thought it was some other sickness. I know I can help him better…. why should my brother be lying down seriously sick and somebody else should come and take care of him?... It was said that the preventive method was very important. But when my relative is sick, I have to cater for him or her".* (*Ben added:)… "the brother of a friend of mine also felt sick and he was advised not to touch the brother, but he couldn't allow his brother to lie there and die. So, he cared for him and gave him water and brought him to bed…. He took the brother to the ETU but he did not make it. He also got infected and died."*
>
> Ayonga: *"... because our culture we can't leave our culture. There was no message to our culture"*

In the above examples one can perceive the emotional and psychological battles that the people had to contend with when a relative felt sick from Ebola and the difficulties encountered in processing the information for compliance. Qualitatively, caregiving

has strong relational intimacy and meanings for the maintenance of relationships. The meanings or relevance overrides health inaccessibility and financial status considerations often cited for the preference in caregiving reasons in most literature. The symbolic meaning in this and other acts for maintaining cultural values moderated information processing as messages were deemed insensitive to the culture and resulted in aversion (reluctance to comply) in behavioural outcomes to the initial Ebola messages. The relationship of C of figure 8.2b above and EC1 (misleading, disunity in family relations, and anxiety interaction) of 8.2c below in the message code co-occurrence model explains visually and interpretatively the pattern of moderation of cultural values in behaviours. In the moderations, the peculiar feature identifiable is that whenever a practice in the values of the culture is queried or targeted for modification, the modification is perceived as a threat following which aversive behaviours are experienced as immediate reaction of protest to protect the cultural value. In the figure 8.2c below, other culturally related interactions in message content and behavioural outcomes shown are G (attitude, traditional burial practices, caring for the sick and anxiety) and HC1 (misleading, fearful/scary and anxiety).

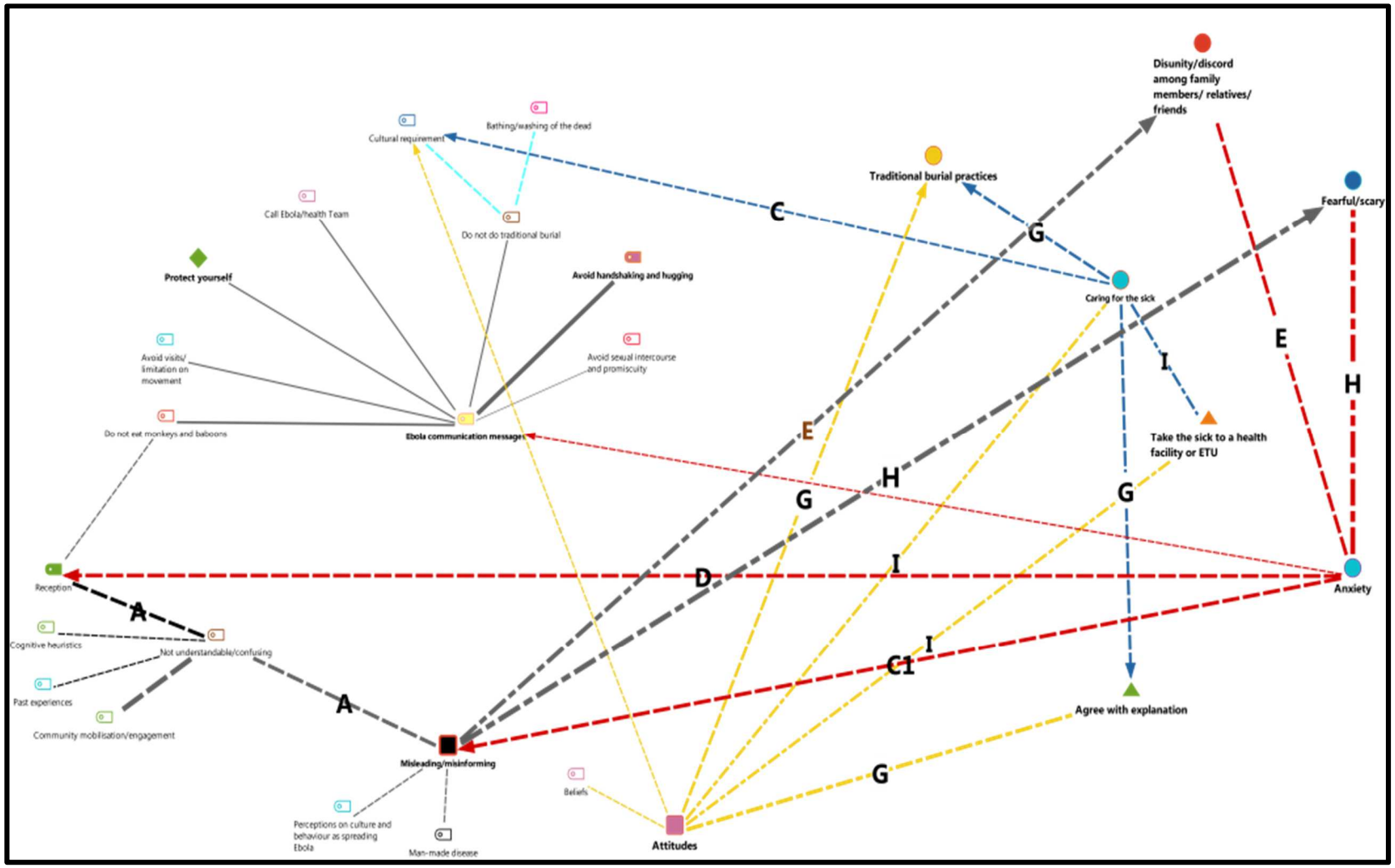


Figure 8.2c: Anxiety, attitude caring for the sick, and traditional burial practices interactions of Ebola messages

Rhetorically, the outcome in the communication process from relationships in the complexity of Ebola characteristics, message content, cultural values, and the management system as a whole in message decoding is the emotional feeling of anxiety[79]. In the communication process, anxiety could be referred to as the noise element among others that affected the positive decoding of messages owing to its strong interactive relations to cultural requirements both in the perceptions about the Ebola communication and the reasons for behaviour in the data. Cultural requirements, thus, become one of the salient elements in message decoding.

To summarise, from the six knowledge blocks displayed in figure 8.1a and the associated figures of 8.2, the explanations to the patterns in the behavioural outcomes to the Ebola communication were moderated by a multiplicity of factors that interacted with each other for information processing and message decoding to occur. It must also be noted that interdependencies did occur in some of the patterns. Nevertheless, specific variables were prominent or key in moderating the pattern of behavioural outcome for each of the patterns or frameworks. In knowledge block A, message decoding and behavioural outcomes were mainly underscored by the moderations of experiential knowledge in information processing. So that the problem of information processing in persuasive communication relates to the question of existing knowledge in cognitions. Closely related to knowledge block A is A1D1 where the approach to communication (community mobilisation) centrally moderates behavioural outcomes, making the channel of communication to stand out as essential in addressing the issues in the behaviours referenced in A. In knowledge B, the outstanding variable in message decoding from which behavioural outcomes are moderated is efficacy assessments or beliefs, but from the perspective of social costs.

Within this framework, further studies for measuring the strength of social costs in information processing and the conditions under which social costs would continue to moderate information processing in collective cultures could be undertaken. C has interconnections with B. However, in C the variables of practicality of the recommended behaviour combined with the interpersonal communication approach as

[79] The concept the emotional feeling of anxiety is not a subject of major discussion in this dissertation and detail discussions will not be undertaken.

a constituent of the main variable in A1D1 interacted to moderate behavioural outcomes. Central in knowledge block BD is the functional properties of cultural context of communication as a process and outcome in information processing and behavioural outcomes. Compared to BD, E centralises on the value system in the context of the culture in moderating message decoding and behavioural outcomes.

The derived frameworks should enable a multidisciplinary incorporation of antecedents, process and outcome variables that explain behaviours, their motivations and meanings comprehensively for an effective epidemiological communication management, especially in situations of uncertainty. Following the repeated featuring of self-efficacy in patterns B and C and their strong interrelationships with reception in message decoding and behavioural outcomes, the dissertation subsequently considers the specifics of self-efficacy and reception relationships in behavioural motivations.

8.2.2 Relationship between efficacy and message reception in Ebola management

In the above patterns for layers B and C of figure 8.1a, the parameter of self-efficacy as a behavioural motivation index is strongly interrelated with reception of information on the Ebola communication messages. This calls for an exploration of the specificity of variables which are constituent in efficacy and by which the reception of Ebola communication messages was persuaded. In particular, reference is made to participant responses in relation to figure 8.1a for understanding how efficacy was assessed or was empirically perceived in cognitive processes for persuading behavioural changes. Nevertheless, for a thorough explication, the codes self-efficacy and reception are exclusively juxtaposed against each other with reception being analytically centralised and referenced as the variable of interest (base code) in the behavioural outcomes. The purpose is for understanding contextually the properties of efficacy in message reception in cognitive processes to information processing and vice versa in the Ebola communication management. Included in the purpose is the understanding of how efficacy is generally perceived by the people in order to guide future persuasive

communication interventions. Specifically, it deals with identifying the specific motivational factor(s) (outcomes or abilities or both) in efficacy that moderate message reception in cognitive processes in persuasive communication of the people.

The relationship between message reception and self-efficacy is provided in figure 8.3 below with a detail presentation and visualisation of all the sub-codes related to the message reception within a code co-occurrence model. Figure 8.3 derives from and expands on figure 8.1a but as already noted, the focus of derivation of relationships and exploration of the properties of efficacy is on message reception as the base code. Visually, the precise exploration of the moderations of self-efficacy indices in intrinsic and extrinsic motivation in information processing and behavioural changes is in figure 8.3.

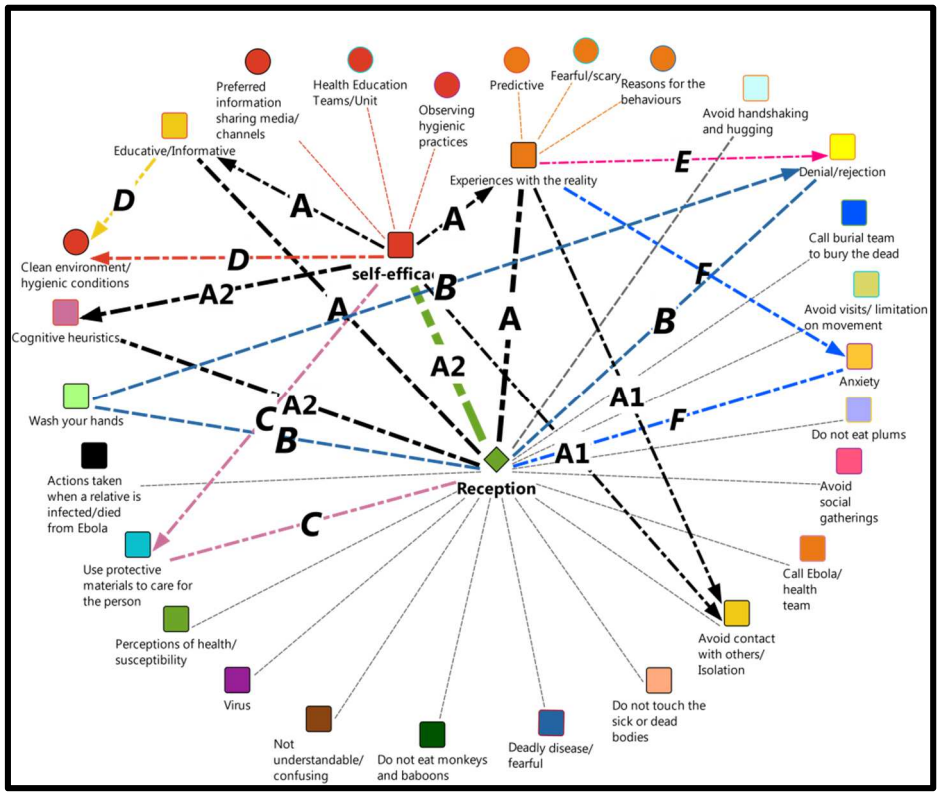


Figure 8.3: Reception and self-efficacy interactions to information processing in cognitive processes

According to figure 8.3, besides self-efficacy and its sub-indices in behavioural motivations of message reception, the other major indices referenced for message reception are mainly educative/ informative; experiences with reality (death/ loss of loved ones), and observance of hygienic practices in self-efficacy indices. In

theoretical frames of behavioural motivations and communication, the sub-codes educative/informative and observance of hygienic practices could be classified under ability/capability evaluations of efficacy in the determination of actions. Similarly, experiences with reality could also be classified under perceived threat in danger control processes to the determination of actions in behavioural motivations. In intention formation, experiences with reality changed perceptions of susceptibility through fear arousals to impact positive responses to recommended actions/behaviours.

Explanatorily, the point of interconnection between self-efficacy and reception in Ebola management, however, could be summarised in the code of observance of hygienic practices (including hand washing). Basically, of the many recommended behaviours, hand washing was the major one in the recommended Ebola communication messages which did not require much physical and financial outlay to implement. Additionally, hand washing is generally practiced even if not done frequently after each act, and material support was partly provided to encourage its enactment. Furthermore, practical guidelines (step-by-step demonstrations) on the proper or appropriate way to wash the hands were provided to boost confidence in its enactment and strengthen message reception. The totality of behavioural changes from the information/messages, including measures that promoted material accessibility and practical implementation of protective and preventive actions, consequently strengthened personal and collective self-efficacy beliefs towards infection prevention and general community protection. From the simple act of hand washing verifiable reductions in Ebola transmissions were experienced. Thus, collective efficacy and self-efficacy significantly moderated cognitive processes in behavioural motivations, but it was subject to the ease and practicality of performing the recommended behaviours and effectiveness of outcomes. For instance, the following comments were provided by some adult women participants and a man (Fred) as per the building of confidence and assurance in the taking of personal action to avoid infection:

> **Gloria**: *yes, the messages that were communicated increased my knowledge and skills on personal protection against any kind of disease transmission. It was an eye opener (it made me feel wise)*

Clara: *Before the instructions on how to wash our hands, we used to use the same water used in washing the dishes from the previous evening for the washing of our hands the following day. But we stopped that after they educated us.*

Doreen: *the messages made us confident because they were effective when we went by them. All the things we were told to avoid including keeping our surroundings clean and washing of our hands, we did it. We did it and did not get infected with Ebola till its containment because we followed these messages.*

Fred*: personally, the message on hygienic practices; wash your hands and clean your food and living places was very helpful and I took that very serious. As we are talking now, I still keep buckets of water everywhere in my home and you would even see it if you should visit my house right now. I do get people asking me, are you still doing this thing? From my experience, it was important and I will continue doing it until I die. I really do like that message and I would want all Liberians to keep it because it is helpful.*

Deducting, from the sampled responses above, there are consistencies or complementarities in the content of messages generally recollected from the message contents (figure 7.8) and the type of messages often referenced in the descriptions of message adherence (reception) from the Ebola communication. Theoretically, this is attributable to the ease of implementation in relation to self-efficacy and outcome effectiveness.

It could be concluded that message reception as a variable of self-efficacy is premised on a) the nature and specificity of instructions provided to enable compliance, b) the ease of implementation vis-a-vis implementation sustenance, and c) effectiveness in outcome of the implemented instructions. This could be extracted from the sampled responses of above.

Notwithstanding, the above three indices constituent in self-efficacy within the broader context of figure 8.3 were best aroused through specific preferred channels of communication, given the general moderating role of channels in value perceptions of groups/individual in meaning making and in intention formation (cognitive heuristics). Deducing from the data, the general characteristics constituent in the channel are 1) group identity associations; 2) contextual communication skills for arousing message

comprehension and information processing based on the common value orientations perspectives, and 3) information credibility. Strong interconnectivity is displayed between cognitive heuristics and message reception in figure 8.2c of the reasons for behaviour. The strength of interconnectivity between the two explains the mediatory influences of the social context parameters to message reception. Hitherto, persuasiveness of channels of communication in behavioural motivations could be equally referenced from the functionality of the concept of identity in information processing and behavioural change.

8.2.3 Relationship between cultural requirements and behaviour in Ebola management

Another significant sub-code to reasons for behaviour provided in the research relates to cultural requirement as depicted in figure 8.1a on behavioural relationships in the Ebola health communication and of knowledge block E in the patterns of message decoding and behavioural outcomes. The provided cultural requirements in the behaviours of the people included caring for the sick, washing/bathing the death before burial, handshaking and hugging, participation in social functions including, burials, funerals, child naming ceremonies and festivals. The cultural requirement of caring for the sick, for instance, involves the transportation of the person to a health facility/traditional healer, cooking, feeding and washing (nursing) of the sick in situations of total incapacitation. Caregiving also includes the provision of funds for the upkeep or fending for the sick. In the perspective of respondents, the enactment of caregiving as a cultural practice enabled Ebola to spread due to contacts made with contaminated materials of the sick.

The overall aim underlying the aforementioned cultural practices is the promotion of collective harmony in society. Connotatively, caregiving has a significant meaning and position in the values of the Liberian culture. Caregiving for one's family members, especially the immediate family is perceived as a gesture for strengthening bonds among people and for showing true love that has to be provided impulsively without thoughts of recourse to reciprocation in the future. It is even considered a tribal trait

by some ethnic groups. As a tribal trait of high esteem among the people, John, a research participant describes the value of caregiving in the culture in his pidgin English as follows: **"***the Bassa people there wonna (our) culture… is to care for people…you know…so anything that happen to you… family people come around to take care of you…".* [80] According to Joshua also a research participant, deeply seated bitterness (negative sentiments) have developed and caused division in families and among friends due to the failure of loved ones to provide care for the sick person in some cases during the peak of the epidemic. The failure to nurse a love one was caused by the fear of infecting oneself with the Ebola virus. Joshua remarks; "…*for now we have some families, they split all because your brother is sick and you run away,* ***(Fred interjects: yes)*** *and if he survives the sickness, you don't talk"*.

Essentially, the cultural requirements are the visible and nonverbal patterns of communication by which the appropriateness of actions, human relations and the social dimensions of affection, group identity, beliefs and reasoning in cognitions are encoded and decoded in given interactive situations. The context of communication in these practices is multi-layered with respect to the social norms, roles, relationships and situations for message decoding. In practice, the context and patterns of communication in Liberia is biased towards indirect verbal/metaphorical communication and nonverbal distinctive expressions. Within these patterns sensitive values for message decoding in communication is revealed. Additionally, the concept of communication as a process involves relationships in encoding and decoding of verbal and nonverbal information and their literal and connotative meanings in interactive processes.

Generally, inferences for feelings (guilt, anger, fear, and hope) and attitudes (concern, compassion, and empathy) in communication are decoded from nonverbal communication attributes in gestures of body movements, including speech tones to guide the decoding of feelings and attitudes in an interaction. For instance, in the Liberian culture hand shaking does communicate information about love for a person

[80] The standard English translation is "*For us the people of the Bassa, our culture is to care for each other. As such anything that happens to you, your family members will come around to take care of you".*

and nature of relationships among persons as revealed in the comments of Faisal on the question of opinions about Ebola communication messages. This is how he put it; "…. *In the culture that we have, I would be able to let my friend or others know that I love or care for them when I shake the hand of the person and hug the person. In the midst of the current developments, how would I be able to do that*?...". The system's context and pattern of communication invariably determined the direction of message decoding and behavioural reactions during the outbreak to account for the defiance to the variables of message clarity and persuasiveness in actions for behaviour change. For instance, handshaking and hugging was defiantly practiced in the initial phase of the outbreak for the maintenance of harmony in relationships and avoidance of being tagged a proud and unloving person. The automaticity/spontaneity of handshaking and hugging among friends in an interaction, just like an addictive behaviour also impacted the difficulty of ceasing its practice in a relatively short period of time.

Nonverbal communication attributes have an eminent place in the values and perceptions of persons with collectivistic backgrounds in any communication process given the nature of variability and sensitivity of information that may be communicated or decoded from nonverbal attributes in information processing. In particular to high context cultures, a persuasive message is adjudged not principally from the frame of its clarity, but from the visible cultural value indices in the message or sensitivity of the message to the values of the people.

Similarly, the high-context culture of Liberia makes message clarity and persuasiveness alone inadequate for the positive decoding of messages. Characteristic to the culture, message decoding in the process of information processing places emphasizes on the connotative meaning in the persuasion of action. This is as per the totality of verbal and nonverbal attributes within which the message is composed and communicated. Hitherto, the utilisation of clear messages by communication channels which are, however, deficient of context-specific communication dynamics in the communication process limits information processing and persuasiveness. In furtherance of that information processing cannot be attained for issues of which messages are insensitive to local values and norms. Basically, the cultural requirements are intertwined with the values and norms for ensuring collectiveness

and promoting social harmony among the people. The recognition and appropriate use of nonverbal communication attributes in any communication across the cultures of the various ethnic groupings can, thus, not be underestimated given the varied differences in cultural values and norms.

Excerpts from the research data by some of the Ebola survivors attest to the influences of cultural requirements in the behaviours exhibited vis-à-vis the incompatible nature of Ebola messages to the culture and the challenges it posed for containing the epidemic. The incompatibilities of messages to the culture relate to the complexities of the nonverbal and sensitivity aspects of a communication for message decoding.

> **Selassi**:... *"The reason why people were hiding the dead was that nobody wanted to see his/her relative being burnt (cremated). Yes being burnt! When you consider the way the body is burnt, it is disheartening, so you will not be willing to let them do that to your relative or a human body. That was the reason that made people to be keeping or hiding of the corpse. But if they could indicate to us where the body has been kept and families could come back for the body and bury it themselves; or if they could specifically identify each body or reference a person to a grave to enable subsequent mourning of the person, then, people would have been comfortable to allow the burial team to come for their dead relatives to bury without hiding them. But under situations where the body is taken for burning (cremation), then nobody will be willing to allow them to take their relative for cremation".*

> **Gyansi : "***When the Ebola broke out, they announced that Ebola has no cure and it was being announced on the radio that people are dying. You know, it was when we saw members of other families dying that we started adopting the messages. At that time, when your neighbour or someone you know got infected, you knew that they will not return back from the treatment unit; they were going to die. That was when people started to believe that Ebola was real. It was during the middle stages of the outbreak, the middle stage, so we just had to abide by what we were told. Seeing people dying made us to believe in the message and say that it was true. Actually, people initially doubted the messages because, when the outbreak occurred in Lofa and was spreading around, most people claimed that the government wanted money, as was claimed in the propaganda messages. As a result, when one read something about Ebola, the only understanding one had and thought that came to mind was that, ohh, the government wanted money. But having seen and experienced many deaths in the middle of the outbreak, we believed in the reality of Ebola, started complying with the messages and everyone started taking precaution to protect the family but it was too late and we have experienced lots of deaths in the community. That was when were started calling the emergency hotline*

number 4455 and also saw the work of the case management team all over. By that time, the disease had spread everywhere and one no longer made fun of it to the friend. It was in the middle of the outbreak.

Glover: "…*actually what made people to believe that Ebola is a man-made virus is that there is no sickness in any part of the world that doctors have not been able to study or diagnose and tell precisely what kind of sickness it is. How can a doctor study/diagnose and mistake Ebola for malaria. We believed it because we have never heard of Ebola since our birth. The first time we heard of Ebola was when I read that Ebola has come into the country and that was also the first time we experienced it. So we see Ebola as the sickness that gave birth to all sicknesses (due to the feverish symptoms). You go for treatment and they say you have malaria, you go to treat malaria and they will tell you that you don't have malaria you have that sickness. That is because we have never had Ebola before. The symptoms and inability to use the normal treatment methods to treat Ebola made us to believe that it was a man-made virus. Because its nature was one that was resistant to our behaviours (approaches) since all existent viruses cannot be seen but we have cures for them. For malaria, we locally have the "malebo" for treating it, we have the "Gyanua" for treating yellow fever. But for that virus Ebola, they don't have it they are now coming up with the fake medicine for it. So yes, it was a man-made virus. Something created by man to destroy his friend/fellow human being".*

The communicative importance of the cultural requirements in the values of the people is strongly correlated with the aversion/reluctant reception of the messages. Obviously, in the rapid containment approach, Ebola messages completely prohibited the enactment of cultural values and norms embodied in the people. The importance of these cultural requirements could be extracted from the submission by Samson, one of the community elders at West Point:

"*People were giving this information, wash your hand, keep away from shaking hands or from other people and what have you, and it was also frightening because when somebody tell you don't hug your personal friend, your love one, your relative and what have you, even if the person die, you don't touch them all these information were not going down well with the people and so community fear".*

These behaviours and practices for instance, have been chronologically lived across generations for purposes of their etiological meanings to life. The consequence from the prohibition of these practices was the arousal of anxiety in emotions and relationships and the myriad reactions including the hiding of the sick and the dead. Anxiety was triggered by the level of uncertainty in the cognitions of the people as no

accurate prediction could be made on the probable outcomes of changes in values and norms by which the perceptive dimensions of life and social harmony in value orientations would be guaranteed. Descriptively, the experiences could be referred to as one of an abrupt psychological and emotional disruption in the development process of the people for which the existence of the person, society and its systems became dysfunctional and endangered. In the short to medium term, this affected message decoding and information processing in general as inconsistencies surfaced between intuitive knowledge/existent knowledge in cognitions and Ebola messages to limit behavioural adjustments.

Principally, the reactions emanate from the engraved nature of these societal values in the people that have been formed over the entire life in the socialisation processes of the person/people. Relating the dynamics of the abruptness of adjustments required in behaviours implied a severe undermining of societal values and meanings. Globally and in general, behaviours are enacted from societal values within the environment of the person/people and are formed over time so that change must also involve a gradual process. Given the length of time over which behaviours are formed, any required abrupt change renders a person/people psychologically and emotionally disgruntled and socially misfit. The misfit is because of the inadequacy of time needed for behaviour to adjust and reconcile with values in cognitions and emotions. Owing to that, any information requiring an abrupt change in behaviour, central to the value(s) of the person/people is generally resisted due to inconsistencies in value reconciliations cognitively and emotionally.

Similarly, during the Ebola outbreak, message clarity and persuasiveness had to contend with time in the system for the derivation of meanings in communication, both cognitively and emotionally before messages could be comprehended and behaviours adjusted. The gradual adjustment process to the changes in values and norms of the culture evolved from the experiences encountered from the aversion and denials of Ebola messages and their consequent high death rates. The adjustment process conforms to the epistemological frame of learning and meaning making in the culture, whereby personal experiences in life form the basis upon which truth is known, understood/acknowledged and knowledge obtained.

The experiential process of numerous deaths (experiences with reality) substantially informed reasoning in cognitive processes in information processing within a time-activity-outcome context to affect message decoding. In the experiential processes the complexity of Ebola as a disease which was harnessed by behavioural practices in the culture and for which situational adjustments were required enabled the tangible decoding of the meanings in Ebola messages to impact reception in message outcomes. Life's experiences (experiential knowledge) therefore arouse information processing both intrinsically and extrinsically; motivate behaviours both individually and collectively; and are chronologically mediated in systems, especially in situations of uncertainty. The situational mediatory influence of time in cognitive processes to information processing in systems is tenable but relative. This is because of the mediatory role of channels of communication in enabling the accurate decoding of information and arousing of intrinsic elements in values in information processing. The veracity of both time and channels in mediating message decoding is identifiable in the sequence of outcomes that guided the decoding of messages to inform behavioural reactions.

Summarising, the socialisation and learning processes of a person/people distinctively guide meaning making in a communication process and message decoding and are also derived from happenings in the immediate environment from which value orientations are defined. The complexities or dynamics of cultural values, norms, and beliefs in message encoding, communication and decoding as a process is systemic and multi-layered and also affects behavioural adaptability. Consequently, the understanding and simultaneous consideration of time-environment relationships in the assessment of behaviours to message decoding of a communication process on behaviour change need to be appropriately categorised and integrated in the message content to reflect context perspectives. The reflection of context perspectives in the contents of messages would enhance message decoding.

Cultural requirements are the expressive meanings of life and expectations from shared beliefs, values, norms, linguistics etc. among members of a group. Also, from cultural requirements identity is defined, relational intimacy and emotions are expressed, and physically and relational harmony in a group is maintained. Simply, they are the

"automatic" expectations from the members of a group who share a common identity and meanings of life. Cultural requirements are learned observationally and intuitively from the socialisation processes of the person in the process of development and determine patterns of intention formation in behaviours.

8.3 Conclusion

In the analytical models of this chapter, the question of what motivated the observed behaviours of the persuasive communication on the Ebola management as underlain by the perspective of meaning making in message decoding of the communicated Ebola information have been considered. In particular, meaning making in the message-behavioural outcome relationship is a matter of the characteristic properties of the totality of the linguistic features (verbal and non-verbal) of the information being delivered together with the characteristic properties of the behavioural problem being persuaded. Thus, meaning making deducts from the content of message from which given patterns in behavioural outcomes are also elicited. The analytically generated models also indicate that intersubjective categories of anthropological, affective, and psychological codes variedly determined the direction and patterns of cognitive information processing and behavioural outcomes. Generally, no one factor solely predicted the patterns of behaviours since behaviours were variable throughout the period of management of the Ebola and were related to the nature of message design and process of communication. As such, no one given factor can be ascribed for answering the question of what motivated behaviours when the question is considered for the totality of the entire period of the epidemic outbreak. The most appropriate would be to distinguish the factors according to their predominance, interrelatedness or interdependency among others in the exploration and understanding of behavioural motivators in a persuasive communication intervention.

Behaviours are not static but dynamic and situation specific irrespective of the context of culture. To this end, it could be concluded that given patterns of behaviours in a persuasive communication are persuaded by the properties of information being

communicated, the channel of communication and the nature and severity of the phenomenon of interest in the persuasive communication intervention. In the light of this, it is necessary for feedback mechanisms to be prioritised in the planning and management of persuasive communication interventions. The feedback mechanism will ensure that information and message design can flexibly adapt to or correspond with the dynamics of an ongoing phenomenon, enhance meaning making and positively persuade behavioural outcomes. Culture in terms of cognitive heuristics does affect information processing and its predominance is subjective to the nature of the phenomenon under study.

Specifically, referencing the generated interactions, the conceptualisation and model design of culture in communication as the intrinsic and extrinsic variable in cognitions and in information processing of the people would be undertaken in chapter 10. Prior to the model design, chapter 9 would critically explore and analyse the interface between culture and scientific communication. The basis of the analysis are the specific messages and their conceptual characteristic features in the process of communication.

Chapter 9

Decoding: The interface between culture and communication in the Ebola communication management

9.1 Introduction

Emanating from the problem that introduced this research project in chapter one, assumptions were made as to how the identified problem could be addressed to forestall future occurrence, not only in the study area but for contexts of similar characteristics. A key research question was posed as to which cultural elements or indices if exploited and incorporated in persuasive communication of persuasive communication interventions would ensure behaviour change. Also inherent in this question and using the West Africa Ebola outbreak as an example was how should the identified elements be incorporated in the frame of the communication intervention. The specific aim to the question, which also is the focus of this chapter, is the identification and understanding of the interrelatedness and the zones of convergence (also referred to as interface) between scientific communication and culture by considering the common "playground" from the messages in the process of communication. The emphasizes in this chapter is on the messages in the communication.

This aim will be explored around the element of decoding in the process of communication from the analogical models. This implies, putting emphasis on the content and nature of messages transmitted on the Ebola and the role these messages played in shaping the perceptions and behaviours of the people on health communication messages in general and Ebola in particular. Message decoding is vital in any communication process. It also is synonymous to the receiver in the elements of a communication process and is relative to the cultural values of a system.

Principally and conceptually in communication, the preceding actions/outcomes following the reception of a message by a recipient are used as indicators for measuring the effectiveness or comprehensiveness of the message. Similarly, in persuasive communication, message effectiveness is assessed from the existing/observable behaviours before and after the receipt of a persuasive message/information. The basic assumption underlying persuasive communication is that an explicit and comprehensive or clear message would automatically arouse cognitive processes to information processing and motivate behaviour to change and align accordingly with the recommendations of the message. Nonetheless, the reverse is the norm in most cases; behaviours either maintain the status-quo or even become worse in cases of attitude bolstering. Owing to that, the identified cultural factor would, in particular, be thoroughly reviewed for its intrinsic and extrinsic functions in meaning making and behavioural persuasions.

There are two major discursive sections making up this chapter. Section 9.2 discusses the cognitive heuristics of community mobilisation in terms of its dynamics in eliciting intrinsic and extrinsic information processing arousal in the people. Specifically, the section models and analyses the interface between culture and communication from the conceptual perspective and within the process of communication on the Ebola. The interface is perceived as the element of communication[81] having both scientific communication and cultural properties in persuasive communication; thus, information processing and intention formation properties, including the capability of persuading behavioural changes. This also forms the argument of the section. The interface would be modelled from the characteristics of the Ebola communication management; the content of messages; and perceptions of what persuaded behavioural changes communicatively. Thereafter, the structural and functional persuasive properties of the identified interface in the process of communication will be considered from its persuasive properties within the perspective of the conventional elements of communication. The respective cognitive heuristics and mediatory processes are discussed as subsections of the section.

[81] The element that is able to elicit both intrinsic and extrinsic information processing and intention formation for behavioural changes to occur.

Section 9.3 extensively discusses the cognitive heuristics of "protect yourself". Protect yourself is a context-based slogan emphasized officially as the slogan that ensured maximum achievement of the goal of changing behaviours in the Ebola communication management. The argument of the section is that meaning making is context related such that for persuasive communication to be effective, there must be features of the context present in the design and implementation of messages or processes of communication for intention formation and behaviour change to be elicited. Based on this assumption, the section explores comprehensively the contextual properties in the slogan from which persuasion was achieved. The consideration is for highlighting aspects of the properties of the slogan for the design and implementation of future persuasive communication interventions. Prior to the analogy of protect yourself is the modelling of the interface and interpretations of the relationships for meaning making in information processing.

9.2 Contextual elements of effective communication – the interface

The elements for effective communication as addressed in this section is specific to the research data and they are the variables that elicited meaning making and intention formation in information processing. The themes and codes of the data from which the effectiveness of communication would be assessed for eliciting information processing is pursued from the relationships associated with the preferred media/channel of communication, the descriptive characteristics of preferred type and form of information, and the observed changes in behaviour. These are analogically mapped out from the code sub-code and code co-occurrence functions in figure 9.1 as presented below.

The primary codes of relevance from the code system for mapping the intersections are highlighted in red; namely, preferred media/channel of communication, preferred information type and reaction to messages/behavioural outcomes together with their sub-codes. Through the analogical function intersecting segments are derived for each of the most coded documents segments of the primary/parent codes. For each of the most coded segments codes of the parent codes further intersections were functionally

mapped with the code co-occurrence function of the software following which the relationships of figure 9.1 are generated. The various explanatory and conceptual relationships are labelled A and B with their adjourning and inherent relationships labelled and described numerically below.

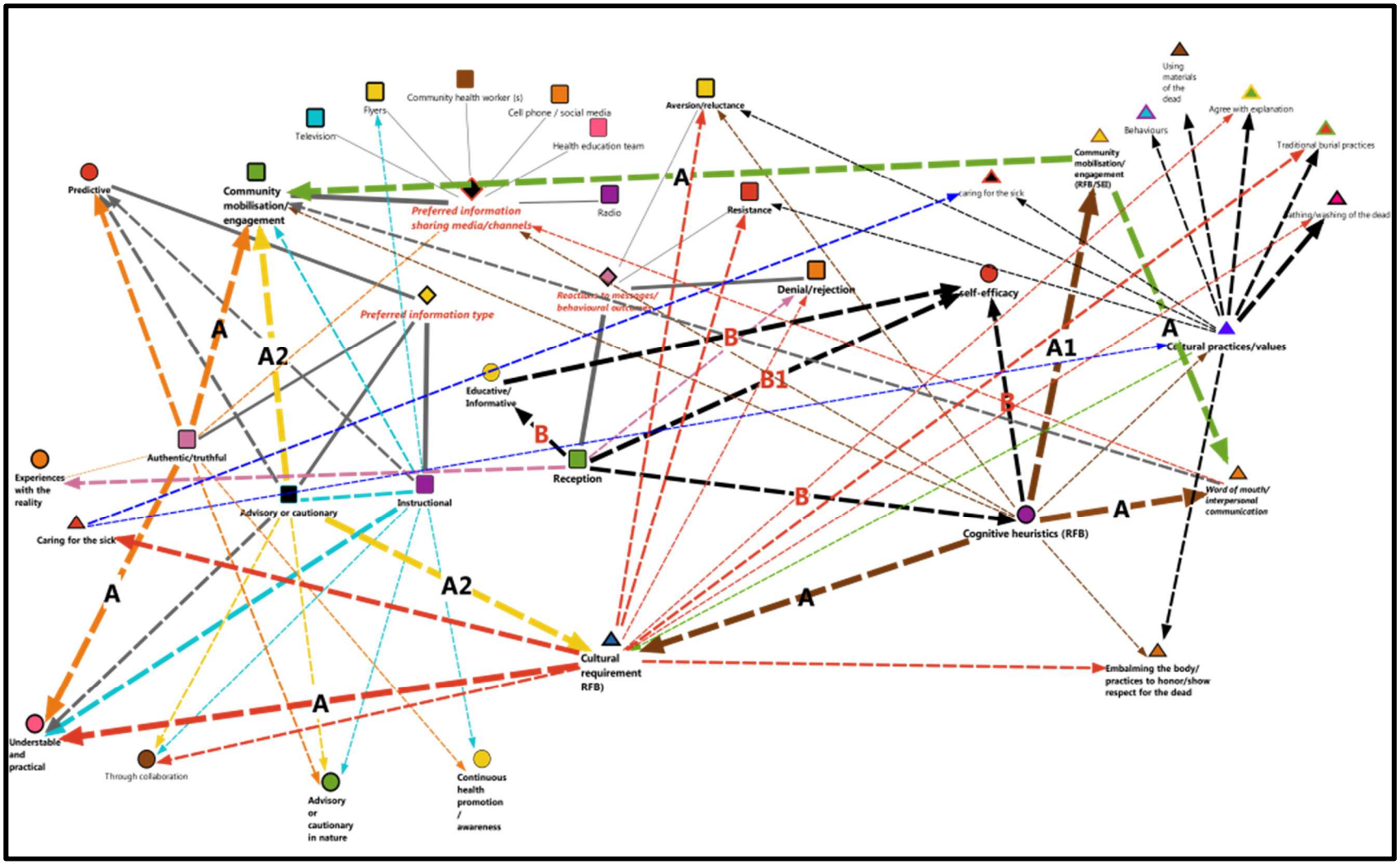


Figure 9.1: Perceptual elements of an effective communication

By mapping the codes, the significant cultural index in the elements of the communication process is community mobilisation at the structural and psychological level depicted in figure 9.1. From the analytical functions the nodes of relations generated are the figures A together with A1, A2 and B. The generated figures demonstrate the frameworks of communication elements that in the perspective of research participants ensured effective communication. The reasons for their effectiveness are traced to familiarity/commonality of the type of communication, trustworthiness, linguistic features, and situational relevance for persuading behaviour change in Liberia and change in general.

The relational codes found in relationship A are community mobilisation, authentic/truthful, understandable and practical cultural requirement, cognitive heuristics, and word of mouth. The code Advisory/cautionary complements relation A through A2. Codes associated with the relationship B are cognitive heuristics, self-efficacy, educative/informative and reception, with BB1 reception, self-efficacy and educative/informative. Both A and B relations in the figure provide descriptive information of the constituents of an effective communication by which the contexts of decision making in a framework are extrapolated. Related to these was the overarching phrase "protect yourself, protect your family and your community" in the final content of the Ebola message frame. The phrase "protect yourself…" was acknowledged by key informants during the research as salient to the containment of Ebola in Liberia, though not much referenced in the focus group discussions (refer to figures 8.2 and 8.2a of the previous chapter). The functionality of the codes, community mobilisation and the overarching message "protect yourself…" herein, referred to as cultural communication indices for message decoding in Ebola management will be the thematic areas to be discussed in the next subsections.

The thematic area of foremost analysis is the cognitive heuristics of community mobilisation in subsection 9.2.1. In the analogy, the functional properties of community mobilisation in intention formation are presented. This is for explaining and understanding its functionality with indices of theoretical constructs of communication and information processing. It is argued that community mobilisation derives the strength of its intention formation from its consistent functional and

structural features to that of the features of a conventional communication process. As such, the predictive utility of community mobilisation as a general framework towards a system-based communication management is subject to the synonymity of the features of community mobilisation with that of the conventional communication process. In the analysis both empirical (cultural) and theoretical information processing and meaning making arousals of community mobilisation are explained in the communication framework, especially as it pertains to persuasive communication.

9.2.1 Cognitive heuristics of community mobilisation

In figure 9.1, community mobilisation was provided as the major aspect of cognitive heuristics that enabled effective encoding and decoding of messages to persuade changes in behaviours. Community mobilisation connected with word of mouth (oral communication) as an element of community mobilisation that aroused message decoding and interconnected with cognitive heuristics as an element in the process of communication in intention formation in cognitions. Cognitive heuristics connects with cultural requirements in reasons for behaviour. Analytically, it is explicit that cultural elements and processes moderate cognitive processes in decision making, hence, this consideration of the functional mediations of cultural elements in cognitive heuristics.

Cognitive heuristics was conceptualised as the variables that determine and guide intention formation or variables upon which decision making both individually and collectively are based; thus, the cues to decision making and action/ behaviours. Community mobilisation to Ebola communication derives from the social mobilisation component of the Ebola management system. The concept in the management framework is, however, synonymous to phrases of community participation, engagement, involvement or empowerment used in both national and international sustainable development approaches. The deployment of community mobilisation as an information media and source within the Ebola management framework stems from the challenges to the conventional persuasive communication approach in changing behaviours and containing the disease. Fundamentally, its general existence and

viability as the common and consistent traditional medium for motivating individual and collective action(s) in local communities of the country necessitated its adoption towards behaviour change persuasions. The generality and recognition for community mobilisation as the local system for communicating and for persuading change was confirmed by Davidson. This is how he presented his opinion on the interconnectivity between culture and communication in his submission; *"…and then we have traditional habit (traditional approach) which we use to deliver information in rural areas and communities, for the people over there to be aware of certain things (to be informed) …"* This submission indicates the acceptance for and commonality of community mobilisation for communication in the populace.

Additionally, the scale of the outbreak and the limited number of human resources available for conducting effective awareness creation in the communities necessitated the engagement of community leaders for effective incidence management and prevention at the community level; hence, the resort to community mobilisation for Ebola awareness creation. This is corroborated by both the traditional healers Amina and Josephine on the experiences of the traditional healers on the Ebola and their opinion about it. Their respective narration is as follows:

> *"…I was nominated by my people when our big big people [82]invited us and asked us to share the message to all our people in our own dialect, in our own community, in our mosques because I am a Moslem. I used to go to the mosque…I advised the people in my community…when day break… I was going from door to door, I did that work according to the way they told me".*
>
> *…and when this Ebola was killing many people they said that it was the tradition people. Everybody was saying that, but we the tradition group who are sitting down here…we are the ones who fought [83] for the Ebola to go… whether we were bathing human beings or not bathing human being… Do this, do that! …we the traditional people we worked all around…we even financed our activities ourselves, including even visits to the media to talk to the people on how to protect themselves…. telling the people how to wash the hand, do this, do that. We spoke our dialect to the people and moved from place to place for the people to take that precaution until now that Ebola went away."*

[82] High ranking government officials

[83] Who fought is an expressing for working assiduously or doing everything possible or sacrificing oneself for the good of all.

Prior to the Ebola outbreak, community mobilisation was basic in the engagement and education of local community members for maternal and child health related activities of the Ministry of Health.

As a system in the local context, community mobilisation is the traditional and established system for local governance; social and economic development among the people. In the cultural communication context, it is the existent indigenous structure (channels) and source for information sharing, organising and persuading collective action(s) and for promoting social harmony and wellbeing in local communities. In the frame of this dissertation, community mobilisation to health communication management is conceptualised as the process involving the purposive and strategic utilisation of traditional sources and channels including approaches specific to a local area or community for information sharing and awareness creation in order to persuade societal behavioural change.

Descriptive of and constituent in the indigenous management structure (channel) are persons of authority and responsibility, mandated to make decisions on behalf of the community. These are mainly the chief, elders, and leaders of the various social groups including religious groups, traditional sect groupings, and civil society groups existent in the communities. Members of the structure are also referred to as traditional leaders and are trusted community members. For example, Jack noted that "*the various communities have leaders and the traditional people*[84] *too they have heads"***.** Functionally, members of the broader traditional community mobilisation structure are further subdivided into groups and referenced according to their social functions/responsibilities/expertise for consensual decision making and implementation. For instance, the eldest woman in the community, who may also double as the head of the Sande society, is always a member and is functionally responsible for the organisation of the women and girls for gender-related activities in the community. The head of the traditional healers is also responsible for organising the healers on matters of the health of the people and community in general, and the head of the Poro society is charged with matters concerning the wellbeing of boys in

[84] Traditional people when used to connote leadership or persons of authority refers to traditional healers.

the community etc. Age, experience, and society/sect membership and trustworthiness among the local people etc. are some of the basic criteria for membership to the community mobilisation structure for local governance.

In the frame of the Ebola management system, the traditional community mobilisation structures for persuading change was complemented and expanded to include voluntary community residents. The voluntary community members referred to as community volunteers or the community task force were provided with training on Ebola symptoms, transmission, and prevention for Ebola information sharing and awareness creation. This was to ensure enhanced accessibility of the people to trusted sources of information. More often than not, the volunteers were also trusted and known persons in their communities. The responsibilities of the volunteers were to work in collaboration with the traditional leaders in the communities. They were responsible for sharing information on the symptoms, prevention, and control of Ebola by a) conducting daily household or door to door visits and sharing Ebola information; b) tracing persons who have come into contact with an Ebola infected person(s); c) distribution of posters, and d) general monitoring and record keeping on cases. Other activities included monitoring the movement of people in and out of the community and observance of quarantine restrictions in the community, designation of areas for hand washing, and distribution of basic needs such as food and water for households and communities under quarantine restriction.

Membership enrolment prerequisites to the quasi and complimentary community mobilisation structures for communication in the Ebola frame was sustained residence in and familiarity of the area, ethnic affiliation, and linguistic competences for the area of deployment/geographically assigned location. Primary education was required, but was compromised for situational reasons of the scale of Ebola and its human resource challenges, including unique ethnic and identity characteristics to relationships and inaccessibility of many remote rural communities. Knowledge of and appreciation of the ethnic culture and values, trusted by community members was, however, necessary.

Community mobilisation as a variable that determine meaning making in communication has been explained above. The actual process by which community mobilisation function in cognitive processes to meaning making will be discussed extensively in 9.2.2 below.

9.2.2 Processes of moderations of community mobilisation in cognitions

Operationally, all the traditional features of communication in the traditional community mobilisation context was employed and utilized in the Ebola communication management. Thus, local persons/people as source element in the communication process, interpersonal and oral approach, local and indigenous language for message delivery, and complementing interpersonal communication with music and drama (where existent or accessible by mobile theatre groups) in the entertainment frame for education or awareness creation.

The messages were orally communicated and encoded in the ethnic and indigenous language frames using the appropriate linguistic words, phrases, and speech parts, sensitive in the values of the people. The appropriate choice of words descriptively enabled message recipients to situate messages in their correct perspectives and decode messages in accordance with social values and societal expectations in the cognitive processes to information processing. The messages of the community task force and traditional leaders did not differ in frame from those broadcasted in the mass media. Rather ethnic personalities dually functioned as the source and channel elements in the communication and message content was reframed to conform to the linguistic jargons, and expressions of the respective ethnic groupings. The utilisation of oral and local languages in the encoding of messages for the respective ethnic groups ensured that the patterns, rules and structures to a language were enabled that appealed to the imaginations of the people for effective message decoding and understanding.

Cognitive dynamics of community mobilisation as a process has inherent persuasive capability element to behavioural change. Its persuasiveness in the Ebola communication is associated with its perceived social identity orientations, credibility,

and information sharing accuracy in the message encoding and decoding features for which reason it is preferred above other channels of communication. The preference for community mobilisation as a source of information is embedded in the intrinsic mediations of community mobilisation to message credibility in the context of the culture for understanding and meaning making. Culturally, the credibility/trustworthiness of information is adjudged from the source – identity relationships. The nature of the relationship becomes the locus of referral in cognitions in the determination of message credibility and has cultural and historical underpinnings.

Generally, different types of relationships elicit different levels of trust in actors of a communication process as a result of the perceptions one may hold for others and especially those held for given groups of people. The type of relationship (biological, social, geographical) determines how a message would be considered and processed in cognitions. For instance, a Kpelle man is more likely to believe the blatant lies of a fellow tribesman than the truth of a non-tribesman simply because of the sharing of the same ethnical identity and values. Information processing in such situations has little to do with the merits of the literal message and situation. Rather it becomes a matter of the level of trust (commonness of interests/purpose) held for people other than oneself. That is, the trustworthiness of a message irrespective of the situation is rooted in relationships. This is because cognitively, the source and the message are imagined as one and not detached. The common descriptive phrase to reference the depiction of the embodiment of the message in the person is “you are what you say”. Thus, the content and meaning of a message and the source of the message cannot be detached from each other since messages are the physical expressions of the innate part of the cognitions of the person.

In Liberia, relationships are distinguished either as intimate/closed (blood relations, ethnic, neighbourliness, religious or sect membership) or distant (foreigner /stranger, non-ethnic related, non-community resident or non-ethnic). Relationships become one of the mediatory elements in information processing in cognitions that cannot be ignored in any communication among the people. It even determines the type of information that one discloses to the other. The reaction of a traditional healer to the

research assistant in section 7.1 of chapter 7 on a question about their personal experiences as members of the Poro society that was misinterpreted and clarified attest to this statement. The characteristic features of community mobilisation, namely, persons in whom biological, social, and geographical characteristics of the self could be referenced and ascribed enabled credibility attribute of messages in persuasion to be elicited. Community mobilisation was, thus, important in mediating cognitions for message decoding.

Another complex intrinsic element in community mobilisation that moderates message credibility assessments during information processing to persuade behavioural change in community mobilisation as a structure is the framework for classifying and distinguishing people/relationships based on their mode / source of knowledge and skills acquisition. The mode / source of knowledge and skills acquisition is a variable for deriving trustworthiness of a person or information and is responsible for mistrust and distrust of persons for each other. Inherent in the use of knowledge or skill in the determination of credibility/trustworthiness in communication in general and persuasive communication in particular is the thought about the probable benefits that partners (sender and recipient) in a communication are likely to derive or leverage from each other. The people acknowledge that knowledge or skill may be acquired either formally (westernised classroom approach) or informally/traditionally (bush schools or from the socialisation processes; learning from micro-unit in the immediate environment of the person). Psychologically, the source of knowledge is the yardstick for judging the level and quality of skills of a person. Knowledge acquisition is perceived in relation to skills/profession (herbalist, midwife, medical doctor, etc.).

In the previous contextual explication of community mobilisation to information credibility, the mirror of the self in the personalities of the structure and process of community mobilisation (perceptions of similarity/identity in relational perspectives) was used. Biological and social similarities/identity were referenced in the source of information to mediate cognitive processes to information credibility and persuasive communication. Nonetheless, knowledge and skills are related elements that in the perceptions of the people also moderate credibility even in interactive situations of persons sharing similar/same social identities to affect information processing.

Differences in knowledge and skills between the source of information and the recipient of information affect cognitive processes to information processing. This is, however, not from the perspective of comprehension, but in terms of trust for a person and the credibility of information received from a person in a communication. This is because knowledge and skills in the culture are perceived to enable person(s) to be privileged to certain information and capabilities which may be exploited and utilized to the disadvantage/detriment of others in the relationship.

Observations on the field and data analysis indicate that, in the cognitive process of relating to others in an interaction, knowledge and skills are perceived to reduce equality in value composition and in identities for which imbalances in similarity and commonness in purpose (individually and collectively) is questioned. Rhetorically, the existence of differential knowledge and skills between any two persons in a communication imply that similarity become inadequate to define trustworthiness as the self cannot be fully referenced in the other. As a result, commonness of purpose/outcomes (ensuring individual and social harmony) becomes the element/value index for determining information credibility. The derivation of commonness of purpose emanates from experiential knowledge of benefits obtained in the past from the source of the information in relation to past interactions to determine information credibility.

The locus for adjudging the credibility of information of a given source in a communication is a matter of perceptions of derived benefits/outcomes both individually and collectively (social harmony) of past communication processes. Based on the observations and experiences in benefits/outcomes of past usage of knowledge, combined with the above traditional determinants of relationships (biological, social, and geographical relationships), perceptions of trustworthiness are formed. That is in cognitive frameworks of information processing, the credibility perceptions are based on how knowledge was utilized in the past by the source of a message to the benefit of the information recipient, especially in the collective sense. Subject to the perceptions of benefit from knowledge utilisation from the source of information by the recipient from past interactions, perceptions are made as per person/people (sources of information) and the credibility of information shared in any

interactive process. The perceptions of credibility existent in cognitions may then be negative or positive as defined from the fulfilment of the value of social harmony in the culture, which may also exist in the emotions of the person/people.

Functionally, in communication, cognitive information processing references the existent knowledge in relation to the source to determine its credibility/trustworthiness through outcome orientations. Depending on the nature of outcomes (individual and collective benefits or social harmony) of past information from a source in existing knowledge, intrinsic arousals in emotions would also be activated/ aroused to complement information in cognitions in the process of information processing to motivate behaviour accordingly. The intrinsic element is then the outcome values in the information to the recipient in the outcome value of the source, but is aroused by existing affections (emotions) in existential knowledge in the information recipient.

During the research, the functionality of community mobilisation was referenced in the structure symbolically as a personality with knowledge and skills in the perceptions of the people, whose information in the past ensured both individual and collective wellbeing/social harmony in outcomes. Functioning as a source in the process of communication, community mobilisation shares information whose benefits is perceived as not parochial, but for the total interest of the community, based on experiential knowledge. As such, community mobilisation in the communication process to Ebola was perceived as credible/trustworthy because the purpose of information sharing by community mobilisation as a structure is not involved with the seeking of selfish interests.

Trustworthiness is perceived and defined in the people (information recipients) from its homogeneous relational and value outcomes elements in intrinsic motivation to information processing. The perceived outcomes in values from existential knowledge enabled positive affections in cognitive processes to be aroused in relation to the perceived trustworthiness of community mobilisation to change behaviours. Thus, perceptions of community mobilisation from experiential knowledge in the values of the people mediated cognitive processes functionally and enabled message reception to motivate behavioural change. The perspectives of outcome orientations perceptions

in the cognitive process, seen from the relational element is the characteristic feature inherent in community mobilisation as a structure and process that intrinsically aroused information processing and motivated behaviour change in the people.

The above explicated mediations of community mobilisation in terms of level of knowledge and skill acquisition of the source of information in communication was contextually presented during the research. This, it was indirectly noted as one of the reasons responsible for the initial ineffectiveness of message decoding, especially among traditional healers and secret society groups.

In the research discussions, the intrinsic element of perceptions of credibility to information processing was discussed metaphorically using perceptions held for classifying and differentiating the various ethnic groups on the one hand, and knowledge and skills acquisition processes of a person on the other. The observed and referred metaphors/ synonyms for distinguishing relationships and trustworthiness of an information in communication during the research were phrases such as "my people", "we the traditional people", "we the Bassas etc", "the Lofiems (referring to the ethnic group and people from Lofa)", "the Bassa people…etc.", "the junky – young classroom educated person", "the civilized men – conventional and scientific educated person who makes his or her arguments from facts and figures or mathematical values". For instance, the categorical name used for the distinction of people professionally in the parlance of traditional healers was provided by Isaac, a traditional healer in his submission on the relationship between biomedicine and traditional medicine:

> *"…. In 500BC in Gweji the lesson we discuss… was discovered…in 500 BC… They choose **wastra** activity…. which is herbalist e thing…then they choose a **hypocrater**[85]…which is the medical doctor at that time…"*

Another detailed example of differentiation and classifying people for relationships and perceived credibility considerations as based on ethnic affiliation was submitted by John, also a traditional healer. The deduction of credibility/trustworthiness was

[85] The name as could be inferred is derived from hypocrite. The form of perception in the minds of the people from a message source referred to as hypocrater is obvious.

described in form of the perceived capabilities, character, religions, and their practices in the culture. Following is the direct and unedited submission of John;

> ***John**: we have…when we take **the Saa**… **that their I catch you** (Isaac laughing)…because they flop you…, (he vocally makes the knocking sound- kokoko)…so they will flop you very well… We know them to be to pretenders…we know **the Gio men** to be…somebody can study your GP constantly…we got **Kru men**…my brother they can't play with you…**Vai men, Bassa** their tribe is OK… **then the Iman** and their custom…their level of custom… their own custom say that when the Imam die…to get more blessings…they will bath the Imam…the water from washing the body…they carry small cups on them…everybody gets some of the water…don't bath body…No… and where are they now? (One asks)…they are in Lofa…I forgot the town name…the whole town die from Kpolo (traditional reference for Ebola)…that was the time they took one Imam …one from my place…that place… charley they died there…then **the Bassa people**, their own culture… is to care for people…you know…so anything that happens to you… family people (family members) come around to take care of you… and then we have **the civilized men**…believe they can do the quantitative in man…so when talk to them… they don't listen, … you are a local engineer… and know nothing.. that is our culture that's it*[86]

Characteristically, in situations of uncertainty elements of relationship in identity and differential capability characteristics are symbolically employed and referenced to assess credibility/trustworthiness of incoming information.

Another intrinsic motivational function associated with community mobilisation is the interpersonal nature of the message delivery in the process of communication which mediated and aroused cognitive processes to action. The persuasiveness of the interpersonal approach (door to door or household visits) to information sharing relates

[86] Bold phrases and sentences are to ensure ease of identification of the differentiations by the author owing to the pidgin direct presentation of the submission in the dissertation. The submission also indirectly provides a context for understanding how the credibility of messages are perceptively decoded based on perceptions held in the minds of the people generally with respect to the ethnic, religious, and educational background characteristics of a person and of the source of an information. For instance, in closing his submission, John, reveals the thoughts and reactions of the people generally after the people have received Ebola messages/awareness was created initially by the health education team of the Ministry of Health and other agencies. The deductions from his submission are that people listened to the conventionally trained workers who went around with messages educating people, but in their minds as they processed the messages as per the do's and don'ts of Ebola messages, they secretly settled for contacting a soothsayer/exorcist (bogge - witchcraft) or traditional religious healer/herbalist for treatment and prevention because it was believed that Ebola was caused by a curse (African sin).

to the arousal of context specific variables of information processing in cognitions. Generally, interpersonal communication as a process involves the use of common language. The process of communication ensues in a discursive manner during which context specific variables are actively utilized to direct cognitive information processing. This direct discourse enables high attention in cognitions to be drawn and directed towards expectations in the message in relation to context specific issues which subsequently arouse affection and persuade action in a person.

Similarly, the interpersonal communication approach of community mobilisation provided opportunities for the awakening of value related consciousness in cognitions in the people from which expectations could be referenced. For instance, in the process of interaction, message recipients could directly observe the visual and verbal communication attributes from the cultural perspective (context-specific frame of understanding) of the message for meaning making. Depending on the context of their usage in the culture for prompting and directing actions, the explicit observance of the visual and verbal inflections during interactions aroused consciousness in the people in terms of meanings and expectations to motivate actions. The direct interactive contacts enabled implicit meanings in the language frames from the inflections to be aroused contextually in cognitions as consciousness (thoughts and affections) was appropriately awakened. The interpersonal nature also ensured that feedback on matters of doubt and non-clarity lingering on in the cognitions of the people of which anxiety has been created in emotions and impeded information processing were directly addressed to enable effective message decoding.

Complimentarily, entertainment education approaches which are common to the people also elicited imaginative arousals in cognitions to information processing. Subsequently, expectations became explicit from which messages were effectively decoded in the process of information processing in the context for meaning making in the people. Thus, the interpersonal communication approach in community mobilisation as a process and as it functions to guide the process of decoding is one biased towards connotative meanings and not simply literal meanings in the persuasion of action(s). The relational elements that motivate action in the interpersonal communication nonetheless, is inherent in the totality of thoughts and emotions shared

by the source with the recipient in the interactive process from which the recipient could deduce a sense of similarity, commonness of purpose and collectiveness to enable message reception.

Rhetorically, trust is built over a relatively long period of time through regular or sustained interactions and specifically through the sharing of common values[87]. Opportunities for and period of time of relationships/associations translates into levels of trust in the source of information for its acceptance. Typical of the system of culture, the receipt of Ebola information from trusted community members, structure, and process was adjudged as being credible compared to others. Basic in the reasons of shared identity in social relations and values was the traditional element of communication from which meanings are derived. From the above, the dominant regulatory elements both explicit and intrinsic in information credibility are the shared identity/social relations in the element of the source and the traditional process to persuasive communication in message decoding.

9.3 Cognitive heuristics to "... protect yourself…"

Message development to persuasive communication requires consideration of context related issues of the problem for the design (composition/framing) of contents of messages. In figure 8.2 above, protect yourself was coded in the Ebola communication messages and interacted with the message code of do not touch the sick and dead bodies in the data. Essentially, considering and understanding the context of a problem is plausible to designing persuasive messages. One can say that for communication to be persuasive, persuasive messages may have to be brief, explicit, and practically encompassing to affect cognitive structures of information processing. Message design, nonetheless has to be consistent with the context to respond to the needs of message recipients and simultaneously achieve the goals of persuasive communication. In this perspective, the above-mentioned overarching messages to

[87] Details of how trust is built from the research discussions were contextually and specifically explained in terms of membership to society/sect group and the sharing of common values among members as explicitly indicated by the traditional healers, as well as in relating/associating with others tribally and to a lesser extent from staying together over a longer period of time.

Ebola management were checked for consistency with the behaviours underlying the spread of Ebola in figure 9.2 dubbed "cultural map of Ebola". The analytical orientation of figure 9.2 references culture as a context and a process to behaviours and behaviours as meanings and expressions of culture. Consistently, a persuasive communication message must pattern the context; meanings, and processes to illicit information processing and responsively persuade behaviours.

In the analogical overview of figure 9.2, cultural values and requirements are referenced as a context and process in the Ebola outbreak. In so doing, relationships could be deducted for 1) the causes of Ebola as the problem of messages (what is…problem definition), 2) cultural values as the influencing factors in the problems (how does it…process), and 3) cultural processes (context specific approaches in message type and nature) as better options for addressing the problem messages of the (how to…methodology, tools, techniques).

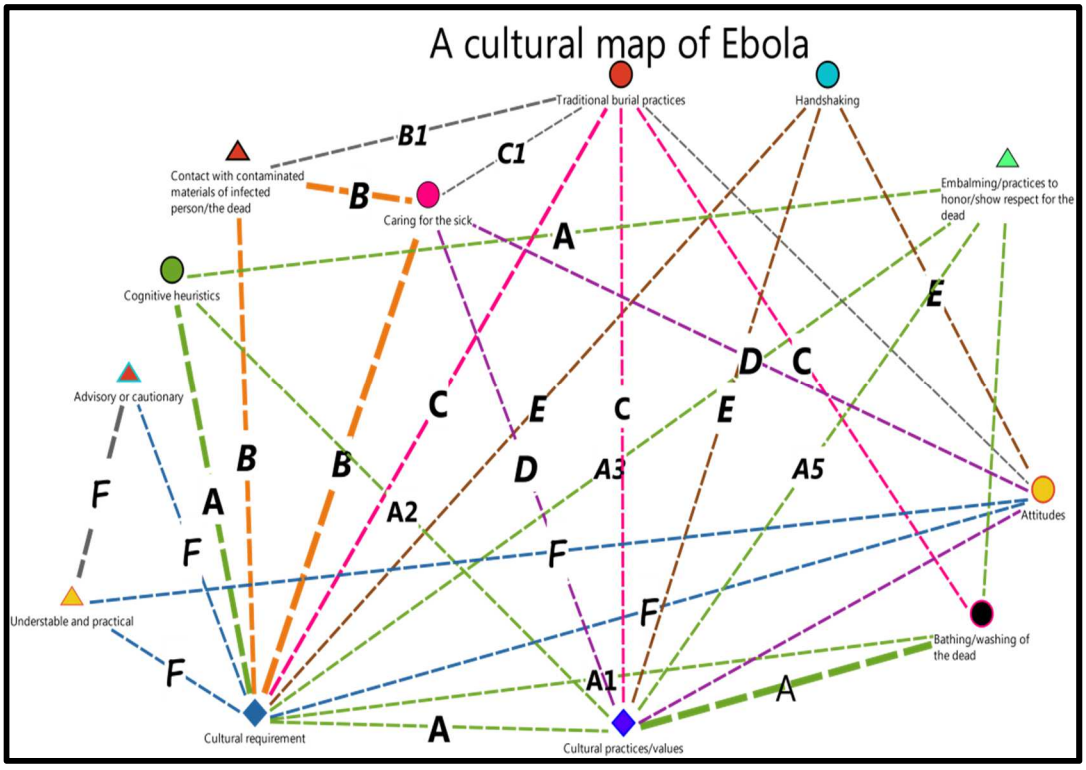


Figure 9.2: Interrelationship in Ebola transmission mode and overarching Ebola messages

In the relationships A and B the codes cultural practices/values (parent code), bathing/washing of the dead, embalming of the dead, cognitive heuristics and cultural requirement and cultural practices/values, caregiving and cognitive heuristics

respectively are generated from the relation. In the relationship, some of the cultural values are mentioned and their relation to decision making is interconnected with cognitive heuristics. The cognitive heuristics deducts from the practices being a requirement that have to be complied with for which reason meanings are made and intentions formed. Though similar to A and B relationships, C provides a descriptive example of the cultural value and requirements where traditional burial is a value and requirement which goes with it the washing of the dead, without which the values and requirements may be regarded as having been breached. In the fulfilment of this requirement, contacts with contaminated materials of infected persons occurred (BB1C relationship) to explain the transmission chains of the disease. Fundamentally, all the above relationships conceptualise the frame of the spread of Ebola from the purposes it fulfils in the life of the people. E relationship is an intersection of cultural practice, handshaking and cultural requirement. The centrality of handshaking in the culture can be supported with this quote of a research participant "…*people will really know you love someone, when you shake the hand of a person or hug the person*…". Unlike the other relationships, relationship F (cultural requirement, attitudes and understandable; cultural requirement, understandable and cautionary) informs about the nature of a problem and the message related features by which the problem could be addressed.

Following the descriptive intersections in the problem of Ebola from a context perspective in relationships of figure 9.2, it is evident that a conventional communication process may not be adequate to elicit the needed intention formation in the absence of a context relevant approach. Communication must, therefore, bear some of the features of the context-based communication for meaning making to occur. In this section, the motivations of the overarching messages are considered with particular reference to the latter two key messages, which were also the most effective to persuading behaviour changes. The respective overarching messages progressively developed throughout the outbreak were, *"Ebola kills*"; "*Ebola is real*"; "*Ebola is real- but there is hope*"; "*Ebola must go"* (December, 2014), "*Stopping Ebola is everybody's business. Protect yourself, your family and your community…"* A brief overview of the development processes of the overarching messages is foremost

considered as a prelude to the respective understanding of the cognitive heuristics of each of the key messages/slogans.

9.4 Processes of moderations of ".... protect yourself" in cognitions

The slogan "*Keeping Ebola out of Liberia is everybody's business. You can protect yourself, your family, and your community"* conceptually extracts from the contextual problem-solving approach in the system of culture. This is through the systems of truth for knowledge generation and meaning making in combination with the encompassment of the structure of reality and value systems referenced in the dimensions of the African's perceptive view of the world. Explicit in the slogan is the embodiment of the value orientations in the culture that stresses the ideals and effectiveness of homogeneous or consensual actions to solving problems. Implicit in the message is the subconscious acknowledgement of the subjectivity of individualism and ineffectiveness of uncoordinated actions to outcome orientations from a cultural perspective. This has been conceptualised in outcome orientations to social harmony for meaning making in the cues to behaviour and composed in the ethnocentric language frame of interdependency of the self in collectiveness of the value system. The interdependency of the self in the collective was relationally encoded to draw attention or direct cognitive processes of meaning making in the process of information processing towards the effective management of Ebola. The effectiveness of this message to Ebola management is basically by virtue of the message's verbal and nonverbal symbols for transmitting and portraying the knowledge and value system of the people, which arouses both psychological and intrinsic motivation elements in sub-coconscious structures of cognitive processes to information processing.

In the message, the literal and connotative encompassments to knowledge generation is philosophically conceptualised in the social identity definitions for the meanings of life in the Liberian value system. The expressiveness of the values for cues to behaviours is communicatively codified in the existentiality and wellbeing/social features of identity, interdependency, and collectiveness in relationships in the culture. These social wellbeing features in communication and meaning making are integrative

and ideologically ordered as the self, family, and community for information decoding. Ideologically, the self is not distinct from the family nor the community; all three are interconnected to portray interrelationships and implications of social costs of actions. The process to eliciting consciousness and affection (intrinsic motivations) in cognitions in the communication process was context specific and relates to the totality of social values in meanings of life. Specifically, the process involved the utilisation of a language frame that systematically positions the person, the value embodiments of the person and the context of the person symbolically in a relational manner in the message encoding to mediate the subsequent decoding of the message.

Conceptually, in the process of information processing the self is defined and perceived in relation to others and the overall value of the context in social identities. Cues to behaviour are value oriented and context related in actions. The value embodiment frame of the person in the context as defined by identifiable variables in the social identity, elicit relationships with frames of values of the group to check for consistency and direct cues to action (behaviours). Subject to the value of the person defined by the context and of the group, the values in the framework of the context, which are also the cues to action (behaviours) are accordingly patterned in the person to mimic group actions in the context. Generally, in collective cultural settings, cues to action (behaviours) are automatically patterned toward group value orientations owing to the strength of the values in the person which have been formed over the entire socialisation process of the person, which also seeks to fulfil group values in order to avoid the incurrence of social costs (stereotyping, sanctioning etc.). Behaviours/actions, therefore, tend to be oriented toward group actions and values aimed at ensuring social harmony. In accordance, in a communication process the contents of a message for a collective cultural setting must highlight elements reflective of social cohesiveness. This would enable the creation of appropriate cognitive imagery and arousal of the associated emotions to persuade behavioural enactment in the message.

For the Liberian, the meaningfulness/existentiality of the person is identified and defined from relationships and complementarities or interdependency and collectiveness. The self is perceived as an interdependence of relationships and the

perceptions of others in the relationship. Group or social concerns determine patterns of behaviours following the identification and definition of the self in relationships. Patterns of behaviours portray in-group and group value orientations that are enacted to avoid disruptions in social harmony or social cohesion in relationships. This value of maintaining social harmony for the avoidance of isolation in the group with its contextual psychological, emotional, and socio-economic consequences persuade actions toward those that are group-oriented. Generally, group concerns supersede individual concerns in cues to behaviour, but as mentioned in the previous chapter group concerns is subject to change under conditions of high perceptions of susceptibility and high degree of noxiousness of a disease. Cognisant of this philosophical disposition of group concerns in the people and the dynamics of previous messages on the Ebola management, the final Ebola communication *"… protect yourself…"* strategically encapsulated and highlighted all the elements in the value system for the enhancement of behavioural persuasions in the system.

A critical consideration of the message shows that cultural values moderated the elements and process of message content and information processing in the later stages of the communication process. The communication approach and elements towards the maintenance of the sustained zero infections, thus, focused foremost on the arousal of consciousness about the synergetic perspective to problem solving implicit in the cultural value of collectivism in the people. The phrase ("… everybody's business"), in the introductory text of the slogan adapted the characteristic cultural element in the language and of the value system for expressing participation, including concerted efforts for the arousal of consciousness to illicit cognitive processes to information processing.

Furthermore, to persuade behaviour, the self and personal identity was relationally and consequentially constructed. The constructed self was consequentially situated in the collective from the value of interdependence and social harmony in the message frame as a system in a multi-directional[88] interactive context to ensure the situation of the self in relation to others and the problem of Ebola in information processing. The

[88] The self is constructed as a process and context in a closed loop system of relationship with feedbacks and not linearly.

contextualised self in the relationships of the value systems moderated visual construction of meanings in cognitions during the process of information processing and aroused intrinsic motivation elements (feelings/affections). The formed images in cognitions and their respective cultural meanings for the self and the others enabled the construction and visualisation of social reality in cognitions which moderated emotional feelings/affections subject to the constructed cognitive image to persuade behaviour. The moderations of cultural value elements symbolic of the self in the language, the cultural processes to communication (community mobilisation) vis-à-vis the experiences made (experiential knowledge - latent in subconscious cognitive structures) over the period of the outbreak elicited the involvement of the people in the process of change both cognitively and emotionally. The involvement of the people ensured that the achieved eradication stage was sustained.

The moderated outcomes of *"… protect yourself…"* slogan in the communication process was characterized by active response to the message including the voluntary seeking of treatment and reporting of the sick, acceptance of treatment at the Ebola treatment units (ETUs) and away from the home, voluntary calling of the hotline 4455 to report the dead and compliance with quarantine periods among others. The utilisation of community mobilisation ensured the active assignment of the appropriate cultural elements, namely the language (for relation of the self in knowledge generation and meaning making/understanding) in messages that mediated cognitive structures to information processing.

To conclude, *"Stopping Ebola is everybody's business. Protect yourself, your family, and your community…"* was a slogan that enabled self-identification within the context of the problem, thus, arousing a sense of vigilance to persuade behavioural responses to recommended actions. It was also the concept for unifying the people synergistically for a sustained management and eradication of the Ebola out of Liberia. The slogan exploited culturally specific elements to meaning making and addressed outcome orientations from the cultural value framework to elicit information processing and persuade behaviour.

9.5 Conclusion

Challenges in the persuasive communication in the frame of the Ebola outbreak is a process and a context problem. Effective communication as analysed from the context, may be deemed, on the one hand, as a matter of understanding behaviours contextually and, on the other hand, as the degree to which the relevant context-related variables can be integrated in communication to persuade behaviours. In the frame of persuasive communication, community mobilisation functioned interchangeable as a structure and process of communication to elicit the desired implicit and explicit information processing arousals. This dual functionality of community mobilisation in persuading behaviours exploits as already noted from its information processing properties of credibility, interpersonal and verbal communication approaches. Considering the analogical and conceptual patterns of the relationships conceptualised, the interface between communication and culture may be defined as structurally oriented in terms of its functional perspective of a process. Additionally, health and culture also intersect at the process level but from the diagnostic and treatment frame so that the process in persuasive communication becomes a primary element of effectiveness.

Furthermore, the patterns of relations for message encoding and decoding indicate that brief, precise, and concise but all-encompassing messages arouses consciousness and a sense of responsibility which drives the enactment of recommended behaviours. The attribute of such messages are embedded in the value orientations of the context which allows the understanding and processing of information. Following, persuasive communication must aim at adapting to a system's relevant communication processes for behaviours that are enacted for reasons of their functionality in the worldview of a people.

This explored interface is essential for the overall output of this dissertation and would serve as the major input for the design of an appropriate model of communication in highly entrenched cultural settings. The design of the model would be pursued in the next chapter.

Chapter 10

Theoretical and conceptual inferences from empirical data and framework for culturally appropriate communication

10.1 Introduction

The rational for this study was the identification of the interface between scientific communication and culture for the development of a culturally sensitive (ecologically-related communication paradigm) that will enable effective communication and ensure improved epidemic control management, especially for complex social settings. The derived objectives for this goal have been addressed based on the findings in their conceptual framework in chapters six to nine. In this chapter the key findings about enablers or enhancers of information processing for the effective Ebola epidemic communication management are discussed. Then, a culturally sensitive/appropriate communication framework as identified from the research data is modelled. The discussions are aligned to the characteristics of the system of culture in relation to the research questions and of the research data, as well as the analytical mappings in terms of communication and decision making on the Ebola crisis. The topics of the discourse will revolve namely around;

- the management system for managing the Ebola (section 10.2.1: RQ1);
- the characteristics of perceptions of health in relation to health behaviours during the outbreak (section 10.2.2 RQ2);
- reasons underlying the behaviours in message outcomes (10.2.3: RQ2b)
- the characteristics of the content of communication in which positive behaviours are initiated and maintained (section 10.2.4: RQ3). Within this section the question of cultural indices exploited and incorporated in the communication management of the outbreak and its related sub-questions are addressed;
- the interactional relationship between communication and culture (10.2.5: RQ4).

10.2 Research questions

The focus of this section is the discourse on the central persuasive communication and cultural questions of the research of extant literature. The discourse, however, considers only the major questions in relation to the research findings and the overall objective of the dissertation.

10.2.1 RQ1: What communication management system was used for communicating Ebola information and how was it used to organise the communication process and outcomes?

The rational for this question is the relevance of methodological issues or systematic information sharing processes in ensuring the avoidance of miscommunication and its negative impacts on the credibility of information during crisis and epidemic outbreaks such as the Ebola. The research identified that the WHO guidelines was referred to, but not strictly/specifically utilised. The merits of the WHO guidelines are the acknowledgement of the importance of the approach to communication; however, it is also insufficient for producing an effective communication management system. Additionally, the communication management system (processes of information sharing for effective communication) for Ebola was ad hoc in nature and had no thoughtfully conceived conceptual framework guiding its management approach. This corresponded with the challenges of credibility and effectiveness for managing the outbreak.

This ad hoc approach was in contrast to WHO guidelines. According to the WHO Outbreak Communication Guidelines - WHO/CDS/2005 (WHO, 2008) the effectiveness of communication for the rapid control of epidemic is related to the building and maintaining of trust in the people of an intervention. The building and maintenance of trust must be the goal of communication which according to the guidelines is contingent on the methods of communication. The methods ideally involve ensuring early announcement/information sharing; honest, easily understandable, complete and factual communication (transparency); understanding the public in terms of their latent beliefs

(for purposes of message design) and planning (integration of risk communication in the preparedness of all activities and aspects of the outbreak management) (WHO, 2008). Generally, crisis management teams often assume that the outright adoption of the guidelines without a critical assessment of the subjectivity of credibility and context in meaning making for different audience would still ensure effective communication. (WHO, 2008; Green, 1999).

It is equally important for members of the crisis management team to have knowledge and skills in risk communication. Empirically, numerous examples exist where the blanket adoption of even the widely upheld WHO guidelines without a critical analysis of context-specific adaptability issues of outbreaks, including the 2014/2015 Ebola outbreak has not necessarily ensured effective communication (Airhihenbuwa, 1995; WHO, 2008). The problem of inadequate knowledge and skill of the crisis management teams inadvertently affects effective communication as the knowledge and skills of members impact their choices of approach (Fischhoff, Bostrom and Quadrel, 1993). As with the initial Information Management System of the Ebola outbreak, the mere adoption of guidelines by local experts[89] (Staff of Ministry of Health and Social Welfare) who did not possess the requisite knowledge and expertise in risk communication did not necessarily induce credibility or internal consistency variables in the evaluative assessment of perceptions of risk among the audience (populace).

The competence of management teams relates to choices for processes to adopt and nature of information to design (Fischhoff, Bostrom & Quadrel, 1993). Subject to the competency level of the management team, the choice of communication by the management team may give precedence to either accuracy (facts and figures) or relevance (use of words, phrases or terminologies and the beliefs about what they mean for experts and will mean for the audience) of information for cognitive decision-making processes (Fischhoff, Bostrom & Quadrel, 1993; O'Keefe, 1988). Basically, the problem with competency of a communication management team is the underestimation and

[89] The call is often made for the predominant use of local experts for the design of message content and management of communication interventions (Airhihenbuwa, 1995; Green, 2008; Hewlett and Hewlett, 2008)

misinterpretations of communication about the capability of message recipients to independently process information accurately and make decisions in the process of information sharing. Often, risk communicators fail to consult and collaborate with stakeholders of a communication intervention on the nature and content of information to utilise (Fischhoff, Bostrom & Quadrel, 1993). In this current study, local/ community leaders were not enlisted in the process of communication because the IMS team perceived itself as being self-sufficient to define and communicate risks effectively to the message recipients. As a result, there was too much quantitative information and not enough qualitative information resulting in misinterpretation, low perception of information credibility, and inappropriate reactions.

Rhetorically, in terms of the parameters of underestimation and misperception in theories of risk communication, the process did not identify information to be communicated from what recipients knew (credibility) and did not adopt the appropriate format in the information presentation (internal consistency) (Fisher, 1987; Fischhoff, Bostrom & Quadrel, 1993) in the development of the communication. Conclusively, this study corroborates that the process is an essential component in persuasive communication intervention for epidemics owing to its interconnectivity with credibility and accuracy variables in information processing and meaning making both psychologically and emotionally. The methods of communication during epidemics must therefore be reviewed in discussions about constituent members for a communication management system of an outbreak, their choice of communication preferences and its overall effectiveness of an intervention.

10.2.2 RQ2: What were the contents of message design for the Ebola intervention program and what motivated the people to abide by or reject the messages conveyed in the campaigns and why were they motivated?

The research data revealed that the contents of Ebola messages conformed to given management goals so that message modifications were observed for the different phases of the outbreak. No formal reference was made to theoretical concepts for the construction

of messages. Notably, subject to the features of the content of messages for each of the outbreak phases, the premises and beliefs inferable from the designed messages had features that are assignable to risk perceptions and behavioural analysis of conceptual frameworks, especially at the initial phases of the Ebola outbreak. Accordingly, the initial functional characteristic to information processing arousal and intention formation features in the content of Ebola messages for changing behaviours was that of a psychological or extrinsic approach. The later changes in approach was the integration of both extrinsic and intrinsic information processing arousal approaches and this occured in the final phase of the outbreak. The two overarching messages for the contents of messages that logically related with the management goals for the containment of Ebola was "Ebola kills" (which changed to Ebola is real) and "Ebola must go" (which was extended to …it is everybody's business).

Generally, in the logics of message design (premises and beliefs), the content is systematically derived from the communicative goals of the intervention so that the functionality is rhetorically related with the goals (O'Keefe, 1988). This logic was followed within the Ebola Information Management System; Ebola messages were constructed to address the goals formulated for containing the disease. The message "Ebola kills" for example, was purposefully constructed at the onset of the outbreak to create awareness about the disease and promote behavioural changes in order to reduce transmissions and incidences, as well as the protect lives. Reducing transmissions and incidences, as well as protection of lives was also the main management goal towards the containment of the outbreak. "Ebola, must go, it is everybody's business" on the other hand was constructed to ensure that the gains achieved in reducing transmission and incidences would be sustained to enable the complete eradication of the disease from the communities and the country as a whole. Even though Ebola messages were not consciously constructed from formal theoretical frameworks, they were goal-oriented in their structural and functional perspectives.

Whether messages evoke different behavioural outcomes relates to the question of the implicit understanding by the recipient relative to the composer of the messages (O'Keefe, 1988). Differences in outcomes of processes of communication for messages composed and disseminated independently by IMS and those composed and disseminated

in consultation and collaboration with the traditional leaders were identified by the research. For instance, the key informants Hon. Nyenswah, Rev. Sumo and Mrs. Eluwaga of the IMS acknowledged that when traditional leaders were provided with the broad framework for designing and disseminating Ebola messages, higher levels of positive behavioural changes were attained for the goals of communication compared to those messages designed solely and disseminated by the IMS team.

Another underestimated feature of the perceptive communication background of the encoder of a message from message design logic is matching message design to the context and goals. Principally, three different logics of message design are distinguished (expressive beliefs; conventional – cooperation; and rhetorical - coordination and negotiation) which guide the processes to message construction and interpretation by the encoder of a message (O'Keefe, 1988). Consistently, the research data, identified the three logics of message design in communication in the content of messages linked to the perceptive background of the composers in the message/context relationships;

1) the skewed use of factual data on transmissions and fatalities with meanings associated with the explicitness of words (expressive);
2) reframing messages to conform with those of the rules of the system (conventional –use of local language, terminologies and phrases for conveying information about the state of seriousness of an issue in the system. Example is the use of the phrase "quick quick" in messages for actions to take when one's skin or clothes comes into contact with fluids of a sick person as related to handwashing or burning of the contaminated clothes – *wash your hands quick quick with soap and water or with Clorox/chlorine water*); and
3) use of community approaches of communication such as the town crier, traditional/religious leaders, community members etc. for ensuring oral and interpersonal communication and entertainment education (rhetoric).

Invariably, the effectiveness of messages is often assessed from the expressive strategy. The expressive goal management strategy in the design logic of messages unfortunately considers the features of a persuasive message or successful communication from the perspective of "the extent that the message is clear, are viewed as repositories of meaning,

with little reliance on depth interpretation or contextual information in assigning meaning." (O'keefe, 1988 p. 84). This approach to risk communication and epidemic management is skewed to psychological and reactive meaning to decision making leaving out the emotional or implicit information processing variables for meaning making and intention formation. This research corroborates that the expressive message design for meaning making and behavioural motivations has limited or of no effectiveness for the long-term management of epidemics. The persistent utilisation of this expressive approach generally, in risk communication/epidemic management as with the ongoing SARs-COV 2 (COVID -19) is a fallacy that must be discontinued.

10.2.3 RQ2b: Why were the WHO guidelines unable to help in the rapid containment of the 2014/2015 Ebola outbreak?

The key aspect to this question is what were the understandings of the people about the messages and how were the messages interconnected with the cultural values, beliefs and norms. The question is thematically explained using perceptions of susceptibility and health and their relations to health behaviours during the outbreak based on previous experiences.

The research identified that perceptions of susceptibility to Ebola was low until fatalities reached exponential levels and no discriminatory characteristics could also be made for distinguishing victims in terms of infection and fatality. Generally, new diseases are explained in the light of disease compatibility with older models of contagion (Green, 1999). Further, as noted by Fisher (1987) and Dowell (2003) people assess information and take decision either as good or bad subject to the sense it makes to them using their personal experiences or what is known about it. The research data (see section 6.3) indicated that inferences were made to cholera and malaria for interpreting and understanding the symptoms of dysentery and high fever associated with the Ebola, which were referenced in the communication messages. Research participants associated malaria with natural causation of diseases (bites received from a mosquito[90] and not from

[90] Biomedically, malaria is associated with the female anopheles' mosquito of the disease-causing parasitic group of insects but participants just mentioned mosquito to refer to the malaria without specifying the type.

touching or contact with a sick person. Additionally, they indicated that malaria is curable with biomedical and local herbs. Similarly, comments referencing game as source of Ebola in the messages were refuted on the grounds that never in the history of the people, has the hunting, preparation and consumption of game been associated with any health dangers nor strange diseases. Also mentioned was doubts about the contraction of diseases from caring for the sick at home or attendance to social functions or gatherings been associated. The absence of ability to connect symptoms of past epidemic outbreaks with the happenings of the times implies that sense making was psychologically justified within good reasons ("the evaluation habit, the set of criterial questions that one is supposed to internalise so that one can ascertain the weight of reason in any given message, including one's own" Fisher, 1987, p. 108).

Procedurally, as an evaluative input in intention formation, past experiences within Fisher's (1987) construct of good reasons was logical (observation of cases, analysis of the situation and drawing of conclusions). Nevertheless, the value aspects which coincides with the conclusion aspects in the science of logic and of good reasons for well-being is debatable. This is because even where the older models of contagion are used to explain new diseases, the degree of incompatibilities between the old and new disease characteristics in terms of mortality and mode of transmission do have time frames for informing knowledge levels and distinguishing differences for the determination of actions. However, with the Ebola it took a period of (6) months or more amidst the many mortalities before lessons were learnt (conclusion drawing) for the right actions to be taken. The time frame which could be regarded as experiential learning phase in relation to impacts was adequate within which timely lessons on the exposure and symptoms could have been learnt to enhance behavioural adjustment or changes.

In the light of the theoretical arguments of psychology, communication and culture, the evaluations made about Ebola by the people in the determination of susceptibility were rhetorically explainable. The evaluative criterion of experiential knowledge in its validity in information processing could however, be judged as subjective and misleading when past events are inextricably linked to values and norms to serve as basis of factual information in the analogy of credibility and reliability of information, as well as for the determination of courses of action to take. Conceptually it can all the same be concluded

that the properties of the narrative probability (internal consistency of information and comparing and contrasting of what is known against the unknown) (Fisher 1987) for the determination of the effectiveness of communication better explain the understanding of the messages in the people and relationships between behaviours, meaning making in information processing and behavioural outcomes of the Ebola compared to the psychological theory of health belief model.

The comparative theoretical analysis of the components of the question on the understanding of the people about the messages and their connectivity with cultural values and norms in the behaviours indicate that generally, there exist theoretical constructs or frameworks for explaining the reasons that logically informed the behaviours. Also, sufficient common grounds exist for culture and western approaches ("scientific") to disease management for meaning making in the design of persuasive communication interventions. It is the strategies to maintaining health that may be different. What is needed is the incorporation and fusion of contextual frames in indigenous contagion knowledge with biomedical and medical economic perspectives for health decision making. For instance, in the absence of technological equipment the use of simple, empirical or verifiable factors of the context for categorising disease causation can still provide adequate differences between personalistic and naturalistic etiology of diseases from the indigenous paradigm to serve as scientific (factual) confirmation in the determination of diseases. Theoretically, the complexity in communication is associated with the weaknesses in the persuasive communication approach on the questions for measuring and attaining fidelity in relation to the meanings of conceptions of health.

10.2.4 RQ3: What cultural indices/elements were exploited and how can they be incorporated in biomedical public health communication program?

In the study area, the identified cultural and persuasive communication indices that enabled and harnessed cognitive processes to decision making and behavioural changes are related to;

- trust, premised on relationships;

- source of the information. This is interrelated with the level of authority of the information source in the hierarchy of the local structure. The source and level of authority of the information source is a function of intention formation towards behavioural performance or compliance; and
- approach to persuading behaviour change is anchored to the practicality (process involved and ease of implementation) of the specific actions relative to the values of the people, vis-a-vis the exemplarity of the act in the person persuading or recommending the act.

These three cultural indices and their incorporation in the Ebola communication are respectively discussed as subsections below. It must be mentioned that the three are interrelated in terms of their persuasiveness to information processing and meaning making.

10.2.4a. Trust and relationships in arousing information processing

Generally, the culture in the psychological orientations of the people determine 1) the channel of communication that has to be adopted in the communication management system and 2) the constituent nature of messages essential in the communication process for changing behaviours, especially for health-related behaviours. The explanation for this is that the behaviours have been ecologically formed and socialised from the functionality of the macro-systems (belief systems, bodies of knowledge, material resources, customs, lifestyles, opportunity structures, hazards, life course options) (Brofenbrenner & Morris, 2006). Trust (source input) in people according to (Brofenbrenner & Morris, 2006) is formed from the progressive and sustained systems of interactions (proximal processes) to determine the outcome of information in a communication process. For instance, sharing same sect membership was confirmed by the research data as having a strong motivational level for trust building and prompts attention to messages. This is the second stage in output processes to information processing and message adherence in behavioural persuasions (Stets & Burke, 2000). The reason is that the interaction between the recipients' cultural characteristics and respective message enables understanding to increase to ensure effective communication (Betsch et

al., 2015). Furthermore, the interpersonal and bidirectional nature of interaction in the culture was noted in the data as essential for managing misunderstandings arising in the process of a communication. The ecological process to communication from which trust is enabled and harnessed is what research participants contextualised as community mobilisation in the preferred forms of communication. Theoretically, Brofenbrenner's framework in terms of ecological influences in decision making and outcomes conceptualises and validates itself in community mobilisation as a system and process to communication and behaviour change through which trust is identified to enable information processing and motivate behavioural changes.

10.2.4b. Source of information and its structural alignment in information processing

The attractiveness of community mobilisation as source of information in arousing information processing and persuading behavioural change from the analogy is based on its evidentiary value properties, as well as its affective and evaluative effects. The trust in source factors (expertise and attractiveness) as inputs in change persuasions occurs under conditions of low needs for cognition, where the factual content of information or the argumentative quality of the information does not persuade behavioural changes (Cacioppo, Briñol & Priester, 2009). But the attractiveness in source factors nevertheless, increases or decreases levels of information processing (how much thinking is done about a message – depth of evaluation) to determine the outcome of persuasive communication (Carter, 2014; Guimond, 2008; Stets & Burke, 2000; Williams & Best, 1998). Consistently, the research data identified that the use of factual information did not persuade changes in behaviours due to low need for cognitions, but the attractiveness of source factors did persuade behavioural changes. Generally, the case of low needs cognition (motivational aspects for effortful information processing – Cacioppo, Kao, Petty and Rodriguez, 1986; which correlates with knowledge levels/competencies of the person/people), identified in the research data was not due to inability to process information from its literal and factual perspective. Rather, it was associated with anxiety concerning the fulfilment of societal value needs - that is, subjective norms in normative beliefs.

Generally, the research indicated that the attractiveness of source of information is found in the perception about persons of the community mobilisation structure as the embodiment of societal values and norms. In persuasive communication, sources of information function to guide the determination of the generality and specificity of the behaviour in intention formation and relates with the principles of compatibility of a social system in normative beliefs (approval or disapproval of important referents for the performance of behaviour (Ajzen, 1991). Consistent with perceived norms in the theory of reasoned action/planned behaviour (TRA/TPB), the intention to perform behaviour in the research data inferred from the perceptions of the persons of reverence ("perceived expectations of the other player" in intention formation, Ajzen, 1971, p. 266) in the determination of compliance with recommendations of the Ebola messages. Specifically, the impact of source in information processing of the Ebola is identifiable in the persons constituent of the hierarchical structures.

10.2.4c. Practicality as the approach to persuading behaviour change

The characteristic of persuading and managing actions in the communication process for behavioural change was identified as being interconnected with the process of learning, which is by observation of acts of others in their immediate environment and those with whom common values or perspectives are shared. According to Bandura (1986), human behaviour is learned by observation of others (vicarious learning) following which rules of behaviour are formed and serve as guides for action. Additionally, observational learning enables the expansion of knowledge and skills based on the information obtained from observing the actions of others (Bandura, 1986; 1977). Consistent with the data, learning by observation was identified as contributing to the implementation of information contained in Ebola messages in the research. This characteristic of observing trusted persons for persuading actions is also explained in process, person, context and time elements of the bioecological theory where behaviour is influenced by the characteristics of the person and environment in the proximal processes (microsystem and macrosystem) of the person (see Brofenbrenner and Morris's bioecological theory 2006). It was for instance, observed during the research stay that most actions were visually

learned, such that one could easily observe people imitating the actions of others in their immediate environment than following their verbal instructions. This is the other aspect of practicality (ease of implementation) in the data and health promotion which relates with Bandura's social cognitive theory in self-efficacy beliefs in the causal structure of behavioural motivations and his call for changing practices of social systems rather than habits of individuals in persuasive communication (Bandura, 1998)

10.2.4d. Summary

Considering the above discussions, the conventional theoretical frameworks predominant in the design of persuasive communication interventions do possess some qualities of cultural indices for information processing and behavioural motivations. These cultural indices of the theories are, however, not basic to the conceptualisation of the theories on persuasive communication. The relationships between the dimensions of the culture and the referenced theoretical frameworks in the process of persuasive communication are identifiable from the variables of information credibility, the sources of information and approaches/processes for persuading behaviours in information processing of the input/output information processing matrix. The available theoretical frameworks are therefore relevant in their functionality in the processes of information processing in the system under study. However, slight adjustments in their applicable utility for centralising cultural indices which increases information processing and intention formation arousal are needful. Following, these theoretical frameworks have the adaptive utility to persuade behavioural changes from both the conceptual and operational levels of their construction but are subject to their adaptation to characteristic features of the study system.

10.2.5 RQ 4: What was the common grounds between scientific communication and culture in the Ebola communication management?

The rational for the question was the identification of an interactively compatible element between scientific communication and culture from which behavioural change is enabled. Specific to the context of Liberia, the identified interactive compatible element from the

research was community mobilisation. Contextually, the characteristic feature in community mobilisation for persuading behavioural changes related to its embodiment of the totality of extrinsic and intrinsic information processing, meaning making and intention formation arousals. Conceptual to the planning and management of interventions, these elements can be descriptively classified within the process-oriented perspective of health communication or the ecological perspective to behaviour change interventions in process of communication.

The perspective of health communication is "a process for partnership and participation that is based on two-way dialogue, where there is interactive interchange of information, ideas, techniques and knowledge between senders and receivers of information on equal footing, leading to improved understanding, shared knowledge, greater consensus, and identification of possible effective action" (Schiavo, 2014, p. 17). According to the research data, the process for containing the Ebola in Liberia later into the outbreak, was expediated by the interactive information sharing process, where all stakeholders, namely local community leaders together with government officials and parastatal institutions collaboratively worked together as partners. The change in perception of Ebola communication shifted from a regressive approach to that of a process. This involved the sharing and exchange of knowledge about the disease, the mode to communicate the information and the appropriate means to ensure prevention and the management of cases. The stakeholders were also esteemed as partners in communication and not as audience or recipients of information. This process-oriented approach identified by the research was pivotal in persuading behavioural changes. The traditional healers confirmed in the research that the process built on consensus (trust - credibility and reliability for messages as an effective element of change in communication in psychological processes of knowledge acquisition, reasoning and perception formations) among stakeholders.

Basically, as noted by Schiavo (2014), "change occurs when people are able to share common meanings and understand each other" because for communication to be effective it "needs to respond to specific social cues and needs" (p. 107). Community mobilisation therefore functioned as a structure and process in order for Ebola communication management to respond to social cues and needs. Specific in the process, however, was the communication technique of interpersonal and oral approach to communication which

was compatible with the local process of communication. The advantage of interpersonal communication of community mobilisation over mass media communication relates to the fact that "in health communication, messages affect attitudes only when people understand, process and remember them" (Krauss and Fussell, 1996 in Schiavo, 2014, p. 104) and "feel motivated to apply them in everyday life" (Schiavo, 2014, p. 107). Similarly, research participants, admitted that their level of understanding of Ebola information, retention and the motivation to adhere to the messages were principally motivated by the interpersonal features of communication through community mobilisation.

Theoretically, the persuasiveness of community mobilisation in the process-oriented health communication approach focused on process and group dynamics of behavioural and social science theories within which the occurrence of behavioural change at the different levels of the person is associated with the society as a system. In particular, community mobilisation can be considered within the social process category of communication which emphasizes "information sharing, mutual understanding and mutual agreement" (convergence theory) (Figueroa, Kincaid, Rani and Lewis, 2002 in Schiavo, 2014 p. 47). Consistent with the Ebola communication all these persuasive features of communication, namely mutual perspectives about the problem at hand and the attractiveness of channel of information for information processing were identified in the research analogy. As such the question of commonality of purpose and suitability of the process of communication for ensuring the effectiveness of persuasive communication interventions is rhetorically confirmed and justifiable in the management of epidemics and health communication in general.

The process-oriented approach to communication has higher levels of achievement of persuasive communication management goals in comparison with other approaches. The problem with the process-oriented approach for epidemic management is the time-consuming nature of consultations and collaboration in the process, which may retard the speed with which decisions have to be made. For epidemics with a high probability of lasting over a short period of time because adequate available information about the nature of the virus exist, it may not necessarily be the first recommendable option. But

for complex and new categories as with the ongoing SARS-2 its parallel adoption at the onset of an outbreak can be conceptually recommended for as a communication process.

10.3 Epidemic control: The cultural model framework to persuasive communication for epidemic management

In this section, the research objective of developing a conceptual framework that expands on the body of knowledge for behavioural change and of scientific communication models for epidemiological outbreaks is pursued. The model derives from the research data as analysed in chapters 6 to 9 for the persuasive variables to behavioural changes in the context of the study. The preceding discussion indicated that scientific communication, culture and health theoretically and practically interact in cognitive processes to decision making and the formation of intentions to perform behaviour in the study area. As such a reinterpretation and relabelling of the aspects of the concepts to relate to contexts for motivating behavioural changes will be done for the model of this dissertation. Essential in the framework to be presented is the ability of the framework to illicit cognitive processes to information processing and persuading behaviour change especially for managing health communication under situations of uncertainty in highly entrenched cultures.

Inferring from the subsections of section 10.2, consistencies in aspects of the theoretical concepts on cognitive processes to information processing and decision making feasible in the system of culture were noted. The feasibility in the contextual adaptation of these theories was adjudged as a measure of the degree to which knowledge from the ecologically identifiable indices in the concepts were adjusted, emphasized and relevant to the audience and local systems in the process of communication. Generally, the high level of ecological moderations in psychological orientations often suppresses the need for cognitions in information processing. As a result, the over reliance on the use of scientific data as the unit for persuasion in the process of communicating behaviour change became ineffective and redundant, especially in situations of uncertainty. Hence, adapting these theoretical frames require modifications in the operational variables underlying their functionality in evaluative processes of decision making to make them

relevant to the context of their application. To this end, the proposition here is that any model that seeks to improve on or substitute the above feasible frameworks for persuasive communication must ascertain that the essential variables/indices for persuading behaviour change are appropriately incorporated. These variables as perceived from the research are namely context specificity, cultural consistency and versatility/adaptability (to varied situations and contexts) in the spheres of the collectivistic culture under study. In short, the model must possess culturally compatible properties of communication, information processing and behavioural persuasion of the context of its implementation.

In Fig. 10.1 below, the visual presentation of the detailed conceptualised analytical framework is depicted as a process and shows how the components of a system influence information processing and behaviour change. It shows how to explore and understand the motivators of behaviour as they functionally arouse information processing, message decoding and intention formation. The exploration and understanding are shown within the three major processes for the planning and management of a persuasive communication. These involve exploring and understanding the root cause(s) of behaviour, determination of the communication approach to the persuasive communication intervention and implementation (message design, pretesting and implementation, including feedback. The detailed explanation of the processes for guiding the design of the model has already been provided in subsection 4.3 of chapter 4, where the simplified version was provided. Thematically, two composite diagrammatic outputs of conceptual explications in terms of systems and structures in behavioural motivation and persuasive communication entailed in the three major analytical processes for modelling a context-specific communication framework are also shown and explained in subsections.10.3.1 and 10.3.2.

In this subsection, the model is empirically and theoretically explained. The explanation considers the relevance, suitability and adaptability of the process in the context for meaning making in information processing. A definition of the model is provided before the presentation of the interactive communication structure together with assumptions that should enable it to conform with the philosophical underpinnings of a functional framework. The nature of interrelationship in the communication process at the stage of selecting a communication process and message design and implementation including

feedbacks is discussed in the framework. The example of the specific structure of communication within the model in terms of the interplay between sender, channel and receiver elements of the research data is diagrammatically presented in the discussions to show the functional relationships among the components and how they may relate in given contexts in the model. Finally, there is the description of the applicable utility of the model and probable limitations to its feasibility and utilisation. Below is the model and a descriptive summary of its major processes.

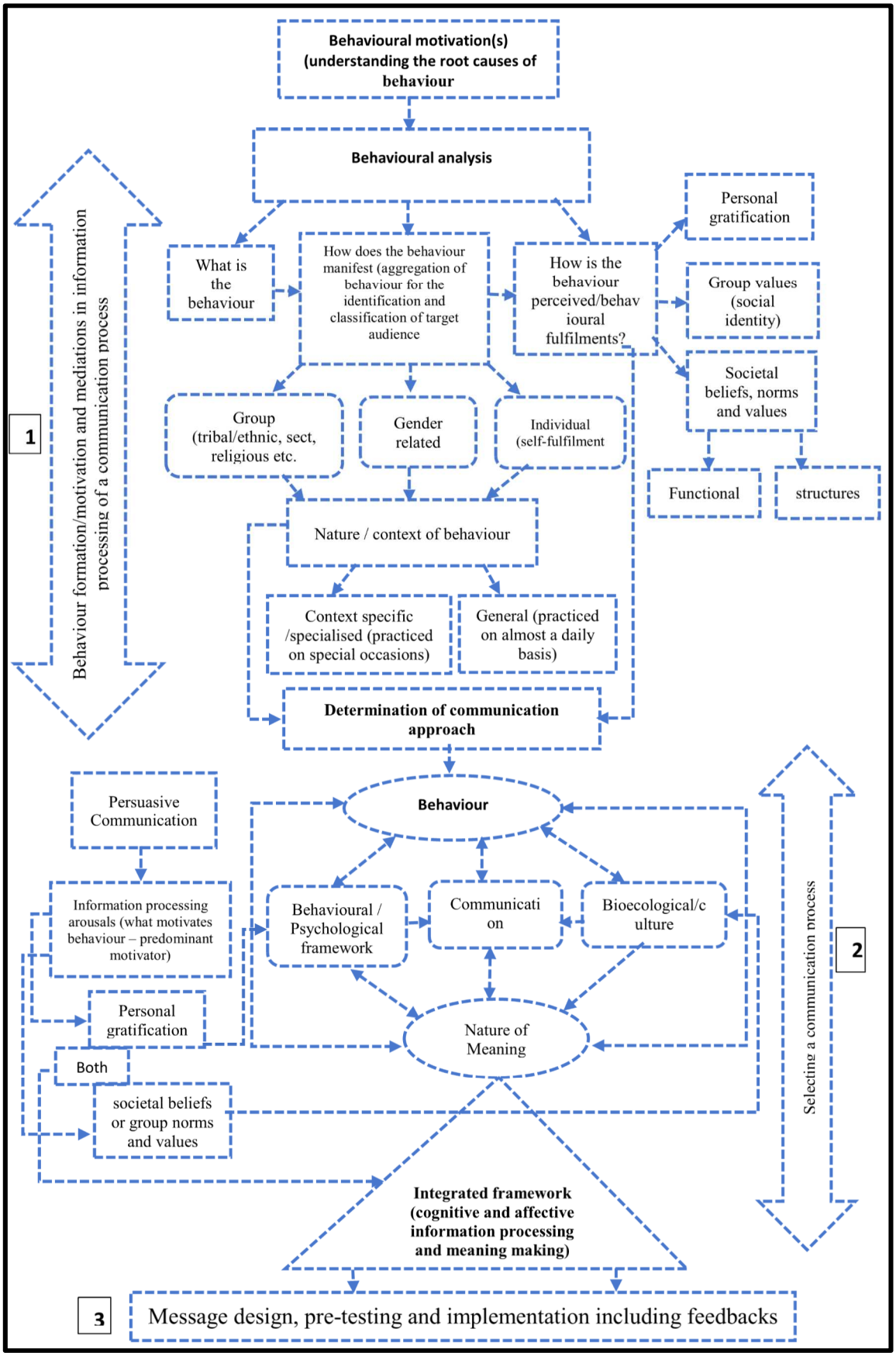


Fig. 10.1. Source: Authour's construct. Diagrammatic detail of processes for modelling an integrated persuasive communication framework - The Ecological Collegial Communication Model

In stage one of figure 10.1 a comprehensive analysis of behaviour must be undertaken prior to the design of messages and implementation of a persuasive communication through the posing a series of questions as shown in the diagram. In particular, the understanding of behaviour as moderated by the system of the person in its formation and in meaning making during information processing has to be fully explored for all dependent and independent factors motivating the behaviour. The last factor from which no further dependent factors can be analytically assigned, become the major underlying cause of the behaviour whose functional dynamics in information processing has to be targeted in the persuasive communication. The analysed behaviours are then aggregated and categorised according to their nature of manifestation (group, gender, individual) for identifying the generality or specificity of the behaviour in the target audience and for determining the nature of content of message design. The analysis of context of the behaviour (in terms of whether it is individually motivated – personal gratification or group motivated - social values and norms) together with the behavioural perceptions (its functions in the behaviour formation) forms the direct informational inputs into the next phase; the determination of a communication approach.

In stage two, referred to as the process for selecting the appropriate communication approach (the approach capable of eliciting meaning making in information processing and changing behaviour) the behaviour is analytically reviewed in terms of the relevant theoretical framework (psychological - extrinsic or bioecological -extrinsic and intrinsic) that best enhances meaning making and intention formation to behavioural changes. Following, the identified communication framework will inform the characteristics of content of messages that has to be designed at the implementation stage (the third phase of the process). Central in the analysis about the type of theoretical framework to select is the manner in which the given variables of the framework(s) function in persuasive communication to affect meaning making and impact behavioural outcomes. The message design and implementation phase is the final stage but it does not mark the end of processes for the planning of a persuasive communication intervention in this construct. The aspect of feedback relates to the process as a whole and begins when implementation of the intervention is initiated since the construct ascribes a cyclical

process for the design of a communication model and for the integrated model in particular. It must also be noted that this construct emphasizes a system perspective to communication and perceives the processes to interactively involve consultation and collaboration between the organisers of a persuasive communication intervention and the target audience of the intervention, hence the feedback.

10.3.1 The composite conceptual analytical components of the model

This section discusses the outputs of the model in terms of its effectiveness in the structure of communication itself from the processes in the model. Specifically, the focus is on the relationships among the elements from their structural and functional interactive features and from which persuasive behavioural change can be achieved in a relatively short period of time. In particular, the dissertation proposes that an effective communication model should be one that capably persuades change in a short period of time because of its cultural relevance/specificity, suitability, adaptability (ease of implementation, including affordability in terms of resources needed to implement it). Of utmost importance in the model to persuasiveness is its functional relevance in terms of meaning making and behaviour formation and acquisition in the cognitive processes to information processing. The model expands on existing models from the perspectives of their effectiveness by ensuring that they are comprehensive and context specific in application. Using its functional and contextual persuasive features, the model is referred to as "*the ecological collegial communication model*" (ECCM).

Recapping, the persuasive communication variables that enabled changes to be achieved are thematically related to the communication process and management, culture and health perceptions. According to the research findings, strategic decision-making processes and communication contents had to be adjusted to conform to contextual issues before the Ebola outbreak could be effectively managed. The processes and measures identifiable in the modification phases of the process of communication form the basis of the concept as to what an effective persuasive communication is. In accordance with the proposition, the relational characteristics among the variables in the ECCM deals with

the understanding of the function of variable(s) as input(s) in the process of planning and managing a persuasive communication intervention. The model aims to;

- identify, define and distinguish among behaviours and their respective motivators; that is, the identification and classification of behaviours according to types (general – common to all individuals and ethnic groups, and specific – individually enacted or enacted among given groups of an ethnic group or of given geographical areas).
- ensure trustworthiness of communication by identifying and understanding systems and processes for soliciting, acquiring and building trust for communicating information on behaviours in the system;
- adopt and utilise traditional communication approaches (interpersonal and entertainment forms) and linguistic frames in the culture
- adopt and centralise community engagement in activities of the change process; identify, consult, involve and utilise local governance and organisational structures commonly used for informing, initiating and maintaining behaviour change as key elements to change.
- to orient itself towards adapting, describing and affirming positive cultural value indices that motivate behavioural change in the system.
- to frame and conceptualise health and health risks/susceptibility perceptions from the traditional or local perspective in the symbolic form of its function in the society.

10.3.1a Model definition and assumptions

The ecological collegial communicative model (ECCM) is defined as a system specific (contextualised) and functional communication framework to persuasive communication which adapts, harmonises and formalises indigenous knowledge, experiences, skills and systems of information generation and decision making of a people with conventional ones for the generation of common meanings/understanding and interests in processes of persuading behaviours in a communication management. As a functional framework it combines a systems (what) and process (how) approach in communicating health

behaviour changes. The ECCM identifies and centralises relevant local knowledge/information synonymous to the frames of external/scientific knowledge and adopts system units of communication management in the process of communicating the information. As a system model, it is composed of elements and units that interact with each other structurally and functionally in behaviours and in communication for arousing meaning making and intention formation.

Underlying the ECCM framework is the totality of context and process (es) of behaviour formation on intentions and behavioural patterns under different environments and conditions. The elementary and explicit questions of this model are "what is/are the behaviours (behavioural specificity); what is/are the dynamics of the context of the behaviour and what is/are the process (es) by which the behaviour is formed; and how does the context and process (es) function in the person to determine behavioural patterns. The inherent assumptions to the questions/model as per the motivations in health behaviours are that;

1) health behaviours and healthcare seeking behaviours, as well as treatment processes are all value-system oriented. Therefore, a one-to-one value-system oriented relationship exist between health behaviours, healthcare seeking behaviours and treatment processes.

2) given that health behaviours are value-system defined, changing health behaviours also require system-oriented approaches to communication (culturally sensitive approaches to communication) without which rapid changes to behaviour of an intervention may be an illusion.

3) language is an essential aspect of communication, particularly persuasive communication. To persuade behavioural changes messages should not only be composed in the local language of a people, but the message in the language should also possess balanced proportions of both intrinsic and extrinsic meaning making characteristic features of the local language for the arousal of intention formation

10.3.1b The ECCM – the interactive elements of a system in behaviour formation and communication

Figure 10.2 is a composite conceptual diagram of the ECCM in the planning and implementation of a persuasive communication intervention. Theoretically, it is a visual description of the interactional relationships among the elements in a system (microsystem, exosystem and macrosystem) as they moderate behaviours, information processing and meaning making in health decision making of the person or groups of people in the ECCM. The microsystem represents the person/people and is symbolic of the behaviour and target audience of a persuasive communication intervention. The meso-system is the larger community or geographical area within which the person/people is located. Symbolically it is the culture from which the values and norms of the person derive both communicatively and in meaning making in a persuasive communication. The macrosystem on the other hand is the external factors either geographical or political (policies) as they impact the meso- and micro systems of the person. In persuasive communication, it is symbolic of the agency or institution that is implementing the behavioural change intervention.

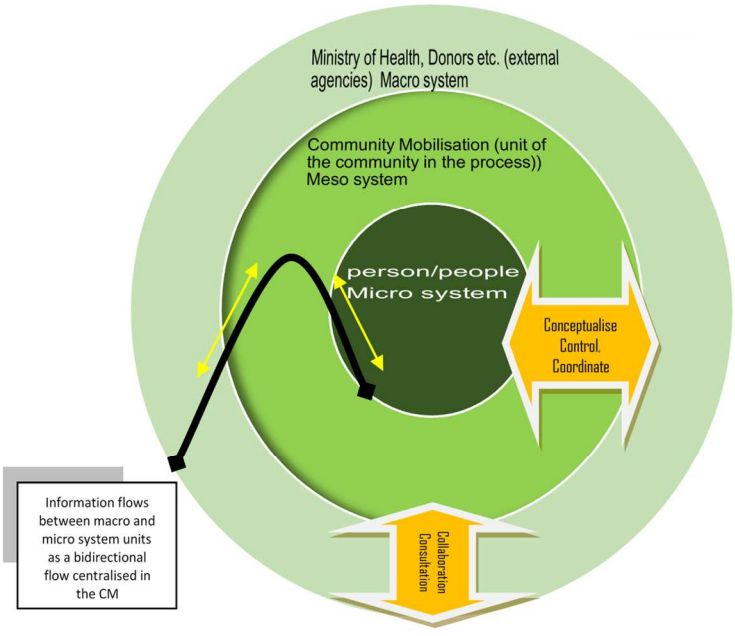


Fig. 10.2: Source: Author's construct. Systems in behavioural mediations and change persuasions: structural and functional interrelationships in the ECCM

The characteristics of the environment in the nature and pattern of behaviours (environment - behaviour relations) provides a brief understanding for behaviour formations (identification of the behaviour as moderated by the system/cultural values and norms) and determination of approach of communication in the ECCM. The contextual orientations of behaviour from the perspective of the systems frame relates to the conceptualisation of the change activity and management system communicatively (determination of communication process). The diagram conceptualises the interdependencies and levels/degrees of influence of the entire system units on a system unit from a structural perspective. Specific to the research finding, community mobilisation is centralised in the diagram to represent the community in the environmental structure and culture of a person/people in behavioural perceptions and intention formation, as well as the members in the governance structure of a given geographical area or administrative unit. This is also symbolic of its interactive and mediatory influences in persuasive communication from the contextual perspective (intervention implementation - message design and dissemination) in the ECCM.

Behavioural motivations of the ECCM is analysed from the system unit of the community and culture. The core of the diagram (micro unit – the person/people or target audience of an intervention) is also representative of behaviours and is perceived in terms of behaviour being a factor of the entire system that surround the person. This implies that behaviours in intention formations are considered as not automatic and independent but as dependent on the system of the person in the analysis of behaviour in the ECCM. The relational position of community mobilisation in the model is that of both an intrinsic variable to cognitive processes of information processing and intention formation. With respect to behaviours and behavioural intentions in cognitions, community mobilisation in the person (micro unit) in the system is analogous to culture[91] from which individual values are deducted and constructed. As a result, the assertiveness (intention to form behaviour) and argumentative considerations for behaviours of the person/people will have to be analysed from their system conception and prescriptions in determining behavioural patterns in the person in order to understand the behaviour (s). It is here in its functional dimensions in the model, that community mobilisation is considered as

[91] Culture generally conceives values (determines value orientations)

conceiving value systems, norms and beliefs, as well as prescribing the frames of behaviours either as appropriate or inappropriate for the members of the community, including the individual/person (minute element in the community). It is therefore the system from which pro-social behaviours are defined and persuasions oriented; hence the *conceptual* relationship between community/culture with the person/people or behaviours in the composite diagram of the system in the model. This may also represent the theoretical perspective of context–behaviour relationship in determining behavioural outcomes of an intervention.

Functionally, in its context- process relations, the persuasiveness of communication of community mobilisation is that of the exercise of *control* within and over the micro system unit. In persuasive communication, it forms the management structure that comprehensively governs and directs the embedded system unit of the person/people. In so doing, it controls behaviours in the system units (of persons and among people), thereby strengthening and sustaining pro-social behaviours owing to its traditional recognition as a structure in the system for sanctioning behaviours. It is within this structural position and function of community mobilisation of context in the system's diagram of the ECCM that persuasion is perceived to affect intentions and manage behaviours in source of information and information processing relations in the ECCM.

Furthermore, during the selection of a communication process and message design and dissemination phase in the ECCM, community mobilisation functions to coordinate, collaborate and the utilise knowledge and skills between the micro unit (target audience of an intervention) and the macrosystem (external agency organising the implementing the behaviour change intervention)[92] from the system. In the effectiveness of the model to persuade behavioural changes, the interactional relation present in the systems view in the ECCM is that of determination of the approach to communication and nature of messages that has to be communicated (perception of communication and communication process in message content relations of persuasive communication). The coordination and utilisation of knowledge and skills is essential for the maintenance of effective communication among the elements of the system. Inclusive in the coordination is the

[92] In the structural diagram of the communication process the target audience and organisers of an intervention are labelled as stakeholders in Fig. 10.3.

evaluation and ensuring of the relevant information and its adaptability to cultural communication frames for meaning making. Community mobilisation further functions to assist in the identification of the requisite resources for which the effectiveness and efficiency of persuasive communication activities in the system units would occur.

With the 2014/2015 Ebola outbreak as a case study for epidemiological situations, the coordinative interactions of community mobilisation in the model are considered from liaising with and involvement of members of community mobilisation units in: - the selection of locations, resource provision, case finding and counting, education etc. and monitoring of activities towards Ebola treatment units (ETUs synonymous to isolation in the healing bush in the tradition of the people). Through the involvement of community mobilisation acceptance and patronage of ETUs would be secured to impact health seeking behaviours and management of cases. Additionally, community mobilisation would identify and liaise with the relevant local musical artists and drama groups for the organisation of entertainment education activities and traditional leaders/healers of groups in the system unit. As part of the liaison is the aim of ensuring consistency in the content of messages and management of cases respectively.

Similarly, between the external and the micro units of the system, community mobilisation coordinates the realisation of activities interconnecting the two respective units in the system. The nature of operational interrelationships that would exist between community mobilisation and the external system is that of consulting and collaboration. Essentially, the external unit in persuasive communication is subject to the nature of consultation, involvement and collaboration with community mobilisation as a structural unit in the system. Without this functional relationship in persuasive communication efforts of the external unit would have little or no impact on behaviours of the micro unit. In the entire structure of the system, community mobilisation becomes the unit for consultation and collaboration in the interactive process of a persuasive communication of stages two (2) and three (3) of the ECCM. In this frame a bidirectional process to communication is solicited, acquired and built for sharing information and framing the content of messages to impact information credibility and flows in terms of the genuineness (truthfulness) and relevance (perceptions of risk/susceptibility) of information in cognitive processes to information processing. To summarise, in the

process of communication and persuasiveness of the ECCM, the interrelationships of community mobilisation with other elements of the system takes on the dimensions of inter-functional and intra-functional coordination in the system, thereby ensuring that knowledge and skills are effectively and efficiently communicated to persuade and change behaviours.

10.3.1c Pattern of communication in the ECCM

In the above discussions, the descriptive relationships and functions of the systemic dimensions in the ECCM for information processing, meaning making and change persuasions in the planning and management of an intervention was presented, including aspects of its function in a communication process. In this subsection, a brief description of the pattern/nature of communication from the basic elements of communication (sender - channel - receiver – feedbacks) is explained. Figure 10.3 is a composite diagram showing how the elements of communication are conceptualised interactively in the ECCM to ensure effective communication. Emphatically, this is an example of how the process of communication for the study area based on the research finding will present itself in the ECCM for organising, designing of messages and dissemination of information.

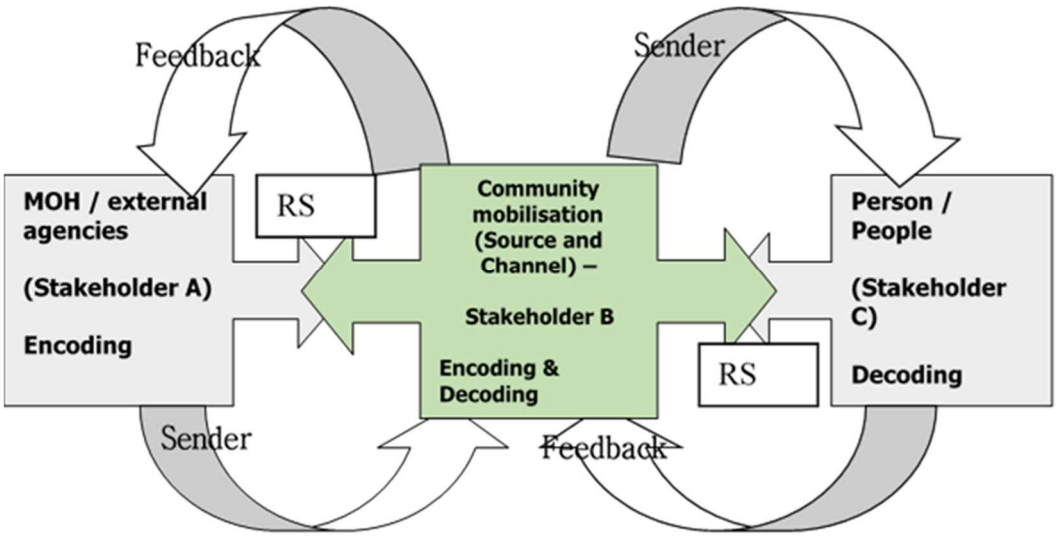


Figure 10.3. Source: Author's construct. The system's communication process in the ECCM: Pattern of structural interactions in message design and dissemination

In Fig. 10.3, *Stakeholder A* represents the concerned authority, agency or institution initiating/undertaking the persuasive communication intervention. S*takeholder B* is source and channel for delivering key messages to the target audience; they are the credible and trustworthy people within the community. *Stakeholder C* is the target audience and behaviour to be changed for a persuasive communication intervention of an epidemic outbreak. The intersections of arrows show the bidirectional nature of information sharing among the stakeholders in the ECCM.

The ECCM conceptualises community mobilisation as the main element of a system in the process of communication around which source and channel functions for message encoding and decoding in the process should revolve. The centralisation deduces from its effective communication properties in the 2014/2015 Ebola epidemic management. As the major element of communication in the context, community mobilisation is symbolic of the contextual channel of relevance for encoding information that arouses information processing and intention formation in the process of communication. For the study area, it is the indigenous or common process of communication. The overall interactive relationships of the channel in the message design and dissemination of persuasive change intervention is visually explained from its bidirectional direct relationship with the other elements in the process of communication. This direct relationships between the channel and other elements of communication accounts for the absence of a noise element in the communication process within the ECCM which also ensures the effectiveness of communication.

Community mobilisation as a channel of information also reduces or eliminates “noise” that would otherwise affect message decoding. Psychologically, the mediations relate to its structural properties and functions in the context/system; namely, for conceiving patterns of behaviours, controlling behaviour (ensuring compliance) and coordinating behavioural activities (coherency and appropriateness) and for serving as a channel for information transmission. In terms of the elimination/reduction of noise during message transmission of the Liberian Ebola outbreak, community mobilisation through its collaboration with the MOH and external agencies ensured that the appropriate choice of words and their symbolic meanings in the language of the people were utilised in the framing of the content of messages to affect message decoding and understanding by the

person/people. These structural and extrinsic properties of community mobilisation as the channel element in the ECCM, are the inputs variable that enables effective communication to be achieved for the relatively rapid containment of an epidemic outbreak.

It must be noted at this point that, the dissertation acknowledges that the composite process of communication within the ECCM imitates the structure of the interactive model (bidirectional process with feedbacks) of communication (Shramm, 1997). Conceptually, it is a replica and expansion of the transactional model (communication as a process for creating social realities, relationships and with communication occurring simultaneously among actors in the process) (Barnlund, 2011). Culture in the ECCM is comprehensively considered to include artefacts, language, belief systems, values, etc. including the above aspects of identity and the dimensional views of the person (the African with specific reference to the research context). The reason being that in psychological orientations the combination of all these is what function in communication to inform reality in identity and its mediations on intentions/decision making and meaning making in a communication process. Explicitly, the properties of the above structural output inherent in the ECCM for communication and message design are the feedback and the concept of context and its mediations in meaning making respectively.

Another feature of the communication in the ECCM is that, the process of communication constituent in the selecting a communication process and implementation aspect of the ECCM is a holistic one. This is because it incorporates process, context, and message properties of the conventional models of transmission, interactive and transactional models of communication in the process of communication. The distinction between the ECCM and conventional ones is that unlike the interactive model, feedback in the ECCM in message design and dissemination occur simultaneously as in the transactional model. The psychological context of influencing communication is considered as a process with focus on both message and process. Additionally, the context unlike the transactional model is not just limited to the mediations of context in meaning making and relationships in the communication process. Rather the emphasis of context in the ECCM is the system specific unit or variable in the context that physically and psychologically mediates communication in cognitive processes to affect meaning making and reaction has been

incorporated as channel (community mobilisation). This is where the ECCM expands on the transactional model by identifying and inculcating a specific unit in the system of the context that has physical and psychological, as well as managerial properties of communication of a communication process. It is within these communication properties of a communication process as incorporated in the ECCM that the effectiveness of communication is enabled to positively affect behavioural change persuasions. Furthermore, in the ECCM, elements of communication are preferably referenced as communication stakeholders or system units owing to their relational interactions and functions in the process of communication and not communicators as in the transactional model.

10.3.2 Summary

Summarising, the addendum of ECCM to persuasive communication constructs and communication management is that it derives, centralises and highlights the conception of persuasive communication from the characteristic and functional features of the process of communication of a given environment in terms of its cognitive processes to meaning making in information processing. Pertinently, the process is continuous (bidirectional) and interpersonal for the reduction of noise in information transmission in the channel and in message decoding, as for the study area. Accordingly, the model suggests a system/context specific process to communication in a persuasive communication activity. More importantly, the context specific element that has to be determined for communication to be effective has to be assessed from its ability to namely, a) build credibility, b) adopt and utilise traditional approaches in the culture for meaning making and behavioural motivation, c) adopt and centralise community engagement activities in the change process and d) have the capability to conceptualise health and susceptibility symbolically. Following the conceptual explanations for the ECCM, the next section (10.4) of the dissertation descibes the process in the application of the model.

10.4 Processes on how to apply the ECCM

The processes to utilising the ECCM empirically in designing messages should involve; 1) Analysis of the behaviour – the emphasis is on the root causes of the behaviour which is also regarded as the motivational factor in the behaviour; 2) analysis of communication for changing behaviour from a system perspective – structural and functional aspects of communication from the systems perspective; 3) design and disseminate messages – communication; 4) monitor and evaluate messages outcomes and readjusting of messages and the communication process. The four processes it must be noted are cyclical in nature, so that each of the processes feed into the other to generate a loop message design implementation system. Process number one and two in the real world should be undertaken parallelly, so that the detail discussion on their application below will not be separated. This also explains why only three major processes are identifiable in the ECCM (Fig. 10.1).

Stage 1: To implement the ECCM, it is important for the initiator of a persuasive communication intervention to specifically identify and understand the nature of the behaviour(s) to target in the intervention. This should involve a listing of all the behaviours and discussing with the target audience all possible causes for each of the listed behaviours. This is to ensure that the underlying motivations are understood from their ecological moderations in the behaviour formation and enactment. Having identified and understood the behaviours, it is necessary to classify them according to the purposes that they satisfy in the person; that is according to their motivational factors (personal gratification, group values – social identity indices, societal values and norms). The classification will enable the determination of the most effective way to approach communication (mass media – psychological or entertainment education – ecological). The practical and relevant behaviours of similar motivational underpinnings as those of the identified health compromising behaviours can be recommended to de-motivate the enactment of the health compromising behaviours. A problem tree analysis or behavioural analysis tool, for example, can be utilised as a planning tool in the behavioural analysis phase to the intervention. The behavioural analysis phase serves as the inception phase for the process of communication. This implies that additional tools may have to be employed for persuasive communication to be effective in the ECCM.

Using the case of the 2014/2015 Ebola outbreak as an example, the behaviour identification and message formulation should have involved a stock taking of all direct and indirect behaviours (such as handshaking, washing of the dead, and social gathering activities, contact with contaminated materials of the sick and dead etc.) that were harnessing the spread of the Ebola. Using the problem tree analysis, the underlying causes (contact with contaminated materials and fluids of the sick and dead) and relationships among the identified causes in the behaviours would have been identified in the early stages of the outbreak for the appropriate messages to be developed. The over-emphasis and attribution of the cause to game (monkeys and bats), the age-old nutritional source of the people would have been avoided for credibility of the information and messages to be attained, which would have ensured the rapid containment of the disease. The attribution of the cause of spread Ebola to game (monkeys and bats) in the communication messages as was recounted, was inconsistent with the experiential knowledge resulting in attitude bolstering and could have been avoided if behaviours were analysed for their motivational underpinnings.

Essentially, for a meaningful identification and understanding of the health compromising behaviours and their effective management, the behavioural analysis cannot be done in isolation of the enactors of the behaviour; not even with the planning tool because the behaviours occur in a context. The need to solicit for and acquire information on the behaviours from credible sources in the system is imperative. This is where consultation and engagement of stakeholder(s) of credibility, knowledge and expertise that can influence communication in the context becomes necessary in the process of persuasive communication. The stakeholder(s) it must be noted must also be able to function as a channel for information transmission in the context. As per the frame of the ECCM, the stakeholder of knowledge, credibility and expertise that stakeholder A must interact with to solicit for information about the behaviours and their underlying motivations is stakeholder B (community mobilisation – parties of interest be they local/group leaders of the target audience or a community) in the system, not excluding the best way to communicate health information to the audience. The reason for stakeholder B is because stakeholder B is not only a structure in the process, but also parallels as the constituent of

personalities in the system who are considered as credible and trustworthy, as well as serve as a channel for information sharing.

The incidence management team initially constituted should have consulted the traditional leaders of the respective localities, religious groups and traditional institutions to inquire about how best the practices could have been performed without necessarily losing its essence in the value system of the people. In so doing, the underlying purposes that the behaviours fulfil in the lives of the people could have been better identified. Additionally, appropriate alternatives or options to the purposes that they fulfil could have been co-ordinately determined. In this wise, detailed information on the totality of the relevance of the behaviours to the people socially, economically, psychologically and emotionally should have been solicited to understand their behavioural motivations and their hindrances to change. However, this did not happen at the onset of the management of the outbreak. A typical case in point for the relevance of consultation that attracted global attention first occurred in Guinea and was captured by Fairhead (2014). According to Fairhead (2014), by using anthropologist to consult between the Ebola management team with the family and chiefs of a village in Guinea the controversy and tension that ensued over the burial of the corpse of a pregnant woman who died of Ebola saw to the finding of an amicable solution for resolving the problem. Fairhead noted that during the consultations the actual purpose for performing the controversial intended ritual for the dead and pregnant woman became more explicit and appreciative to all parties. As a result, alternative options in non-harmful practices of equal traditional value was agreed on as substitute for the commonly performed traditional rituals which were inappropriate at the time of the outbreak.

In this particular case, the brief to the story was that as custom requires the family of the woman wanted the baby removed from the womb of the highly infectious corpse of the mother and separate traditional rituals performed for the two. In the culture it is forbidden for an unborn child or foetus to be buried together with the dead mother. Through the consultations alternative options of material items of equal value in the culture's value system were agreed on. This allowed for the biomedically appropriate burial practice for all Ebola deaths to be performed. In this way, the foetus remained in the womb of the mother and both were buried together as a single corpse. This helped curb the looming

danger that the traditional practice of separating the two could have caused by enabling the disastrous spread of Ebola in the village.

The soliciting and acquisition of information from the people through the consultations revealed that, there were economic and emotional related issues underlying the practice for which material contributions could be provided as restitution for the rituals. Failure to use a specialist to consult with and solicit for the appropriate information would have meant that acceptance for the burial approach of the Ebola management team would never have been achieved. Similarly, by consulting with the chiefs and people of communities, religious leaders and people traditional burials were modified in Liberia to allow families to stand at a distance and pray or bid farewell to their loved ones, in what was termed "dignified burials" whilst the Ebola burial management team undertook the burial itself. Better communication and management of the Ebola was generally achieved through consultations which saw to the avoidance of touching of the death and performance of traditional rituals for the dead in Liberia. The achievements were made possible through the position, role and function of stakeholder B in the structure of the community and of the system as a whole in terms of communication and persuading behavioural changes.

As in Liberia, stakeholder B maintains social harmony in the system and is generally the mouthpiece of the people on all matters of negotiations, decision making and implementation of actions for the promotion of the wellbeing of the people. The knowledge and expertise of B through the consultations should serve as the general input to the framing of messages by A; hence the consulting relationship between A and B. The above represents and directs the systematic inception of the process of communication (A to B) for the manifestation of the functional interrelationships of consultations between A and B. Generally, this is also the communication approach to the introduction of any intervention program (local or foreign) in most communities of Sub-Saharan countries. In the absence of consultation, soliciting the commitment or consensus of the people to an intervention may often not be attained. For this reason, the acknowledgement and importance of consulting a specific system unit(s) of a context for the identification and understanding of behaviours from their functional perspectives in the planning phase of the process of a communication intervention should not be overlooked. This in particular is necessary if the ECCM will be effective to persuade behavioural changes.

Stage 2: Furtherance, to the above, community mobilisation (B), would collaborate with A in the framing of the content of messages (message design) and determine the appropriate mode for communicating the messages (dissemination). The collaborations on message content will include determining the nature of alternative behaviours that has to be communicated. This is to ensure that the messages have meaning making qualities - are understandable and also arouse psychological and emotional processes to information processing psychosocially. An example carried out at around the peak of the Ebola outbreak was the collaboration between the Ministry of Health, Liberia with traditional leaders of the various ethnic groups for the communication of Ebola messages in the culturally acceptable frames of the various ethnic groups. This involved organising a training and preparation of a broad Ebola communication frame on the content of Ebola messages by the Ministry of Health for adaptation to the cultural values and languages by the traditional leaders and for dissemination in their areas of jurisdiction. The broad framework ensured that the content of Ebola messages was uniform among all tribes, but the process of delivery and choice of vocabulary at the local level was varied, as each of the traditional leaders were mandated to adapt the messages to their respective culture's arts and symbols for communication and meaning making. This, the Director of Communication at the Ministry of Health, noted was vital in enabling message comprehension and intention formation on behavioural changes.

It must be noted that the content of messages due to the consultations and collaborations of A and B in the process would bear linguistic characteristic features of the system and could be disseminated by mass media and other channels of communication with reasonable levels of effectiveness. Nevertheless, the level of their mediatory influence in persuading stakeholder C in terms of decoding in the study context will be limited because of the interpersonal nature of communication and the peculiar characteristics of the non-verbal communication cues for meaning making among the people. It is for the reasons of these communicative mediatory influences of stakeholder B on stakeholder C that B is centralised in the ECCM within its structural message design and communication frame. The structural functions of B in the ECCM as a direct source and channel of information is more explicit at this stage of the ECCM implementation where B disseminates information to C.

Psychologically, because B is the direct channel of transmission of information to C, the perception that C would be formed about the messages are that they are emanating from B. This perception then affects the intrinsic and extrinsic variables in cognitive processes that motivate and persuade behavioural changes. Basically, B in the process of communication with C will employ both verbal and non-verbal communication cues commonly used in the system for communication to enable C to make meaning and react accordingly. This is the nature and pattern of the B to C interrelationships conceptualised in the ECCM.

Stage 3: Monitoring and evaluation is undertaken in the process of information dissemination to check whether behaviours are changing in accordance with the recommendations of the intervention due to the approach to communication and content of messages. Archival information (such as medical records and reports of transmission and mortalities) and empirical observations following the consultative approach to behavioural identification, message design and dissemination could be used as the base-information for checking the effectiveness of communication in terms of changes in behaviours and the achievement of intervention goals. The communication management team must critically observe positive and negative reactions to messages and react promptly by consulting with stakeholders for their revisions or elimination to conform to on-going developments in behavioural reactions. Where necessary, messages would be modified or the approach to communication changed. With specific reference to the Ebola, changes in behaviours of the target audience such as increased or decreased calling of the Ebola number 4455 to report sick persons in their homes or neighbourhood, willingness of families to allow their loved ones, to be buried by the case management team for the Ebola, washing of hands, avoidance of traditional and secret burials among others in relation to transmission, incidence and mortality cases were, for instance, observed through the over reliance on interpersonal approaches to communication compared to the mass media approach. The observed rate of positive change in behaviours and the responsiveness of the interpersonal communication approach enabled the modification of the overarching message, "Ebola must go" to include "… it is everybody's business". Without the integration of monitoring and evaluation activities for behavioural changes and the achievement of intervention goals in the process, prompt

reactions to message design and communication deficiencies may be delayed. Such delays may affect the length of time it would take for the realisation of an intervention goal, hence its important integration in the ECCM.

In summarising, it could be said that, after the commencement of the process of communication, A and B interact systematically and continuously and thereafter affect the totality of the information flows and activities to include interactions with C. The activities implied here are those constituents for the planning and management of a persuasive communication. Namely; specifying objectives, identifying stakeholders, message design and testing, selection and adoption of a communication approach/media, message dissemination, and monitoring and evaluation of an intervention. As explicated above it could be said that the whole process of organising a persuasive communication intervention basically consist of an interconnected web of physical, psychological, informational and organisational mediations of community mobilisation in behaviours.

Community mobilisation if adapted as the focus of persuasive communication as in the model for cultural systems bearing similar characteristics as those of the study area has the probability of ensuring rapid behavioural change compared to the mass communication, telecommunication, internet etc. channels of communication. The reason to reiterate is that community mobilisation has the properties of a channel and source in communication structure which psychologically creates perceptions about the trustworthiness of messages in people. Additionally, by being consulted and engaged in the communication process in the design of messages community mobilisation would enhance message reception. This is because contributions that would be made during the consultations concerning behaviours to recommend in the messages are likely to be those that are in alignment with value systems for the overall promotion of social harmony. Specifically, the enhancement of message reception would be because the behaviours would not be perceived for purpose of their novelty, but for their compliance with the values in the system. As a result, responsibility attributions that reduce confidence and encourage the enactment of health compromising behaviours will be reduced in the person/people. Through its other functional properties in the system and context, community mobilisation also enforces information credibility, arouse identity and emotional instincts, and guide expectations etc. These then impact message decoding and

direct behaviours. It is for this that communication has to be conceptualised and approached from the system's or ecological perspectives if maximum effectiveness is expected.

10.5 Limitations of the model

In as much as the ECCM builds on other models by centralising a system specific unit in the process of communication for the enhancement of message encoding and decoding in a persuasive communication, there are some inherent shortcomings with the model. Basic to the shortcomings is the general problem of the time-consuming nature of consultations and collaborations and their associated costs in the planning and management of an emergency. The ECCM principally embeds consultations and collaborations in the process of communication making it not to be automatically and adequately responsive to time. In epidemic outbreaks, there is the need for quick reactions and the taking of exclusive or non-consultative decisions in order to reduce incidence and transmission rates. This means that the process of communication has to be speeded up or shortened and some decisions taken non-consultatively or exclusively, which however is not anticipated in the ECCM.

As a general knowledge, consultations more often than not do not proceed smoothly due to entrenched positions that stakeholders often have which delay consensus building and decision making. This implies that lots of discursive meetings would have to be organised for consensus to be built and progress made on critical decisions. Due to the rapid decision-making approach characteristic of emergency situations, the ECCM may not be the ideal communication model to adopt in areas where the process of soliciting and building trust among stakeholders entails a series of complex, time consuming and expensive activities. Thus, the ECCM could be perceived as a model that anticipates emergency communication as normal communication intervention for which its ability to manage and contain diseases in a relatively short period of time, may be relative. It is therefore not responsive enough to the time needs of emergencies owing to the slow nature that consultation and collaboration processes may take in the framework.

Nonetheless, the slow nature of the process is subject to the stage of the outbreak in which community mobilisation would be acknowledged as a partner and interrelated with by external agencies in the communication process. This does not exclude the acknowledgement of the strengths of local expertise, knowledge and systems for tackling the problems in the consultations to affect the effectiveness of communication.

Other shortcomings are that: the ECCM is system specific (designed from the ramifications of a given collectivistic cultural system) and the generalisation of its application in all contexts may be a fallacy. Additionally, the process of communication though linear is complex owing to the bi-directional processes of communication that occur on both ends of community mobilisation in the framework. The model is not easy to interpret for other systems if one does not have adequate knowledge about a system and its functional mediations on behaviours.

10.6 Conclusion

This chapter is paramount to the objective of this dissertation and research; which is the identification and modelling of variables in a system that enable communication to effectively persuade behavioural changes. Persuasive communication was perceived from the capability of communication to intrinsically and extrinsically arouse information processing in cognitions and motivate behavioural changes. The capability of a variable to arouse cognitive processes to information processing was constructed from the variable's suitability or sensitivity and interconnectivity to the embodiment of the person, namely culture. Although a new model has been derived in this chapter, the dissertation acknowledges the relevance of the major theoretical constructs in the literature frame for persuading change in the context. The need for this new model stems from the conceptual and operational incomprehensiveness of the constructs as their conceptualisation is either focused on a system or process approach view to communication. Information on their application is also not available.

Considering the analogy of the research a system specific communication framework has been designed. The framework, as evidenced in the interconnectivities in the thematic

frames of the research is functional (possesses both the systems and process approach features in the communication). No distinctively new framework has been propounded due to the capability of existing frameworks to partially arouse some level of behavioural changes. Rather the gaps in conceptual frames of the relevant constructs have been adjusted and integrated in consonance with the research data for the derivation of a suitable system specific persuasive communication framework. The framework derived is labelled as ECCM.

The ECCM in its present form has not been empirically tested for its effectiveness in any persuasive communication intervention. Setbacks to its implementation should be envisaged if the assumptions underlying its construction are not met. In particular, it involves a time-consuming process. The process, however, has long-term payoffs in the process of communication to persuading permanent behavioural changes as it ensures better meaning making and motivate intention formation. The process to utilise the model has been explicated to avoid the replication of the shortcomings of the relevant identified theoretical constructs. To this end, the research has been able to expand on the knowledge base in the area of models to persuasive communication, especially for health communication management. A seemly new[93] theoretical framework that predicts the effectiveness of communication for epidemic outbreaks in collectivistic cultural settings has been propounded and should be tested in future research directions.

[93] Seemly new is used to emphasize that the framework borrows from that of existing frameworks.

Chapter 11

Conclusion and Recommendations

11.1 Introduction

The research identified a number of issues that accounted for both the effectiveness and ineffectiveness of persuasive communication in the management of the spread of the 2014/2015 Ebola outbreak in Liberia. The Ebola epidemic had dire consequences not only for governments and people of the sub-region, but for the entirety of human populations and governments globally. The problem in managing the Ebola outbreak could in part be said to be due to a misfit in communication. In the outbreak of any disease in the future it would be necessary for health authorities and governments to give due diligence to the factors that enhanced the Ebola communication and those that effectively persuaded behavioural changes. In the following, the key conclusion and recommendations on the application of the findings to policy formulations and in academia will be presented.

11.2 Key Conclusions

The assumption to the research was that rationality to decision making and intention formation in the determination and prediction of behaviours is culture bound. Therefore, persuasive communication must be culturally appropriate to be able to arouse information processing and elicit the enactment of recommended behaviours. Culturally appropriate persuasive communication must be pursued within a holistic conceptual framework which capably combines and functions within the psychosocial, emotional, informational and communicational indices of behavioural decisions-making processes. The factors underlying the behaviours and practices that influenced the initial non-compliant behaviours towards the Ebola messages, likewise those that enabled compliance had been

identified. It was ascertained that no particular theoretical communication framework informed or served as the basis in the framing of Ebola messages and management of the process. The major findings of the research revealed that in the relationship between behaviours, meaning making and behavioural outcomes of communication, credibility and reliability of information is significantly influenced by experiential knowledge. In the evaluations of information credibility, internal consistency of information is therefore paramount to message design of persuasive communication. Behavioural changes also relate to the implicit understanding of information by the recipient relative to that of the encoder in information processing and intention formation. Implicit information is also a variable that impact the long-term effective management of an epidemic. More so, the relationship of culture in theoretical frameworks of a persuasive communication framework was identified to relate to the variables of information credibility, source of information and the approaches for persuading behaviour change in information processing.

In particular, the interactive and process-oriented information sharing process, where the trusted persons of the people collaboratively partnered with government officials and parastatal institutions was pivotal to changing behaviours and ensuring the achievement of the goals of health communication management of the 2014/2015 Ebola outbreak. Specifically, the process of communication (interpersonal and oral through community mobilisation) created commonly shared meanings and understanding among communication partners and target audiences from which specific social cues and needs were addressed to enable change. The consultation and collaboration ensured appropriate message framing and information dissemination. This enabled effective message decoding and behavioural compliance. It can be argued without reservations that the acknowledgement and inclusion of traditional leaders and their knowledge on traditional approaches to communication and disease management is essential for the success of health communication interventions. Furthermore, the consideration of scientific conceptualisation of the mediatory influences of traditional leaders in the cognitive processes to decision making and behaviours in the culture is no illusion.

Community mobilisation as a structure/system and process to communication holistically arouses both intrinsic and extrinsic variables in cognitive processes to information

processing and behavioural determination. It must, therefore be formally conceptualised in persuasive communication. The expectation of this research is for the adoption and testing of this theoretical output in the conceptualising and implementing persuasive communication in collectivistic contexts.

11.3 Implications

This dissertation is envisaged to contribute to policy formulation towards epidemic or emergency communication management by health ministries of governments and for adaptation in academia in the impartation of practical knowledge on cultural contexts and behaviours to persuasive communication. In the sections below, precision on the contributions in policy consideration and theoretical explorations academically is provided.

11.3.1 Policy framework implications

According to the research finding no conceptual framework informed the Ebola communication management; an indication of the absence of a policy framework which specifies how health communication has to be planned, organised and managed in the health policy of the government. In the light of this, it is imperative for the Ministry of Health and the government in particular to initiate discussions into the formulation of a pragmatic and implementable health communication policy. Fora for collating opinions from professional bodies and other stakeholders may serve as a useful process for obtaining varied opinions for filtering and enriching the content of the policy. The policy framework must integrate and enhance the full-fledged adoption of the existing traditional structures and approaches to communication and persuasive behaviour change in the contemporary health information dissemination and awareness creation programs.

Generally, these traditional approaches to information sharing including community mobilisation are well established in Liberia and in many other countries sub of the Sahara. It is extensively utilized in maternal child health and family planning services provision

in both remote and slum communities in urban areas. Given days of the week or in the month are designated for health outreach programs during which health professionals interpersonally communicate with program target group or audience. Specific in the area of maternal and child healthcare, the traditional approach to communication has proven successful in influencing intentions on knowledge acquisition and health information, especially among women on reproductive and child health issues. The conscious use of traditional approaches to communication has positively impacted healthcare-seeking behaviours by mothers, thereby resulting in gradual change from the overreliance on traditional medicine and healers to preference for biomedical services and treatment. The outcome is reductions in maternal and infant mortality rates of this target group in the population.

Such integrative and collaborative activities need to be strengthened and broadened to encompass emergency communication and crisis management. Conscious acknowledgement and formalisation of traditional communication approaches for health information sharing in contemporary health communication has the advantage of making the process of communication more efficient.

In addition, the policy must specify areas that have to be integrated, such as the designing and framing contents of communication messages, adopting interpersonal behaviour change communication and provide strategic directions on the procedures for integration. The implementation strategy for the integration should include the organisation of regular consultation and collaborative meetings with opinion leaders, traditional leaders/healers, town criers and community-based organisations on healthcare provision and health information sharing issues. Stipulation of the minimum period of time that the processes of consultation and collaboration on information sharing should occur must be explicitly stated in the policy document. A minimum period of preferably once in a quarter could be recommended in the policy framework for the regularisation of the traditional information sharing approaches in conventional communications by the Ministry of Health. This is pertinent to health information dissemination, especially for remote areas of the country where accessibility is difficult and conventional health facilities are non-existent. Through the integration of communication structures and processes a network of persons with the requisite knowledge, skill and information would be constituted for

easy reference for emergency decision making, communication and implementation of interventions. The network should consist of opinion leaders, traditional leaders/healers, town criers and the health ministry on health information sharing and awareness creation.

Additionally, it would prevent misinformation and ensure coordinated and harmonized activities to information sharing in the communities. The integration would significantly pave the way for the eroding of conflicts such as accusations of inferiority of professional knowledge and skills between conventionally trained health workers and traditional healers. Feelings of exploitation of experiences to the disadvantage of the other and the usurpation of authority and control that were expressed during the research by the traditional healers/leaders would be reduced to secure credibility and trustworthiness towards persuasive communication interventions. In the short term, the policy framework will contribute to information sharing and knowledge acquisition. This will lay the foundation for trust building among conventionally trained health workers and traditional ones which will secure long term commitment towards participation in health communication interventions for disease management of any epidemic.

The quest for the integration of traditional approaches including communication in health care provision and management in mainstream health facilities was explicitly expressed by a cross section of research participants in terms of how to improve communications in health management and epidemic control. This can only be achieved through policy formulation. Requests for the attachment of a traditional medicine unit to the hospitals were also suggested for the handling of cases such as broken limbs and in pharmaceutical service provision. Attaching a traditional medicine unit will ensure the creation and availability of a one-stop centre for meeting the healthcare and health seeking needs of the people. Empirical examples were given for a number of cases where conventional medicine was ineffective in restoring patients to their health. Nevertheless, healing was obtained through traditional medicine. Traditional healers also expressed concerns, though not without reservations about the unscientific nature in the prescription of traditional medicines. The concern relates to inability to scientifically measure and determine the dosage of their herbal medicines compared to their counterparts who are conventionally trained in clinical pharmacology.

Expressions of interest for consultation and collaboration in healthcare delivery and management in disease diagnosis and treatment processes including communication towards non-compromising health behaviours exist. Strategically, a health communication policy framework is needed for embedment in existing health policies which should tap into these requests for the integration of traditional medicine and communication processes into contemporary processes. This would serve as the stepping stone for regulating long term collaborative efforts in the management of epidemic outbreaks.

11.3.2 Theoretical implications

Theoretically, the research has empirically confirmed that more often than not, behaviour and information processing theories that guide persuasive communication intervention do not identify the underlying reasons of the health compromising behaviours. Against this backdrop, the understanding of the behaviours from the perspectives of their motivational aspects is limited. This affects message design and recommended behaviours in messages for addressing the compromising behaviours in persuasive communication interventions. Furthermore, the theories in their constructions are unable to adequately provide understanding into behavioural motivation patterns for the prediction of the dynamics of behaviours under different situations. The outcome in communication processes both theoretically and in practice is the focus of attention on elements that only mediate information processing extrinsically to the neglect of the intrinsic elements that complement the extrinsic elements to affect intention formation and determine behaviour. In the light of these shortcomings of the theoretical constructs, there is the need for a review, expansion and integration of some of the constructs into a holistic conceptual framework that is capable of eliciting information processing and arousing behaviour change. The construct should also be responsive to varied scenarios/situations that impact intention formation and behavioural determination.

Contributory to the general unresponsive nature of theories of behavioural determination and persuasive communication in cognitive processing to information processing and behaviour change interventions is the myopic approach to thinking that characterise the

conception and functionality of constructs/theories. In other words, most theories are narrowly constructed or exclusively conceived irrespective of other interrelated ideologies or disciplines. Attributable to the myopic conceptualisation of constructs/theories is the ideological backgrounds or disciplinary fields of the proponents which is academically relevant and indisputable. However, the myopic ideological perspectives constituent of constructs impacts the functional dimensions of constructs in their real-life applications due to the absence of interrelationships with other disciplines for the development of a unifying and responsive theory/construct. The impacts also manifest in acts of reluctance in collaboration or cooperation among experts from other fields/disciplines.

Specifically, the non-interdisciplinary approach with which theories are propounded limit the effective identification, understanding and integration of variables that in reality mediate cognitive processes to information processing in the design of messages of persuasive communication interventions. For instance, the predominant theories recommended for and adapted in persuasive communication have individualistic orientations about intentions in behavioural determination and predictions. Additionally, emphasis is placed on one-directional processes to communication. Such ideological orientations in the design of theories and in persuasive communication interventions continue to abound in recent times and affect the universality of applying the theories to change behaviours during uncertainty situations, especially in pluralistic settings. The research has empirically attested to the unresponsiveness of narrowly conceived individualistic and non-integrative theoretical constructs in health communication management. As such a broad and all-inclusive framework(s) from which the depth and the contexts of attitudes, values, norms and efficacy (self-efficacy) in intention formation of cognitive processes to information processing must be constructed. The comprehensive or holistic construct should be capable of determining and predicting behavioural patterns to make message design responsive in epidemic management.

The urgency for the development of an encompassing theory(s) towards persuasive communication is real. Behaviours are becoming complex and difficult to change and disease-causing pathogens are also complexly mutating themselves to adapt to ongoing environmental changes. The outcome in recent times is the ineffectiveness of some

medications to effectively combat certain pathogens. More so, new drug development is expensive and require longer periods of time for their development, testing and application. Impliedly, future epidemic outbreaks would be met with untold difficulties if the status-quo in the conceptualisation of constructs underlying persuasive communication and management prevails. One can envisage dire global consequences on humanity as a result because the 21st century is characterised by increased globalisation and high mobility which harnesses disease transmissions and affect incidence and prevalence management. This is depicted by the Ebola and the ongoing COVID-19. Time is a valuable and rare resource in epidemic and crisis management that cannot be underestimated for reasons of the impacts of epidemics on global health security, economic development of nations and on migrations. As such the usual piecemeal or try and error communication approaches in health communication management cannot be entertained if the scale of infections and death rates of future outbreaks are to be contained with ease.

In the face of these threats, it is imperative for experts in the respective fields of behavioural motivations and change to collaboratively pull their knowledge together, deliberate impartially and design a highly effective and comprehensive persuasive communication framework for epidemics management. Hagger and Weed (2019) also note that behavioural theories borrow from diverse disciplines including psychology, sociology and behavioural economics. Within these disciplines multiple determinants of behaviour are identified including beliefs, motivation and intentions, individual differences, social influence, and environment and demographics. Following, an integrated body of professionals in the disciplines of anthropology, social science, psychology, bio-medical sciences, pharmacology, and communication and information management among others must be drawn together in the revising and constructing persuasive communication theories. In the light of the multiplicity of disciplines and determinants of behavioural theories, it is also necessary for a multidisciplinary body to be constituted for the implementation of theories in the real world without which the mere use of theoretical frameworks in communication may not achieve the desired effectiveness.

The modelled ECCM is a translation of the interrelationships that exist among the various fields/disciplines within an integrated communication framework in health communication management. As the ideological framework basis, the ECCM of the Ebola outbreak should be the utilised to prompt and initiate the process for a collaborative and concerted development of a holistic multidisciplinary framework for the management of persuasive communication during epidemics.

11.4 Further Research

In section 8.1, findings and implications, a comprehensive discussion on implications of the findings together with actions to be taken based on the implications was discussed. For purposes of summarisation and ease of reference as well as compliance with scholarly writing, the emphasis and brief explanations of the pertinent areas for further studies will be provided below.

11.4.1 Approach to communication

- Through the conduct of this research a context specific culturally appropriate communication model has been developed in chapter 10 dubbed "ecological collegial communication model". For the verification of the model's cultural appropriateness and more importantly its effectiveness in predicting changes in behaviours over a relatively short period of time, this dissertation suggests the adoption and testing of the model in outbreaks of similar nature and contexts. The adoption should test for the empirical predictability of the applicability and effectiveness of the model in a real-life health communication intervention scenario for future communications. Additionally, the study will predict the success or otherwise of the ECCM as a process of communication.

- Critical to changing behaviours as discussed in the analogical chapters was the interpersonal approach within community mobilisation to communication and its information processing properties which neutralises the need for cognitions in cognitive processes to information processing. Complementary to the community

mobilisation as a traditional process and structure of communication is the town crier and entertainment education as the other traditional media for information sharing. The two equally affect cognitive processes to information processing and determine behaviours. The influence of interpersonal communication and traditional communication approaches in argument quality of messages towards intention formation and behavioural determination need to be further researched. This could be considered in the frame of measurements of increased access to multiple information sources, including internet accessibility on information sharing, knowledge acquisition and decision making. This should contribute to the assessment of need for cognitions in information processing and guide in message design for awareness creation. In so doing impacts on acceptance or yielding to message recommendations could be determined.

Indirectly, the research briefly mentioned that the level of technological development and poverty limit access of the general population to information from a wide range of sources including the internet for knowledge building, creation of consciousness and empowerment. As a result, the need for cognition is low and cultural values overshadow the independence and freedom of a person in their decision making. The proposed further study should ascertain the mediations of technological development and improved access (financial and physical) to internet services on collective wellbeing or social harmony in intention formation. This should enable the prediction of behaviours towards future epidemic outbreaks as well as other health compromising behaviours such as the observance of hygiene and waste disposal behaviours in the communities. Within this study, increased access to multiple sources of information and exposition to different lifestyles in the behavioural beliefs analysis will inform the assessment of the continued strength of interpersonal and traditional communication approaches in intention formation and behavioural changes. This will help predict the strength of collective opinions or cultural values in message quality for the youth in the next decade and beyond. Furthermore, the relevance of increasing internet sources for information sharing and motivating behaviour change would be determined for future persuasive communication management.

- Health communication management was also harnessed through later consultations and provision of modern communication facilities to opinion leaders and traditional leaders/healers for reporting cases. This proved effective in case management and contact tracing. Impliedly resource provision equalled strengthening of relationships/cooperation to equal effective epidemic management, thereby serving as a variable for the determination of collegiality, proclivity and resilience in the process of communication and in health communication management. Accordingly, the dissertation proposes the conduct of a further study that assesses the factors that promote cooperation from a social psychology perspective. The backdrop should be the prediction of probability of cooperation as based on the value of social wellbeing even in situations of no material assistance. The aim should be the identification of other variables or components of relationships other than consultation and collaboration that control and enhance processes of communication in diseases management and of epidemic outbreaks in the absence of limited resources.

  The need for such a study deducts from the endemic phenomena of overdependence on external sources for resource mobilisation characteristic developing countries and its impact on rapid and pragmatic decision making towards emergencies/crisis management. In the absence of external resources available resources must be depended on and harnessed to reduce the negative outcomes of crises. More often than not inadequate external support (resources) is blamed/cited in the reasons of failure of actions and of cooperation in crisis management. A critical analysis of factors that limit effectiveness of crisis management may be able to probably identify the core of the problem to socio-psychological variables in people, such as trust building and the processes of communication rather than the slogan of lack of resources or absence of external financial assistance. Identifying the major underlying reason(s) is necessary for finding better solutions to the problems of emergency management and ensuring better resource allocation and management for emergencies. The assessment of the probability of cooperation should enable a better understanding of the rigidity of the process of communication and for identifying elements in the process that must be simplified to ease up the process of communication. In this proposed

study the rigidity, proclivity and resilience of the people and leaders to manage outbreaks effectively should be assessed in the light of the acquired knowledge and experiences from the Ebola. The acquired knowledge as part of the lessons learned towards decision making should strengthen relationships, inform self-concepts, and build intercultural networks towards crisis communication management.

11.4.2 Cultural dynamics

In terms of culture, decision making and conceptual indices in persuasive communication, the pertinent findings relate to the negative impacts of Ebola on cultural values concerning life and death. These negative impacts stemmed from the cremations, mass burials and non-performance of rituals by the families for the dead as well as the disunities created in and among families. The problems emanate from the values that deduct from the world view of the people; the identity of the individual in the collective; the interconnectivity of all things and value of interpersonal relationships and their relevance in information processing. The inherent efficacy and coping considerations of the values in decision making and behavioural motivations have been subjectively tested by the research. The test of the research was to show the mediatory strength of culture as the core mediator in intention formation and patterns of behaviours. It was evident in the research that social harmony/wellbeing and efficacy within the philosophical framework of the cultural system significantly mediated cognitive processes to information processing and influenced behavioural motivations. However, the sustained mediatory influence of social harmony and efficacy consideration indices in decision making and behavioural prediction in the long term is questionable.

The question of sustained mediation deducts from the experiential knowledge obtained from the Ebola and new philosophies that might have been formed in cognitions. This was not determined by the research. The undertaking of such as study should involve the identification of actual changes in values of the individual emanating from the processes of learning and knowledge acquisition within the most recent experiential knowledge in intention formation and decision making. As a prerequisite, the question about conceptual

philosophical frameworks that have been formed as a result in cognitions must be raised. The identification and understanding of the new patterns of behaviours formed will ensure the assessment of the capacity of the new variables to simultaneously illicit intrinsic and extrinsic information processing variables in cognitive processes and behavioural determination. The overall outcome should inform message design.

Interrelated to this, is the question of the functionality and relevance of community mobilisation in processes of communication to future persuasive communications or the continued dominance of community mobilisation in the process of communication for information sharing and processing. This has to be inclusively addressed for the planning and managing of future persuasive communication intervention. The study should predict the degree of influence of community mobilisation on decision making by showing how it will illicit information processing for predicting the utilisation of the ECCM as the approach for future persuasive communication. This could probably be done by identifying experiential knowledge changes in patterns of wellbeing considerations. Thus, has individual wellbeing considerations superseded social harmony/wellbeing considerations in intention formation and behavioural determination. Information on the changes in wellbeing considerations should help predict the probability of yielding and adherence to messages in future persuasive communications. In addition, the strength of interpersonal communication and its information processing effects in the long term would also be determined. In short, further research is required on the dynamics of changes in the culture from collectivism to individualism in decision making that describes the constituents of self-efficacy in intention formation for guiding the process of communication and the framing and design of messages of future persuasive communication.

Last but not least, the viability of culture in decision making processes and in behavioural motivations has been tested for its strength in individual decision-making processes of high context cultural settings for serious and unprecedented disease outbreaks. Some of the explicit cultural variables tested by the outbreak that has created social challenges for the culture are refraining from public symbolic acts (hugs, handshakes etc.) for expressing relationship, love, gratitude etc., acts for honouring the dead and acts for showing bondage and ties in relationships, including intimacy. Given that the Ebola outbreak was

a spontaneous and not a permanent phenomenon, the challenges that occurred in the culture could be said to be temporary and not permanent to require complete changes in cultural practices. In the light of this assumption of the viability of culture to change permanently, further studies are recommended for assessing the general and specific cultural elements that have changed in the face of the experiential knowledge obtained from the Ebola. Of importance are the changes from the perspectives of orientations in the world view of the people and its associations in the refinement of beliefs and ideological frameworks for interpreting the world and in behavioural motivations. Thus, the effects of cultural dynamics of the Ebola is required for showing processes of socialisations and time in behavioural formations of the present generation and in future behavioural motivations.

11.4.3 Health Perceptions

Further research is required for identifying actual changes in perceptions of health and health care seeking behaviours that have evolved and their continued interconnectivities in the dimensions of worldview of the people and Africans in particular in their preference for holistic medicine vis-à-vis overreliance on the traditional healer, perceived as the embodiment of holistic medicine. According to the research findings, currently there is a general acknowledgement for organisms (viral, bacterial etc.) in the causation of diseases, especially for strange or sporadic and complex diseases. Experiences of the reliability of biomedical science and processes in effective management of strange diseases or ill-health have also been experienced. The questions to ask are; would health perceptions continue to follow the supernatural or biological perspectives and what role would the new perceptions play in communication in terms of identifying and classifying stakeholders to consult and collaborate within the process of communication of future health communication management?

11.4.4 Ebola orphans and victims

A comprehensive physical, psychosocial and economic vulnerability study that systematically assesses the nature and pattern of wellbeing of Ebola orphans and survivors in the future is needed. The study should enable the prediction of the vulnerability/susceptibility of such vulnerable groups of people to diseases, including mental health problems and other probable pandemics of the 21st century. Inherent in the need for this study is identification and understanding of future coping needs and its related self-efficacy assessment indices of the vulnerable in the formation of intention and predicting of behaviours. The study should also enable the development of appropriate support systems, including psychotherapy or ergotherapy trainings that will reduce the levels of susceptibility of vulnerable groups /identifiable classes of people to diseases in terms of poverty and health compromising behaviours. The general health communication management questions to be addressed relate to the definition/conception and explanations of capabilities or efficacy considerations in intention formation in the process of communication for the prediction of health behaviours and health care seeking behaviours. Economic aspects of the study should help predict the resilience of future generations to epidemics in the absence of appreciable short to long term economic development growth in the country and limited external assistance required for infrastructure development, especially that of health and communication infrastructure.

11.5 Research Limitations

Technically, the above coding and data analysis techniques have inherent weaknesses. One such weakness is the possible subjectivity in the determination of distance between segments or paragraphs referred to as X by which the overlap of codes, for instance, is determined. The subjectivity implies that replication of the research would not necessarily generate the same covariance as this original work if a researcher should use unrealistic or wider distance ranges for example in the near and followed by functions of the correlation analysis. That is, the use of different coding and data analysis technique by different researchers may lead to the generation of different results and affect generalisation of the research output. Nonetheless, for the conceptualisation and

modelling of contextual communication approaches to epidemics such as Ebola, the above qualitative procedures are technically more appropriate and fundamental. This is because they enable the gaining of in-depth understanding and knowledge into "phenomenological" behaviours deemed irrational in the eyes of others outside the natural environment of a given phenomenon. Furthermore, the sensitive context and complexity of the culture of the people in the sub-region, especially, that of people of Liberia to information sharing/communication and its connectivity to health behaviours and practices/beliefs during the Ebola outbreak cannot be explained for meanings to be made with simplistic quantitative numbers.

Another major weakness to the research was financial constraints that affected the coverage area and scope of study. Inadequate financial resources for conducting the research limited the extent of travels and duration of stays in purely traditional communities of the hinterlands. Such traditional communities would have provided opportunities for experiencing an exclusive and purely indigenous culture of the people in its natural settings. Notwithstanding, in most of the studied communities' strict adherence to most cultural values and norms is strongly upheld and experienced even in the urban areas of the country. One such community in the urban area where the indigenous culture in its richness could be experienced is the slum community of New Kru Town in Monrovia. As such the quality and credibility or authenticity of the data was not significantly undermined. Besides the remote villages of Todee and Caresburg were visited and studied as authentic rural communities with minimal or no urbanisation influences in community settings and lifestyles.

References

Abdissa, H. G., Lemu, Y. K., & Nigussie, D. T. (2014). HIV preventive behaviour and associated factors among mining workers in Sali traditional gold mining site bench Maji zone, Southwest Ethiopia: A cross sectional study. *BMC Public Health*, *14*. https://doi.org/10.1186/1471-2458-14-1003

Abdullahi, A. A. (2011). Trends and challenges of traditional medicine in Africa. *African Journal of Traditional, Complementary, and Alternative Medicines: AJTCAM*, *8*(5 Suppl), 115–123. https://doi.org/10.4314/ajtcam.v8i5S.5

Aboderin, I. (2004). Decline in material family support for older people in urban Ghana, Africa: Understanding processes and causes of change. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *59*(3), S128-37. https://doi.org/10.1093/geronb/59.3.s128

Abraham, C., Kelly, M. P., West, R., & Michie, S. (2009). The UK National Institute for Health and Clinical Excellence public health guidance on behaviour change: A brief introduction. *Psychology, Health & Medicine*, *14*(1), 1–8. https://doi.org/10.1080/13548500802537903

Abraham, C., & Michie, S. (2008). A taxonomy of behaviour change techniques used in interventions. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *27*(3), 379–387. https://doi.org/10.1037/0278-6133.27.3.379

Abraham, C., & Sheeran, P. (2005). The health belief model. In M. Conner & P. Norman (Eds.), *Predicting health behaviour: Research and practice with social cognition models* (2nd ed., pp. 28–80). Maidenhead: Open University Press.

Abramowitz, S. A., McLean, K. E., McKune, S. L., Bardosh, K. L., Fallah, M., Monger, J., Omidian, P. A. (2015). Community-centered responses to Ebola in urban Liberia: The view from below. *PLoS Neglected Tropical Diseases*, *9*(4), e0003706. https://doi.org/10.1371/journal.pntd.0003706

Abramowitz, S. A., & Omidian, P. A. (2014). Attitudes towards Ebola related funerary practices and memorialization in urban Liberia | Ebola Response Anthropology Platform. Retrieved from http://www.ebola-anthropology.net/key_messages/attitudes-towards-ebola-related-funerary-practices-and-memorialization-in-urban-liberia/

Abu-Nimer, M. (2001). Conflict Resolution, Culture, and Religion: Toward a Training Model of Interreligious Peacebuilding. *Journal of Peace Research*, *38*(6), 685–704. https://doi.org/10.1177/0022343301038006003

Aderibigbe, I. S. (2015). Religious Traditions in Africa: An Overview of Origins, Basic Beliefs, and Practices. In I. S. Aderibigbe & C. M. J. Medine (Eds.), *Contemporary Perspectives on Religions in Africa and the African Diaspora* (pp. 7–29). New York: Palgrave Macmillan. https://doi.org/10.1057/9781137498052_2

Agyepong, I. A. (2014). A systems view and lessons from ongoing Ebola Virus Disease (EVD) outbreak in West Africa. *Ghana Medical Journal*, *48*(3), 168–172. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4335447/

Airhihenbuwa, C. O., & Webster, J. D. (2004). Culture and African contexts of HIV/AIDS prevention, care and support. *SAHARA J: Journal of Social Aspects of HIV/AIDS Research Alliance*, *1*(1), 4–13. https://doi.org/10.1080/17290376.2004.9724822

Airhihenbuwa, C. O. (1995). *Health and culture: Beyond the Western paradigm*. Thousand Oaks Calif. u.a.: Sage Publ.

Airhihenbuwa, C. O., Makoni, S., Iwelunmor, J., & Munodawafa, D. (2014). Sociocultural infrastructure: Communicating identity and health in Africa. *Journal of Health Communication*, *19*(1), 1–5. https://doi.org/10.1080/10810730.2013.868767

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2012). The Theory of Planned Behavior. In P. A. van Lange (Ed.), *Theories of social psychology* (pp. 438–459). Los Angeles, Calif.: Sage. https://doi.org/10.4135/9781446249215.n22

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice-Hall.

Alexander, K. A., Sanderson, C. E., Marathe, M., Lewis, B. L., Rivers, C. M., Shaman, J., . . . Eubank, S. (2015). What factors might have led to the emergence of Ebola in West Africa? *PLoS Neglected Tropical Diseases*, *9*(6), e0003652. https://doi.org/10.1371/journal.pntd.0003652

Allen, D. R., & Lacson, R. (2015). *Understanding why Ebola deaths occur at home in Urban Montserrado County, Liberia: Report on findings of rapid anthropological assessment,* December 22-31, 2014.

Allen, R. L. (1999). *The influence of historical roles of caregiving on African-Americans today: A multi-dimensional perspective* (Master of Science). University of Utah, United States of America. Retrieved from http://content.lib.utah.edu/utils/getfile/collection/ehsl-GerInt/id/57/filename/28.pdf

Allgaier, J., & Svalastog, A. L. (2015). The communication aspects of the Ebola virus disease outbreak in Western Africa – do we need to counter one, two, or many epidemics? *Croatian Medical Journal*, *56*(5), 496–499. https://doi.org/10.3325/cmj.2015.56.496

Ammann, T. (October 7, 2014). Ebola in Liberia: A Threat to Human Security and Peace — Cultural Anthropology. Retrieved from http://www.culanth.org/fieldsights/597-ebola-in-liberia-a-threat-to-human-security-and-peace

Anoko, J. N. (2014). Communication with rebellious communities during an outbreak of Ebola Virus Disease in Guinea: An anthropological approach. *Ebola Response Anthropology Platform. Accessed from Http://www. Ebola-Anthropology. Net/wp-Content/uploads/2014/12/Communicationduring-Anoutbreak-of-Ebola-Virus-Disease-with-Rebellious-Communities-in-Guinea. Pdf on Jan*, *25*, 2017.

Aranda, S. (2015, April 29). Communicating in a crisis like Ebola: Facts and figures. Retrieved from http://www.scidev.net/global/ebola/feature/communicating-crisis-ebola-facts-figures.html

Aronson, E. (1999). The power of self-persuasion. *American Psychologist*, *54*(11), 875–884.

Asbeek Brusse, E. D., Fransen, M. L., & Smit, E. G. (2015). The More You Say, the Less They Hear. *Journal of Media Psychology*, *27*(4), 159–169. https://doi.org/10.1027/1864-1105/a000135

Assmann, A. (2012). *Introduction to cultural studies: Topics, concepts, issues*. *EVS basics: Vol. 36*. Berlin: Schmidt.

Atkin, C. K. (2001). Theory and principles of media health campaigns. In R. E. Rice & C. K. Atkin (Eds.), *Public Communication Campaigns* (3rd ed., pp. 49–68). 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc.

Avcı, K., Çakır, T., Avşar, Z., & Üzel Taş, H. (2015). Examination of the mass media process and personal factors affecting the assessment of mass media-disseminated health information. *Global Health Promotion*, *22*(2), 20–30. https://doi.org/10.1177/1757975914536912

Aziz, L., & Salvesen, V. L. (2008). Voice Out —An Entertainment–Education Approach? *Visual Anthropology*, *21*(3), 217–230. https://doi.org/10.1080/08949460801986186

Azjen, I. (1992). Persuasive communication theory in social psychology: A historical perspective. In M. J. Manfredo (Ed.), *Influencing human behaviour: Theory and applications in recreation and tourism* (pp. 1–27). Champaign, IL: Sagamore Publishing.

Backman, R., Foy, R., Michael, B. D., Defres, S., Kneen, R., & Solomon, T. (2015). The development of an intervention to promote adherence to national guidelines for suspected viral encephalitis. *Implementation Science: IS*, *10*, 37. https://doi.org/10.1186/s13012-015-0224-2

Baghianimoghaddam, M. H., Forghani, H., Zolghadr, R., Rahaii, Z., & Khani, P. (2010). Health Belief Model and HIV/AIDS among high school female students in Yazd, Iran. *Journal of Research in Medical Sciences: The Official Journal of Isfahan University of Medical Sciences*, *15*(3), 189–190.

Baloyi, L., & Makobe-Rabothata, M. The African conception of death: A cultural implication. In *Jackson, Meiring et al. (Ed.) 2014 – Toward sustainable development through nurturing* (pp. 232–243). Retrieved from https://scholarworks.gvsu.edu/iaccp_papers/119/

Banas, J. A., & Rains, S. A. (2010). A Meta-Analysis of Research on Inoculation Theory. *Communication Monographs*, *77*(3), 281–311. https://doi.org/10.1080/03637751003758193

Bandura, A. (1977). *Social learning theory*. Upper Saddle River, NJ: Prentice-Hall, Inc.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. *Prentice-Hall series in social learning theory*. Englewood Cliffs NJ: Prentice-Hall.

Bandura, A. (1988). Organisation application of social cognitive theory. *Australian Journal of Management*, *13*(2), 275–302. Retrieved from https://web.stanford.edu/dept/psychology/bandura/pajares/Bandura1988AJM.pdf

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development* (pp. 1–60). Greenwich, CT: JA1 Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.

Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology & Health*, *13*(4), 623–649. https://doi.org/10.1080/08870449808407422

Bandura, A. (2001). Social Cognitive Theory of Mass Communication. *Media Psychology*, *3*(3), 265–299. https://doi.org/10.1207/S1532785XMEP0303_03

Bandura, A., & National Institute of Mental Health (1986). *Social foundations of thought and actions: Social cognitive theory*. *Prentice-Hall series in social learning theory*: Prentice-Hall, Inc.

Baran, S. J. (2012). *Introduction to mass communication: Media literacy and culture* (7th ed.). New York: McGraw-Hill.

Barker, K. (2014). "Soaps" for Social and Behavioural Change. In C. C. Okigbo (Ed.), *Strategic Urban Health Communication* (pp. 37–51). New York, NY, s.l.: Springer New York.

Barkow, J. H. (1975). Strategies for self-esteem and prestige in Maradi, Niger Republic. In T. R. Williams (Ed.), *World anthropology. Psychological anthropology* (pp. 373–388). The Hague u.a.: Mouton Publ.

Barnlund, D. C. (2011). Communicative styles in two cultures: Japan and United States. *Socialization and Communication in Primary Groups*, 399. https://doi.org/10.1515/9783110802870.399

Baseman, J. G., Revere, D., Painter, I., Toyoji, M., Thiede, H., & Duchin, J. (2013). Public health communications and alert fatigue. *BMC Health Services Research*, *13*, 295. https://doi.org/10.1186/1472-6963-13-295

Bator, R. J., & Cialdini, R. B. (2000). The application of persuasion theory to the development of effective pro-environmental public service announcements. *Journal of Social Issues*, *56*(3), 527–541. Retrieved from https://web.stanford.edu/~kcarmel/CC_BehavChange_Course/readings/Bator_PSA_2000.pdf

Baum, A. (Ed.) (1997). *Cambridge handbook of psychology, health and medicine* (1. publ). Cambridge u.a.: Cambridge Univ. Press.

Baum, A., Newman, S., Weinman, J., West, R., & McManus, C. (Eds.) (1997). *Cambridge Handbook of Psychology, Health and Medicine.* (1. publ). Cambridge u.a.: Cambridge Univ. Press.

Bedford, J. (2014). Liberia - key considerations. Retrieved from http://www.ebola-anthropology.net/wp-content/uploads/2014/11/Liberia-handling-bodies-and-national-memorials1.pdf

Bellman, B. L. (1975). *Village of curers and assassins: On the production of Fala Kpelle cosmological categories* (Reprint). *Approaches to semiotics: Vol. 39*. The Hague: Mouton.

Bello, I. (2017). The Poet as Town-Crier. *Matatu*, *49*(1), 96–108. https://doi.org/10.1163/18757421-04901006

Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist*, *35*(4), 320–335. https://doi.org/10.1037/0003-066X.35.4.320

Bennett, M. J. (2013). Intercultural communication. In *Cortés, C.E (Ed.) - Multicultural America: A multimedia encyclopaedia* (pp. 1196–1201). SAGE Publications Ltd.

Bentley, E. (1967). *The life of drama*. New York: Rowman & Littlefield.

Berger, A. A. (2010). Making Sense of Mass Communication. In A. A. Berger (Ed.), *Essentials of mass communication theory* (pp. 1–26). Thousand Oaks: Sage Publications. https://doi.org/10.4135/9781483345420.n1

Berger, C. R. R., Roloff, Dr. Michael E. E., & Ewoldsen, D. R. R. (2009). *The Handbook of Communication Science*. Thousand Oaks: Sage Publications. Retrieved from http://gbv.eblib.com/patron/FullRecord.aspx?p=996517

Bergstresser, S. M. (2015). Health communication, public mistrust, and the politics of "rationality". *The American Journal of Bioethics: AJOB*, *15*(4), 57–59. https://doi.org/10.1080/15265161.2015.1009570

Berkowitz, A. D. (2003). Applications of social norms theory to other health and social justice issues. In H.W. Perkins (Ed.), *The social norms approach to preventing school and college age substance abuse: A handbook for educators, counsellors and clinicians* (pp.259 – 279). Jossey Bass/Wiley.

Bernhardt, J. M. (2004). Communication at the Core of Effective Public Health. *American Journal of Public Health*, *94*(12), 2051–2053. https://doi.org/10.2105/AJPH.94.12.2051

Best, C. (2019). How Caregiving Affects Women's Health. Retrieved from https://www.homecaremag.com/march-2019/caregiving-womens-health

Betsch, C., Bohm, R., Airhihenbuwa, C. O., Butler, R., Chapman, G. B., Haase, N., . . . Uskul, A. K. (2015). Improving Medical Decision Making and Health Promotion through Culture-Sensitive Health Communication: An Agenda for Science and Practice. *Medical Decision Making: An International Journal of the Society for Medical Decision Making.* Advance online publication. https://doi.org/10.1177/0272989X15600434

Bettinghaus, E. P. (1986). Health promotion and the knowledge-attitude-behaviour continuum. *Preventive Medicine*, *15*(5), 475–491. https://doi.org/10.1016/0091-7435(86)90025-3

Bibb, S. C. Disease, Death and Destruction: The apocalyptic trail of Ebola. Retrieved from http://www.inter-disciplinary.net/critical-issues/wp-content/uploads/2015/07/Bibb_-Apocalypse_draft-paper.pdf

Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades. *Journal of Political Economy*, *100*(5), 992–1026. https://doi.org/10.1086/261849

Bish, A., & Michie, S. (2010). Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. *British Journal of Health Psychology*, *15*(Pt 4), 797–824. https://doi.org/10.1348/135910710X485826

Bizer, G. Y., Larsen, J. T., & Petty, R. E. (2011). Exploring the Valence-Framing Effect: Negative Framing Enhances Attitude Strength. *Political Psychology*, *32*(1), 59–80. https://doi.org/10.1111/j.1467-9221.2010.00795.x

Bodenhausen, Galen, V., & Gawronski, B. (2013). Attitude Change. In D. Reisberg (Ed.), *The Oxford Handbook of Cognitive Psychology* (pp. 957–969). New York: Oxford University Press.

Boylorn, R. M., & Orbe, M. P. (2016). *Critical Autoethnography: Intersecting Cultural Identities in Everyday Life*: Taylor & Francis.

Bracht, N. (Ed.) (1999). *Health promotion at the community level 2: New advances* (2nd ed.). Thousand Oaks, Calif.: Sage Publications.

Bracht, N. F. (Ed.) (1999). *Health promotion at the community level: New advances*. Thousand Oaks: Sage Publications. http://dx.doi.org/10.4135/9781452204789

Breckler, S. J., & Wiggins, E. C. (1989). Affect versus evaluation in the structure of attitudes. *Journal of Experimental Social Psychology*, *25*(3), 253–271. https://doi.org/10.1016/0022-1031(89)90022-X

Breckler, S. J., & Wiggins, E. C. (1991). Cognitive responses in persuasion: Affective and evaluative determinants. *Journal of Experimental Social Psychology*, *27*(2), 180–200. https://doi.org/10.1016/0022-1031(91)90021-W

Breen, G.-M., & Matusitz, J. (2009). Innoculation theory: A theoretical and practical framework for conferring resistance to pack journalism tendencies. *Global Media Journal*. (8), 1–32. Retrieved from http://www.globalmediajournal.com/open-access/inoculation-theory-a-theoretical-and-practical-framework-for-conferring-resistance-to-pack-journalism-tendencies.pdf

Brink, H., van der Walt, C., & van Rensburg, G. (2006). *Fundamentals of research methodology for health care professionals*: Juta and Company Ltd.

Briñol, P., & Petty, R. E. (2012). A history of attitudes and persuasion research. In A. W. Kruglanski & W. Stroebe (Eds.), *Handbook of the History of Social Psychology* (pp. 283–316). Taylor & Francis.

Broderick, C. E. (2014, September 9). Ebola, AIDS Manufactured by Western Pharmaceuticals, US DoD? *The Liberian Observer*. Retrieved from http://www.liberianobserver.com/security/ebola-aids-manufactured-western-pharmaceuticals-us-dod

Brofenbrenner, U. (1994). Ecological models of human development. In Husén, Torsten and Postlethwaite, T.N (Ed.), *The international encyclopaedia of education* (2nd ed., Vol. 3, pp. 1643–1647). Oxford UK: Pergamon Press and Elsevier Science.

Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. In S. L. Friedman & T. D. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 3–28). Washington D.C. u.a.: American Psychological Association. Retrieved from http://readtogether.uncg.edu/hdf/facultystaff/Tudge/Bronfenbrenner%201999.pdf

Bronfenbrenner, U., & Morris, Pamela, A. (2006). The bioecological model of human development. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 793–828). New York, NY: Wiley.

Brooks, M. (2014). The great Ebola scare. *New Stateman*.

Brown, B., Nasiruddin, M., Dao, A., & Halabi, M. (2015). Responsible Use of Pop Culture and Communication in the Face of Ebola Virus. *PLoS Neglected Tropical Diseases*, *9*(8), e0003890. https://doi.org/10.1371/journal.pntd.0003890

Brownson, R. C., Fielding, J. E., & Maylahn, C. M. (2009). Evidence-based public health: A fundamental concept for public health practice. *Annual Review of Public Health*, *30*, 175–201. https://doi.org/10.1146/annurev.publhealth.031308.100134

Bryant, A., & Charmaz, K. (2007). Grounded theory in historical perspective: An epistemological account. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of grounded theory* (pp. 31–57). Los Angeles: Sage.

Bryant, J., Zillmann, D., Brinol, P., Cantor, J., & Fisch, S. M. (2002). *Media Effects: Advances in Theory and Research*: L. Elbaum Associates.

Buck, R., Anderson, E., Chaudhuri, A., & Ray, I. (2004). Emotion and reason in persuasion. *Journal of Business Research*, *57*(6), 647–656. https://doi.org/10.1016/S0148-2963(02)00308-9

Burato, A. (2015). Ebola: is it real? The role of communication, information, regulation and training in managing emergencies. In ITSTIME (Ed.), *Sicurezza, Terrorismo e Societa* (1 2015, pp. 83–98). Milano: EDUCatt.

Buseh, A. G. (2008). *Empowering resilience: Improving health care delivery in war-impacted African countries: a case study of Liberia*. Lanham, Md.: University Press of America.

Butler, D. (2015). Six challenges to stamping out Ebola. *Nature.* Advance online publication. https://doi.org/10.1038/nature.2015.16964

Cacioppo, J. T., Briñol, P., & Priester, J. R. (2009). Mass media attitude change: Implications of elaboration likelihood model of persuasion. In J. Bryant & M. B. Oliver (Eds.), *Communication series. Communication theory and methodology. Media effects: Advances in theory and research* (3rd ed., pp. 125–164). New York: Routledge.

Cacioppo, J. T., Petty, R. E., & Crites, S. L., JR. (Eds.) (1994). Attitude Change [Special issue]. *Encyclopaedia of Human Behaviour*, *1*: Academic Press. Retrieved from http://psychology.uchicago.edu/people/faculty/cacioppo/jtcreprints/cpc94.pdf

Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, *119*(2), 197–253. https://doi.org/10.1037/0033-2909.119.2.197

Cacioppo, J. T., Petty, R. E., Kao, C. F., & Rodriguez, R. (1986). Central and peripheral routes to persuasion: An individual difference perspective. *Journal of Personality and Social Psychology*, *51*(5), 1032–1043.

Cameron, K. A. (2009). A practitioner's guide to persuasion: An overview of 15 selected persuasion theories, models and frameworks. *Patient Education and Counselling*, *74*(3), 309–317. https://doi.org/10.1016/j.pec.2008.12.003

Carey, K. B., Purnine, D. M., Maisto, S. A., & Carey, M. P (2006). Assessing Readiness to Change Substance Abuse: A Critical Review of Instruments. *Clinical Psychology: Science and Practice*, *6*(3), 245–266. https://doi.org/10.1093/clipsy.6.3.245

Carter, M. (2014). Gender Socialization and Identity Theory. *Social Sciences*, *3*(2), 242–263. https://doi.org/10.3390/socsci3020242

CDC (2016). CDC Novel H1N1 Flu | The 2009 H1N1 Pandemic: Summary Highlights, April 2009-April 2010. Retrieved from http://www.cdc.gov/h1n1flu/cdcresponse.htm

Centres for Disease Control and Prevention (27 December, 2017). 2014 Ebola Outbreak in West Africa Epidemic Curves. Retrieved from https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/cumulative-cases-graphs.html

Chandler, C., Fairhead, J., Kelly, A., Leach, M., Martineau, F., Mokuwa, E., . . . Wilkinson, A. (2015). Ebola: Limitations of correcting misinformation. *The Lancet*, *385*(9975), 1275–1277. https://doi.org/10.1016/S0140-6736(14)62382-5

Childress, S. (2015). After Ebola: Are We Ready for the Next Epidemic? Retrieved from http://www.pbs.org/wgbh/frontline/article/after-ebola-are-we-ready-for-the-next-epidemic/

Chiu, C.-y., & Hong, Y.-y. (2006). *Social psychology of culture*. *Principles of social psychology*. New York: Psychology Press.

Chiu, C.-y., Morris, M. W., Hong, Y.-y., & Menon, T. (2000). Motivated cultural cognition: The impact of implicit cultural theories on dispositional attribution varies as a function of need for closure. *Journal of Personality and Social Psychology*, *78*(2), 247–259. https://doi.org/10.1037/0022-3514.78.2.247

Christians, C., & Nordenstreng, K. (2014). *Communication Theories in a Multicultural World* (1st ed.). *Intersections in Communications and Culture: Vol. 31*. New York: Peter Lang Publishing Inc.

Cialdini, R. B., Petty, R. E., & Cacioppo, J. T. (1981). Attitude and attitude change. *Annual Reviews Psychology*. (32), 357–404.

Cialdini, R. B., & Trost, Melanie, R. (1998). Social influence: Social norms, conformity, and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, pp. 151–192). Boston: McGraw-Hill.

Cobley, P. (Ed.) (2013). *Handbooks of communication science: Vol. 1. Theories and models of communication*. Berlin u.a.: De Gruyter Mouton.

Cobley, P., & Schulz, P. (Eds.) (2013). *Handbooks of communication science: Vol. 1. Theories and models of communication*. Berlin u.a.: de Gruyter. Retrieved from http://dx.doi.org/10.1515/9783110240450

Cohen, B., & Streitberger, A. (2016). *The photofilmic: Entangled images in contemporary art and visual culture*. *Lieven Gevaert series: vol. 21*. Leuven: Leuven University Press.

Cohen, D. A., Scribner, R. A., & Farley, T. A. (2000). A structural model of health behaviour: A pragmatic approach to explain and influence health behaviours at the population level. *Preventive Medicine*, *30*(2), 146–154. https://doi.org/10.1006/pmed.1999.0609

Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology*, *65*, 333–371. https://doi.org/10.1146/annurev-psych-010213-115137

Cohen, G. L. and Sherman, D. K. (2014). The psychology of change: self-affirmation and social psychological intervention. *Annual Review of Psychology*. (65), 333–371. https://doi.org/10.1146/annurev-psych-010213-115137

Cole, Michael and Gay, John (1972). Culture and Memory. *American Anthropologist*, *74*, 1066–1084.

Collins, L. M., Baker, T. B., Mermelstein, R. J., Piper, M. E., Jorenby, D. E., Smith, S. S., . . . Fiore, M. C. (2011). The multiphase optimization strategy for engineering effective tobacco use interventions. *Annals of Behavioural Medicine: A Publication of the Society of Behavioural Medicine*, *41*(2), 208–226. https://doi.org/10.1007/s12160-010-9253-x

Collins, L. M., Murphy, S. A., & Strecher, V. (2007). The multiphase optimization strategy (MOST) and the sequential multiple assignment randomized trial (SMART): New methods for more potent eHealth interventions. *American Journal of Preventive Medicine*, *32*(5 Suppl), S112-8. https://doi.org/10.1016/j.amepre.2007.01.022

Combey, J. M. (2010). *The influence of modernity and modern warfare on the Koh Mende Society of Sierra Leone* (X). Retrieved from Wissenschaftliche Schriften der WWU Münster website: https://d-nb.info/1003295150/34

Conner, M. (2008). Initiation and Maintenance of Health Behaviours. *Applied Psychology*, *57*(1), 42–50. https://doi.org/10.1111/j.1464-0597.2007.00321.x

Conner, M., McEachan, R., Taylor, N., O'Hara, J., & Lawton, R. (2015). Role of affective attitudes and anticipated affective reactions in predicting health behaviors. *Health Psychology*. (34), 642–652. https://doi.org/10.1037/hea0000143

Craig, R. T. (1999). Communication as a theory field. *Communication Theory*. (9), 119–161.

Creese, P (2011). World Health Organization. In WHO (Ed.), *WHO recommended guideline for epidemic preparedness and responses: Ebola Haemorrhagic Fever*

(EHF). Berlin/Heidelberg: Springer-Verlag. https://doi.org/10.1007/SpringerReference_301104

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*: Sage.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implemetation. *The Counselling Psychologist*. (35), 236–264.

Cvencek, D., Greenwald, A. G., & Meltzoff, A. N. (2012). Balanced identity theory: Review of evidence for implicit consistency in social cognition. In B. Gawronski & F. Strack (Eds.), *Cognitive Consistency: A Fundamental Principle in Social Cognition* (pp. 157–177). New York: Guilford Press. Retrieved from http://faculty.washington.edu/agg/pdf/Cvencek&al.G&S_ch08.2012.pdf

Daillo, M. (2016). Traditional healers can play a critical role in post Ebola recovery. Retrieved from https://www.ifrc.org/en/news-and-media/news-stories/africa/liberia/traditional-healers-can-play-a-critical-role-in-post-ebola-recovery-72033/

Davis, R., Campbell, R., Hildon, Z., Hobbs, L., & Michie, S. (2015). Theories of behaviour and behaviour change across the social and behavioural sciences: A scoping review. *Health Psychology Review*, *9*(3), 323–344. https://doi.org/10.1080/17437199.2014.941722

Decker, M. (1 April, 2016). *Liberia situation report on Ebola*. Retrieved from UNICEF website: http://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF%20Liberia%20Ebola%20SitRep%201%20April%202016.pdf

Del Prado, A. M., Church, A. T., Katigbak, M. S., Miramontes, L. G., Whitty, M., Curtis, G. J., . . . Reyes, J. A. S. (2007). Culture, Method, and the Content of Self-Concepts: Testing Trait, Individual-Self-Primacy, and Cultural Psychology Perspectives. *Journal of Research in Personality*, *41*(6), 1119–1160. https://doi.org/10.1016/j.jrp.2007.02.002

Del Rio, C., Mehta, A. K., Lyon, G. M. 3., & Guarner, J. (2014). Ebola haemorrhagic fever in 2014: The tale of an evolving epidemic. *Annals of Internal Medicine*, *161*(10), 746–748. https://doi.org/10.7326/M14-1880

Dervin, B. (1989). The audience as listener and learner, the teacher and confidante: The sense-making approach. In R. E. Rice & C. K. Atkin (Eds.), *Public communication campaigns* (2nd ed., pp. 67–86). Newbury Park: Sage.

Dervin, B., & Frenette, M. (2001). Sense-Making Methodology: Communicating Communicatively with Campaign Audiences. In R. E. Rice & C. K. Atkin (Eds.), *Public Communication Campaigns* (3rd ed., pp. 69–87). 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc. https://doi.org/10.4135/9781452233260.n4

Deutsche Welle (2014). Traditional healers: help or hindrance in the fight against Ebola? | Africa | DW.COM | 06.08.2014. Retrieved from http://www.dw.com/en/traditional-healers-help-or-hindrance-in-the-fight-against-ebola/a-17834465

Diallo, M. (2016). Traditional healers can play a critical role in post Ebola recovery. Retrieved from http://www.ifrc.org/en/news-and-media/news-stories/africa/liberia/traditional-healers-can-play-a-critical-role-in-post-ebola-recovery-72033/

Diggs, B. J. (1964). Persuasion and ethics. *Quarterly Journal of Speech*, *50*(4), 359–373. https://doi.org/10.1080/00335636409382679

Donelan, K., Falik, M., & DesRoches, C. M. (2001). Caregiving: challenges and implications for women's health. *Women's Health Issues*, *May – June* (11), 185–200.

Dowell, S. (2003). Uncovering the storytelling power of communication: Applying Walter Fisher's narrative theory to three presidential crisis speeches. In *Digitalcommons@uno* (Student work 444). University of Nebraska at Omaha. Retrieved from https://digitalcommons.unomaha.edu/studentwork/444/

Doyle, J. D. (2006). Queer Music Radio: Entertainment, Education, and Activism. *Journal of Popular Music Studies*, *18*(2), 215–219. https://doi.org/10.1111/j.1533-1598.2006.00089.x

Drake, J. M., Kaul, R. B., Alexander, L. W., O'Regan, S. M., Kramer, A. M., Pulliam, J. T., . . . Park, A. W. (2015). Ebola cases and health system demand in Liberia. *PLoS Biology*, *13*(1), e1002056. https://doi.org/10.1371/journal.pbio.1002056

Drotman, P. D. (Ed.) (2016). *Emerging and infectious diseases* (Vol. 6).

Dunn, W. R., & Hamilton, D. D. (2009). The Critical Incident Technique–a brief guide. *Medical Teacher*, *8*(3), 207–215. https://doi.org/10.3109/01421598609036857

Dutta, M. J. (2007). Communicating About Culture and Health: Theorizing Culture-Centered and Cultural Sensitivity Approaches. *Communication Theory*, *17*(3), 304–328. https://doi.org/10.1111/j.1468-2885.2007.00297.x

Dutta, M. J. (2008). *Communicating Health: A Culture-centered Approach*: Wiley.

Dutta, M. J. (2006). Theoretical approaches to entertainment education campaigns: A subaltern critique. *Health Communication*, *20*(3), 221–231. https://doi.org/10.1207/s15327027hc2003_2

Dutta-Bergman, M. J. (2004). An alternative approach to entertainment education. *Journal of International Communication*, *10*(1), 93–107. https://doi.org/10.1080/13216597.2004.9751966

Dutta-Bergman, M. J. (2004). Primary Sources of Health Information: Comparisons in the Domain of Health Attitudes, Health Cognitions, and Health Behaviours. *Health Communication*, *16*(3), 273–288.

Dutta-Bergmann, M. J. (2005). Theory and practice in health communication campaigns: Critical interrogation. *Health Communication*, *18*(2), 103–122.

Dweh, S. G. (2015, October 22). Losing Cynthia: Health Education Gaps in Post-Ebola Liberia. Retrieved from http://archive.eboladeeply.org/articles/2015/10/8397/losing-cynthia-health-education-gaps-post-ebola-liberia/

Edgar, T., & Volkman, J. E. (2012). Using communication theory for health promotion: Practical guidance on message design and strategy. *Health Promotion Practice*, *13*(5), 587–590. https://doi.org/10.1177/1524839912450879

Ellis, S. (1995, April). Liberia 1989-1994: A study of ethnic and spiritual violence. *African Affairs*, *94*(375), 165–197. Retrieved from https://doi.org/10.1093/oxfordjournals.afraf.a098806

Ember, C. R., & Ember, M. (2004). *Cultural anthropology* (11. ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.

Epton, T., & Harris, P. R. (2008). Self-affirmation promotes health behavior change. *Health Psychology: Official Journal of the Division of Health Psychology, American*

Psychological Association, *27*(6), 746–752. https://doi.org/10.1037/0278-6133.27.6.746

Eriksen, T. H. (2010). *Small places, large issues: An introduction to social and cultural anthropology* (3. ed.). *Anthropology, culture and society*. London u.a.: Pluto Press.

Faye, O., Boëlle, P.-Y., Heleze, E., Faye, O., Loucoubar, C., Magassouba, N.'F., . . . Cauchemez, S. (2015). Chains of transmission and control of Ebola Virus Disease in Conakry, Guinea in 2014. *Lancet Infect Dis*, *2015*(3), 320–326. https://doi.org/10.1016/S1473-3099(14)71075-8

Fairhead, J. (October, 2014). *The significance of death, funerals and the after-life in Ebola-hit Sierra Leone, Guinea and Liberia: Anthropological insights into infection and social resistance*. Retrieved from Health and Education Advice and Resource Team website: http://www.heart-resources.org/wp-content/uploads/2014/10/FairheadEbolaFunerals8Oct.pdf

Fairhead, J. (2015, April). Understanding social resistance to Ebola response in Guinea. *African Studies Review*. Retrieved from http://www.ebola-anthropology.net/wp-content/uploads/2015/04/Fairhead-EbolaASRFinalSubmissionWeb.pdf

Feldman, R. S. (1985). *Social psychology: Theories, research, and applications*. New York u.a.: McGraw-Hill.

Ferguson, S. D. (1999). *Communication Planning: An Integrated Approach*. 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc. https://doi.org/10.4135/9781452233352

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, California: Stanford University Press.

Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology*, *58*, 203–210.

Feuer, A. (2014, October 18). The Ebola Conspiracy Theories. *New York Times*. Retrieved from http://www.nytimes.com/2014/10/19/sunday-review/the-ebola-conspiracy-theories.html?_r=0

Fiedler, K., Freytag, P., & Kashima, Y. (Eds.) (2008). *Stereotype dynamics: Language-based approaches to the formation, maintenance, and transformation of stereotypes*. New York, London: Lawrence Erlbaum Associates.

Finau, S. A. (2000). Communicating health risks in the pacific: Scientific construct and cultural reality. *Asia-Pacific Journal of Public Health*, *12*(2), 90–97.

Firth, R. (1948). Religious Belief and Personal Adjustment. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, *78*(1/2), 25. https://doi.org/10.2307/2844523

Fischhoff, B., Bostrom, A., & Quadrel, M. J. (1993). Risk perception and communication. *Annual Reviews Public Health*. (14), 183–203. Retrieved from https://www.annualreviews.org/doi/pdf/10.1146/annurev.pu.14.050193.001151

Fishbein, M., & Yzer, M. C. (2003). Using Theory to Design Effective Health Behavior Interventions. *Communication Theory*, *13*(>2), 164–183. https://doi.org/10.1093/ct/13.2.164

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research. Addison-Wesley series in social psychology*. Reading Mass. u.a.: Addison-Wesley.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behaviour: The reasoned action approach*. New York NY u.a.: Psychology Press / Taylor & Francis Group.

Fisher, W. R. (1984). Narration as a human communication paradigm 51(1), 1-22.: The case of public moral argument. *Communication Monographs*, *51*(1), 1–22.

Fisher, W. R. (1987). Human communication as narration: Toward a philosophy of reason, value, and action. In C. C. Arnold (Ed.), *Studies in rhetoric/communication* (pp. 105–123). Columbia, South Carolina: University of Carolina Press.

Fisher, W. A., Fisher, J. D., & Rye, B. J. (1995). Understanding and promoting AIDS-preventive behaviour: Insights from the theory of reasoned action. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *14*(3), 255–264. https://doi.org/10.1037/0278-6133.14.3.255

Fiske, A. (1998, October 14). Kpelle. Retrieved from http://www.sscnet.ucla.edu/anthro/faculty/fiske/135b/kpelle.htm

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, *51*(4), 327–358. https://doi.org/10.1037/h0061470

Flay, B. R., DiTecco, D., & Schlegel, R. P. (1980). Mass Media in Health Promotion: An Analysis Using an Extended Information-Processing Model. *Health Education & Behaviour*, *7*(2), 127–147. https://doi.org/10.1177/109019818000700203

Flay, B. R. (1986). Efficacy and effectiveness trials (and other phases of research) in the development of health promotion programs. *Preventive Medicine*, *15*(5), 451–474. https://doi.org/10.1016/0091-7435(86)90024-1

Flay, B. R., & Schure, M. B. (2012, March 20). *Mechanisms of legal effect perspectives from social psychology*. Retrieved from Robert Wood Johnson Foundation website: http://publichealthlawresearch.org/sites/default/files/downloads/resource/Flay-SocialPsychPerspectives-MM.pdf

Flay, B. R., Snyder, F., & Petraitis, J. (2009). The Theory of Triadic Influence. In R. J. DiClemente, R. A. Crosby, & M. Kegler (Eds.), *Emerging Theories in Health Promotion Practice and Research* (2nd ed., pp. 451–513). Hoboken: John Wiley & Sons Inc. Retrieved from https://www.positiveaction.net/research/downloads/emerging-theories-health-promotion-2009.pdf

Foster, G. M. (1976). Disease Etiologies in Non- Western Medical Systems. *American Anthropologist*, *78*(4), 773–782.

Frawley, W. (1989). Culture, Communication, and Cognition: Vygotskian Perspectives. James V. Wertsch (Ed.). Cambridge: Cambridge University Press, 1985. Pp. x + 379. *Studies in Second Language Acquisition*, *11*(01), 97. https://doi.org/10.1017/S0272263100007889

Freimuth, V. S., & Taylor, M. (1995). Effectiveness of mass-media health campaigns. Retrieved from sites.utoronto.ca/chp/download/…/freimuth%20paper.doc

French, S. D., Green, S. E., O'Connor, D. A., McKenzie, J. E., Francis, J. J., Michie, S., . . . Grimshaw, J. M. (2012). Developing theory-informed behaviour change interventions to implement evidence into practice: A systematic approach using the Theoretical Domains Framework. *Implementation Science*, *7*(1), 38. https://doi.org/10.1186/1748-5908-7-38

Friedman, S. L., & Wachs, T. D. (Eds.) (1999). *Measuring environment across the life span: Emerging methods and concepts*. Washington D.C. u.a.: American Psychological Association.

Frohlich, K. L., Corin, E., & Potvin, L. (2001). A theoretical proposal for the relationship between context and disease. *Sociology of Health & Illness*, *23*(6), 776–797. https://doi.org/10.1111/1467-9566.00275

Fuglesang, A. (1982). *About understanding - ideas and observations on cross-cultural communication*. Motala, Sweden: Motala Grafiska. Retrieved from http://www.daghammarskjold.se/wp-content/uploads/1982/08/about-understanding.pdf

Fulton, R. M. (1972). The Political Structures and Functions of Poro in Kpelle Society. *American Anthropologist*, *74*(5), 1218–1233. https://doi.org/10.1525/aa.1972.74.5.02a00140

Fung, I. C.-H., Duke, C. H., Finch, K. C., Snook, K. R., Tseng, P.-L., Hernandez, A. C., . . . Tse, Z. T. H. (2016). Ebola virus disease and social media: A systematic review. *American Journal of Infection Control.* Advance online publication. https://doi.org/10.1016/j.ajic.2016.05.011

Funk, S., Salathe, M., & Jansen, V. A. A. (2010). Modelling the influence of human behaviour on the spread of infectious diseases: A review. *Journal of the Royal Society, Interface / the Royal Society*, *7*(50), 1247–1256. https://doi.org/10.1098/rsif.2010.0142

Garcia-Carbonell, A. and Rising, B. (2006). Culture and Communication. Retrieved from http://www.upv.es/diaal/publicaciones/rising1.pdf

Gardner, B. (2015). A review and analysis of the use of 'habit' in understanding, predicting and influencing health-related behaviour. *Health Psychology Review*, *9*(3), 277–295. https://doi.org/10.1080/17437199.2013.876238

Gerbner, G., Gross, L., Morgan, M., Signorielli, N., & Shanahan, J. (2002). Growing up with television. In Bryant, J. and Zillmann, D. (Ed.), *Media Effects: Advances in theory and research* (pp. 43–68). Mahwah, NJ: Lawrence Erlbaum Associates.

Gesser-Edelsburg, A., Shir-Raz, Y., Hayek, S., & Sassoni-Bar Lev, O. (2015). What does the public know about Ebola? The public's risk perceptions regarding the current Ebola outbreak in an as-yet unaffected country. *American Journal of Infection Control*, *43*(7), 669–675. https://doi.org/10.1016/j.ajic.2015.03.005

Gesser-Edelsburg, A., & Singhal, A. (2013). Enhancing the persuasive influence of entertainment-education events: Rhetorical and aesthetic strategies for constructing narratives. *Critical Arts*, *27*(1), 56–74. https://doi.org/10.1080/02560046.2013.766973

Gibbs, J. L. (1963). The Kpelle Moot. *Africa*, *33*(1). Retrieved from http://www.anthroprof.org/documents/Docs102/102articles/kpelleMoot.pdf

Gilbert, G. L., & Kerridge, I. (2015). Communication and communicable disease control: Lessons from Ebola virus disease. *The American Journal of Bioethics: AJOB*, *15*(4), 62–65. https://doi.org/10.1080/15265161.2015.1009564

Gillespie, M. (1995). *Television, ethnicity, and cultural change*. *Comedia*. London, New York: Routledge.

Glanz, K., & Bishop, D. B. (2010). The role of behavioural science theory in development and implementation of public health interventions. *Annual Review of Public Health*, *31*, 399–418. https://doi.org/10.1146/annurev.publhealth.012809.103604

Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.) (2008). *Health behaviour and health education.: Theory, research and practice* (4th). San Francisco Calif.: Jossey-Bass.

Glesne, C. (2011). *Becoming a qualitative researcher: An introduction* (4th ed.). Boston, Mass., London: Allyn and Bacon.

Göckeritz, S., Schultz, P. W., Rendón, T., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2009). Descriptive normative beliefs and conservation behaviour: The moderating roles of personal involvement and injunctive normative beliefs. *European Journal of Social Psychology*, *25*, n/a-n/a. https://doi.org/10.1002/ejsp.643

Golden, S. D., & Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: Twenty years of health education & behaviour health promotion interventions. *Health Education & Behaviour: The Official Publication of the Society for Public Health Education*, *39*(3), 364–372. https://doi.org/10.1177/1090198111418634

Government of Liberia. *National Ebola response strategy: Scaling up to the challenge*. Retrieved from https://www.unicef.org/emergencies/ebola/files/National_Ebola_Response_Strategy_Sept_2014.pdf

Graham, C. H. (2011). Cognitive Dissonance. In WHO (Ed.), *WHO recommended guideline for epidemic preparedness and responses: Ebola Haemorrhagic Fever (EHF)*. Berlin/Heidelberg: Springer-Verlag. https://doi.org/10.1007/SpringerReference_179878

Green, E. C. (1999). *Indigenous theories of contagious disease*. Walnut Creek: AltaMira Press.

Greenfield, P. M. (2000). Three approaches to the psychology of culture: Where do they come from? Where can they go? *Asian Journal of Social Pyschology*, *3*, 223–240.

Greenfield, P. M. (2004). Cultural Psychology. In C. Spielberger (Ed.), *Encyclopaedia of Applied Psychology* (pp. 545–553). Oxford: Elsevier.

Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. G. Greenwald (Ed.), *Social psychology. Psychological foundations of attitudes* (pp. 147–169). New York NY u.a.: Acad. Press. Retrieved from http://faculty.washington.edu/agg/pdf/Gwald_PFOA_Ch6_1968.OCR.pdf

Griffin, R. J., Neuwirth, K., Giese, J., & Dunwoody, S. (2002). Linking the Heuristic-Systematic Model and Depth of Processing. *Communication Research*, *29*(6), 705–732. https://doi.org/10.1177/009365002237833

Grossman, M. (1972). On the concept of health capital and the demand for health. *The Journal of Political Economy*. (80), 223–255.

Gudykunst, W. B. (1998). Applying anxiety\uncertainty management (AUM)Theory to intercultural adjustment training. *International Journal of Intercultural Relations*, *22*(2), 227–250.

Guimond, S. (2008). Psychological Similarities and Differences between Women and Men across Cultures. *Social and Personality Psychology Compass*, *2*(1), 494–510. https://doi.org/10.1111/j.1751-9004.2007.00036.x

Gurung, R. A. R. (2014). *Health psychology: A cultural approach* (3. ed.). Belmont, Calif.: Wadsworth Cengage Learning.

Haddock, G., & Maio, G. R. (2007). Attitude–behaviour Consistency. In K. D. Vohs & R. F. Baumeister (Eds.), *Encyclopedia of social psychology*. Thousand Oaks, Calif: Sage Publications. https://doi.org/10.4135/9781412956253.n34

Hagger, M. S., & Weed, M. (2019). Debate: Do interventions based on behavioral theory work in the real world? *The International Journal of Behavioral Nutrition and Physical Activity*, *16*(1), 36. https://doi.org/10.1186/s12966-019-0795-4

Hampson, S. E. (2012). Personality processes: Mechanisms by which personality traits "get outside the skin". *Annual Review of Psychology*, *63*, 315–339. https://doi.org/10.1146/annurev-psych-120710-100419

Health Communication Capacity Collaborative (November 2013). *The P Process: Five Steps to Strategic Communication*. Baltimore. Retrieved from Johns Hopkins Bloomberg School of Public Health Center for Communication Programs website: http://www.healthcommcapacity.org/wp-content/uploads/2013/11/P-Process-Brochure.pdf

Health Communication Capacity Collaborative (2015). Ebola Preparedness Implementation KIT. Retrieved from http://sbccimplementationkits.org/ebola/wp-content/uploads/sites/5/2015/09/Ebola-Comm-Preparedness-Kit.pdf

Heath, R. L., & Bryant, J. (1992). *Human communication theory and research: Concepts, contexts, and challenges*. *Communication textbook series General communication theory and methodology*. Hillsdale, NJ: Erlbaum.

Heine, S.J and Lehman D.R (1997). Culture, Dissonance, and Self Affirmation. *Personality and Social Psychology Bulletin*, *23*(4), 389–400.

Heitz Topka, K., Kaufmann, A., & Zanker, F. (2015). The Ebola Outbreak in comparison: Liberia and Cote d'Ivoire. *German Insititute of Global Area Studies - GIGA Focus*. (3). Retrieved from http://www.ssoar.info/ssoar/bitstream/handle/document/43063/ssoar-2015-heitz_tokpa_et_al-The_Ebola_outbreak_in_comparison.pdf?sequence=1

Hewlett, B. S., Epelboin, A., Hewlett, B. L., & Formenty, P. (2005). Medical anthropology and Ebola in Congo: Cultural models and humanistic care. *Bull Soc Pathol Exot -Anthropology Medicale*, *98*(3), 230–236. Retrieved from http://anthro.vancouver.wsu.edu/media/PDF/congo_ebola.pdf

Hewlett, B. S., & Hewlett, B. L. (2008). *Ebola, culture, and politics: The anthropology of an emerging disease*. Belmont, Calif.: Wadsworth Cengage Learning.

Hoffmann, T. C., Glasziou, P. P., Boutron, I., Milne, R., Perera, R., Moher, D., . . . Michie, S. (2014). Better reporting of interventions: Template for intervention description and replication (TIDieR) checklist and guide. *BMJ (Clinical Research Ed.)*, *348*, g1687. https://doi.org/10.1136/bmj.g1687

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. *Cross-cultural research and methodology series: Vol. 5*. Beverly Hills: Sage Publ.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviours, institutions, and organizations across nations* (2. ed.). Thousand Oaks: Sage Publ.

Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, *2*(1). https://doi.org/10.9707/2307-0919.1014

Hogan, R., Johnson, J. A., & Briggs, S. R. (Eds.) (1997). *Handbook of personality psychology*. San Diego: Academic Press.

Hogg, M. A., & Reid, S. A. (2006). Social Identity, Self-Categorization, and the Communication of Group Norms. *Communication Theory*, *16*(1), 7–30. https://doi.org/10.1111/j.1468-2885.2006.00003.x

Hornik, R. C. (Ed.) (2002). *LEA's communication series*. *Public health communication: Evidence for behaviour change*. Mahwah, NJ: Erlbaum.

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion: psychological studies of opinion change*: Greenwood Press.

Hsu, E. Plants in medical practice and common sense: on the interface of ethnobotany and medical anthropology. Retrieved from https://www.berghahnbooks.com/downloads/intros/HsuPlants_intro.pdf

Human Rights and Protection Section (December, 2015). *An assessment of human rights issues emanating from traditional practices in Liberia*. Retrieved from United Nations Mission in Liberia website: https://www.ohchr.org/Documents/Countries/LR/Harmful_traditional_practices18Dec.2015.pdf

Hyatt, J., & Simons, H. (1999). Cultural Codes - Who Holds the Key?: The Concept and Conduct of Evaluation in Central and Eastern Europe. *Evaluation*, *5*(1), 23–41. https://doi.org/10.1177/13563899922208805

Hyder, A. A., & Morrow, R. H. (2000). Culture, behaviour and health. In M. H. Merson, R. E. Black, & A.J. Mills (Eds.), *International Public Health: Disease, Programs, Systems and Polices* (pp. 41–66). Gaithersburg, MD: Aspen Publishers.

Ilesanmi, O. S. (2015). Learning from the challenges of Ebola Virus Disease contact tracers in Sierra Leone, February, 2015. *The Pan African Medical Journal*, *22 Suppl 1*, 21. https://doi.org/10.11694/pamj.supp.2015.22.1.6537

Infield, M. (2013). Cultural values protect forest in Liberia, *47*(04). https://doi.org/10.1017/S003060531300118X

Inglehart, R., & Baker, W. E. (2000). Modernization, Cultural Change, and the Persistence of Traditional Values. *American Sociological Review*, *65*(1), 19. https://doi.org/10.2307/2657288

Iwelunmor, J., Newsome, V., & Airhihenbuwa, C. O. (2014). Framing the impact of culture on health: A systematic review of the PEN-3 cultural model and its application in public health research and interventions. *Ethnicity & Health*, *19*(1), 20–46. https://doi.org/10.1080/13557858.2013.857768

Jackson, T. (1985). On the limitations of health promotion. *Community Health Studies*, *9*(1), 1–9. https://doi.org/10.1111/j.1753-6405.1985.tb00524.x

Jandt, F. E. (2007). *An introduction to intercultural communication: Identities in a global community*. United States of America: SAGE Publications, Inc.

Jindra, M., & Noret, J. (2011). African funerals and sociocultural change: A review of momentous transformations across a continent. In M. Jindra & J. Noret (Eds.), *Funerals in Africa: Explorations of a social phenomenon*. New York: Berghahn Books.

Joos, S., Glassen, K., & Musselmann, B. (2012). Herbal Medicine in Primary Healthcare in Germany: The Patient's Perspective. *Evidence-Based Complementary and Alternative Medicine: ECAM*, *2012*, 294638. https://doi.org/10.1155/2012/294638

Jung, C. G. (1968). *The archetypes and the collective unconscious* (2nd ed.). Princeton, N. J.: Princeton University Press. Retrieved from https://www.jungiananalysts.org.uk/wp-content/uploads/2018/07/C.-G.-Jung-Collected-Works-Volume-9i_-The-Archetypes-of-the-Collective-Unconscious.pdf

Kapambwe, S., Parham, G., Mwanahamuntu, M., Chirwa, S., Mwanza, J., & Amuyunzu-Nyamongo, M. (2013). Innovative approaches to promoting cervical health and raising cervical cancer awareness by use of existing cultural structures in resource-limited countries: Experiences with traditional marriage counseling in Zambia. *Global Health Promotion*, *20*(4 Suppl), 57–64. https://doi.org/10.1177/1757975913502689

Karafillakis, E., Jalloh, M. F., Nuriddin, A., Larson, H. J., Whitworth, J., Lees, S., . . . Morgan, O. (2016). "Once there is life, there is hope" Ebola survivors's experiences, behaviours and attitudes in Sierra Leone, 2015. *BMJ Global Health*, *1*(3). https://doi.org/10.1136/bmjgh-2016-000108

Kersell, M. W., & Milsum, J. H. (1985). A systems model of health behaviour change. *Behavioural Science*, *30*(3), 119–126. https://doi.org/10.1002/bs.3830300302

Kirscht, J. P. (1974). The Health Belief Model and Illness Behaviour. *Health Education & Behaviour*, *2*(4), 387–408. https://doi.org/10.1177/109019817400200406

Kok, G., Bartholomew, L. K., Parcel, G. S., Gottlieb, N. H., & Fernandez, M. E. (2014). Finding theory- and evidence-based alternatives to fear appeals: Intervention Mapping. *International Journal of Psychology: Journal International De Psychologie*, *49*(2), 98–107. https://doi.org/10.1002/ijop.12001

Kools, S., Chimwaza, A., & Macha, S. (2015). Cultural humility and working with marginalized populations in developing countries. *Global Health Promotion*, *22*(1), 52–59. https://doi.org/10.1177/1757975914528728

Korkoyah, Jr., Dala T., & Wreh, F. H. (July, 2015). *Ebola impact revealed: As assessment of the diverging impact of the outbreak on women and men in Liberia*. Retrieved from https://www-cdn.oxfam.org/s3fs-public/file_attachments/rr-ebola-impact-women-men-liberia-010715-en.pdf

Kothari, C. R. (2004). *Research methodology: methods and techniques*: New Age International.

Kreuter, M. W., & McClure, S. M. (2004). The role of culture in health communication. *Annual Review of Public Health*, *25*, 439–455. https://doi.org/10.1146/annurev.publhealth.25.101802.123000

Kutalek, R., Wang, S., Fallah, M., Wesseh, C. S., & Gilbert, J. (2015). Ebola interventions: Listen to communities. *The Lancet Global Health*, *3*(3), e131. https://doi.org/10.1016/S2214-109X(15)70010-0

Lally, P., Chipperfield, A., & Wardle, J. (2008). Healthy habits: Efficacy of simple advice on weight control based on a habit-formation model. *International Journal of Obesity (2005)*, *32*(4), 700–707. https://doi.org/10.1038/sj.ijo.0803771

Lavenda, R. H., & Schultz, E. A. (2008). *Anthropology: What does it mean to be human?* New York: Oxford University Press. Retrieved from http://www.refworld.org/pdfid/4b6fe28a2.pdf

Laverack, G. (2013). Health activism: The way forward to improve health in difficult times. *Global Health Promotion*, *20*(3), 49–52. https://doi.org/10.1177/1757975913499038

Lavine, H. (1999). Types of evidence and routes to persuasion: The unimodel versus dual-process models. *Psychological Inquiry, 10*(2), 141–144. https://doi.org/10.1207/S15327965PL100208

Leeming, D. A. (2014). *Encyclopedia of Psychology and Religion*. Boston, MA: Springer US. https://doi.org/10.1007/978-1-4614-6086-2

Leffingwell, T. R., Neumann, C., Leedy, M. J., & Babitzke, A. C. (2007). Defensively biased responding to risk information among alcohol-using college students. *Addictive Behaviours*, *32*(1), 158–165. https://doi.org/10.1016/j.addbeh.2006.03.009

Lemnaru, A. C. (2013). Communication Distortions and Linguistic features in the Journalistic Style. *Procedia - Social and Behavioral Sciences*, *70*, 963–968. https://doi.org/10.1016/j.sbspro.2013.01.146

Lesher-Trevino, A. C. (2016). Situation Report: Ebola Virus Disease. 10 June 2016. Retrieved from http://apps.who.int/iris/bitstream/10665/208883/1/ebolasitrep_10Jun2016_eng.pdf?ua=1

Leventhal, H., & Nerenz, D. R. (1985). The assessment of illness cognition. In P. Karoly (Ed.), *Measurement strategies in health psychology* (pp. 517–554). New York: John Wiley & Sons Inc.

Liberia Institute for Statistical and Geo-information Services (2015). Liberia Data Portal: Monteserrado County. Retrieved from http://liberia.opendataforafrica.org/#

Lieban, R. W. (1977). The Medical Field of Anthropology. In D. Landy (Ed.), *Culture, Disease and Healing: Studies in Medical Anthropology* (pp. 13–31). New York: Macmillian Publishing Co., Inc.

Lindell, M. K., & Perry, R. W. (Eds.) (2004). *Communicating effectively in multicultural contexts: Vol. 7. Communicating environmental risk in multiethnic communities*. Thousand Oaks: Sage Publications. https://doi.org/10.4135/9781452229188

Literat, I., & Chen, N.-T. N. (2014). Communication Infrastructure Theory and Entertainment-Education: An Integrative Model for Health Communication. *Communication Theory*, *24*(1), 83–103. https://doi.org/10.1111/comt.12011

Little, K. L. (1949). The role of the secret society in cultural specialisation. *American Anthropologist*, *51*(2), 199–212. https://doi.org/10.1525/aa.1949.51.2.02a00020

Longstaff, P.H., & Yang, S.-U. (2008). Ecology and Society: Communication Management and Trust: Their Role in Building Resilience to "Surprises" Such As Natural Disasters, Pandemic Flu, and Terrorism. *Ecology and Society*, *13 (1)*(3). Retrieved from http://www.ecologyandsociety.org/vol13/iss1/art3/

Luszczynska, A., & Schwarzer, R. (2015). Social cognitive theory. In M. Conner & P. Norman (Eds.), *Predicting and changing health behaviour: Research and practice with social cognition models* (3rd ed., Vol. 3, pp. 225–251). Maidenhead, UK: Open University Press.

Lyons, E. J., Baranowski, T., Basen-Engquist, K. M., Lewis, Z. H., Swartz, M. C., Jennings, K., & Volpi, E. (2016). Testing the effects of narrative and play on physical activity among breast cancer survivors using mobile apps: Study protocol for a randomized controlled trial. *BMC Cancer*, *16*(1), 202. https://doi.org/10.1186/s12885-016-2244-y

MacDougall, C. (2014, August 2). Liberia's Ebola nightmare. Retrieved from http://america.aljazeera.com/articles/2014/8/2/liberia-battles-ebola.html

MacLeod, A. (2014). The impact of communication on human behaviour in times of crisis. *Journal of Business Continuity and Emergency Planning*, *8*(2), 134–140.

Maddux, J. E., & Rogers, R. W. (1983). Protection motivation theory and self-efficacy: A revised theory of fear appeal and attitude change. *Journal of Experimental Social Psychology*, *19*, 469–479.

Maiman, L. A., & Becker, M. H. (1974). The Health Belief Model: Origins and Correlates in Psychological Theory *Health Education & Behaviour*, *2*(4), 336–353. https://doi.org/10.1177/109019817400200404

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224–253. https://doi.org/10.1037/0033-295X.98.2.224

Marshall, G. N., Wortman, C. B., Vickers, R. R., Kusulas, J. W., & Hervig, L. K. (1994). The five-factor model of personality as a framework for personality-health research. *Journal of Personality and Social Psychology*, *67*(2), 278–286. https://doi.org/10.1037/0022-3514.67.2.278

Martineau, F. (2014). Burial/other cultural practices and risk of EVD transmission in the Mano River Region. Retrieved from http://www.ebola-anthropology.net/wp-content/uploads/2014/11/DFID-Brief-14oct14-burial-and-high-risk-cultural-practices-2.pdf

Mascie-Taylor, C. G. N. (Ed.) (1995). *Biosocial Society series: Vol. 5. The anthropology of disease* (1. publ., reprint). Oxford: Oxford Univ. Press.

Matthews, G., Deary, I. J., & Whiteman, M. C. (2009). *Personality traits* (3. ed.). Cambridge u.a.: Cambridge Univ. Press.

Mattson, M. (1999). Toward a reconceptualization of communication cues to action in the Health Belief Model: HIV test counselling. *Communication Monographs*, *66*(3), 240–265. https://doi.org/10.1080/03637759909376476

McCallum, David B., Hammond, Sharon L., Covello, Vincent T. (1991). Communicating about environmental risks: how the public uses and perceives information sources. *Sage*, *18*(3), 349–361. Retrieved from http://journals.sagepub.com/doi/pdf/10.1177/109019819101800307

McGiure, W. J. (1989). Theoretical Foundations of Campaigns. In *Rice, Roland E.; Atkin, Charles K.: Theoretical foundations of campaigns* (Vol. 2, pp. 43–65). Newbury Park: Sage.

McGuire, W. J. (1984). Public communication as a strategy for inducing health-promoting behavioural change. *Preventive Medicine*, *13*(3), 299–319. https://doi.org/10.1016/0091-7435(84)90086-0

McGuire, W. J. (2001). Input and output variables currently promising for constructing persuasive communications. In R. E. Rice & C. K. Atkin (Eds.), *Public Communication Campaigns* (3rd ed.). 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc.

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An Ecological Perspective on Health Promotion Programs. *Health Education & Behaviour*, *15*(4), 351–377. https://doi.org/10.1177/109019818801500401

Médecins Sans Frontières (March 2016). *MSF-OCB supported research on Ebola*. Luxembourg, Belgium. Retrieved from Médecins Sans Frontières website: http://reliefweb.int/sites/reliefweb.int/files/resources/msf_ocb_ebola_research.pdf

Meijnders, A. L., Midden, C. J. H., & Wilke, H. A. M. (2001). Communications About Environmental Risks and Risk-Reducing Behaviour: The Impact of Fear on Information Processing1. *Journal of Applied Social Psychology*, *31*(4), 754–777. https://doi.org/10.1111/j.1559-1816.2001.tb01412.x

Meyer, M. (1981). *Health Education by Television and Radio: Contributions to an International Conference with a Selected Bibliography*. *Communication research and broadcasting*: Saur.

Michie, S., & Prestwich, A. (2010). Are interventions theory-based? Development of a theory coding scheme. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *29*(1), 1–8. https://doi.org/10.1037/a0016939

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., . . . Wood, C. E. (2013). The behaviour change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behaviour change interventions. *Annals of Behavioural Medicine: A Publication of the Society of Behavioural Medicine*, *46*(1), 81–95. https://doi.org/10.1007/s12160-013-9486-6

Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science: IS*, *6*, 42. https://doi.org/10.1186/1748-5908-6-42

Michie, S. (2014). *ABC of behaviour change theories: An essential resource for researchers, policy makers and practitioners; 83 theories*. London: Silverback Publ.

Middleton, J. (1995). Kpelle. In J. Middleton & A. Rassam (Eds.), *Encyclopaedia of world cultures: Africa and the Middle East* (pp. 172–174). United States of America: Human Relations Area Files, Inc.

Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology*, *53*(2), 298–305. https://doi.org/10.1037/0022-3514.53.2.298

Miller, L. Guidelines for training of community volunteers for social mobilization against Ebola. Retrieved from http://www.thehealthcompass.org/sites/default/files/strengthening_tools/Ebola_Social_Mobilization_Training_Guidelines-2014.pdf

Ministry of Health and Social Welfare, Liberia (25 January, 2017). *Liberia IDSR Epidemiology Bulletin: 2017 Epi Week 02* (IDSR Weekly Epidemiology and Surveillance Bulletin). Liberia. Retrieved from http://moh.gov.lr/wp-content/uploads/2017/01/Liberia-Early-Warning-Disease-Surveillance-Bulletin-Week-02.pdf

Ministry of Health and Social Welfare, Liberia (30 January, 2017). *MOHSW Annual Report 2012*. Liberia. Retrieved from Ministry of Health and Social Welfare, Liberia website: http://moh.gov.lr/wp-content/uploads/2017/01/Annual-Report_2012_Final.pdf

Ministry of Health and Social Welfare (March, 2015). *National Knowledge, Attitudes and Practices (KAP): Study on Ebola Virus Disease in Liberia*. Monrovia, Liberia. Retrieved from http://3scjvdqkqh8224s3rywlq3aa.wpengine.netdna-cdn.com/wp-content/uploads/2015/04/KAP-Study-Liberia-March-2015.pdf

Mitchell, E., Steeves, R., & Hauck Perez, K. (2015). Exploring Creole women's health using ethnography and Photovoice in Bluefields, Nicaragua. *Global Health Promotion*, *22*(4), 29–38. https://doi.org/10.1177/1757975914547545

Mitic, W., Ben Abdelaziz, F., & Madi, H. (2012). *Health education: Theoretical concepts, effective strategies and core competencies*. Cairo Egypt: World Health Organization Regional Office for the Eastern Mediterranean. Retrieved from http://applications.emro.who.int/dsaf/EMRPUB_2012_EN_1362.pdf

Mittelmark, M. B., & Bull, T. (2013). The salutogenic model of health in health promotion research. *Global Health Promotion*, *20*(2), 30–38. https://doi.org/10.1177/1757975913486684

Mo, P. K. H., & Coulson, N. S. (2008). Exploring the communication of social support within virtual communities: A content analysis of messages posted to an online HIV/AIDS support group. *Cyberpsychology & Behaviour: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, *11*(3), 371–374. https://doi.org/10.1089/cpb.2007.0118

Mongeau, P. A. (2013). Fear appeals. In J. P. Dillard & L. Shen (Eds.), *The SAGE Handbook of Persuasion* (pp. 184–199). Sage Publications.

Moore, H. (28th October, 2014). Ebola is a product of a destructive and exploitative global economic system. *The Guardian*. Retrieved from https://www.theguardian.com/sustainable-business/2014/oct/28/ebola-africa-symptom-failing-economic-system-west-deforestation

Morton, K., Beauchamp, M., Prothero, A., Joyce, L., Saunders, L., Spencer-Bowdage, S., Pedlar, C. (2015). The effectiveness of motivational interviewing for health behaviour change in primary care settings: A systematic review. *Health Psychology Review*, *9*(2), 205–223. https://doi.org/10.1080/17437199.2014.882006

Moyer-Gusé, E. (2008). Toward a Theory of Entertainment Persuasion: Explaining the Persuasive Effects of Entertainment-Education Messages. *Communication Theory*, *18*(3), 407–425. https://doi.org/10.1111/j.1468-2885.2008.00328.x

Muhammad, R. (2016). Situation Report - Liberia. Retrieved from http://reliefweb.int/sites/reliefweb.int/files/resources/iom_liberia_-_situation_report_-_march_2016.pdf

Mullen, P. D., Hersey, J. C., & Iverson, D. C. (1987). Health behaviour models compared. *Social Science & Medicine*, *24*(11), 973–981. https://doi.org/10.1016/0277-9536(87)90291-7

Müller, C., Cienki, A., Fricke, E., MacNeill, D., Tessendorf, S., & Ladewig, S. H. (Eds.) (2014). *Handbücher zur Sprach- und Kommunikationswissenschaft /HSK]: Vol. 38.2. Body - language - communication: An international handbook on multimodality in human interaction*. Berlin: de Gruyter. Retrieved from http://www.reference-global.com/doi/book/10.1515/9783110302028

Muurinen, J.-M. (1982). Demand for health: A general Grossman model. *Journal of Health Economics*, 5–28.

Navarrete, C. D., & Fessler, D. M.T. (2006). Disease avoidance and ethnocentrism: The effects of disease vulnerability and disgust sensitivity on intergroup attitudes. *Evolution and Human Behaviour*, *27*(4), 270–282. https://doi.org/10.1016/j.evolhumbehav.2005.12.001

Neisser, U. (1988). Five kinds of self-knowledge. *Philosophical Psychology*, *1*(1), 35–59. https://doi.org/10.1080/09515088808572924

Nielsen, C. F., Kidd, S., Sillah, A.R.M., Davis, E., Mermin, J., & Kilmarx, P. H. (2015). Improving Burial Practices and Cemetery Management During an Ebola Virus Disease Epidemic — Sierra Leone, 2014. In *Morbidity and Mortality Weekly Report* (Vol. 64, pp. 20–27). Retrieved from http://www.cdc.gov/mmwr/pdf/wk/mm6401.pdf

Nielsen, R. P. (1975). Fatalism and Type of Information Sensitivity. In T. R. Williams (Ed.), *Pschological Anthropology* (pp. 373–388). The Hague u.a.: Mouton Publ.

Nilsen, T. R. (2009). Confidentiality and morality. *Western Journal of Speech Communication*, *43*(1), 38–47. https://doi.org/10.1080/10570317909373952

Norman, P., Boer, H., Seydel, E. R., & Mullan, B. (2015). Protection motivation theory. In M. Conner & P. Norman (Eds.), *Predicting and changing health behaviour.: Research and practice with social cognition models* (3rd ed., pp. 70–106). Maidenhead, UK: Open University Press.

Nyenswah, T. G. (2016). 42 days later: Liberia declared Ebola-free. Retrieved from www.devex.com /news/42-days-later-liberia-declared-ebola-free-86136

Nyenswah, T. G., Blackley, D. J., Freeman, T., Lindblade, K. A., Arzoaquoi, S. K., Mott, J. A., . . . Laney, S. A. (2015 Feb 27). Community quarantine to interrupt Ebola virus transmission: Mawah village, Bong County, Liberia, August - October, 2014. *Morbidity and Mortality Weekly Report*, *64*(7), 179–182. https://doi.org/10.1111/ajt.13333

Nyenswah, T. G., Kateh, F., Bawo, L., Massaquoi, M., Gbanyan, M., Fallah, M., . . . Cock, K. M. de (2016). Ebola and Its Control in Liberia, 2014-2015. *Emerging Infectious Diseases*, *22*(2), 169–177. https://doi.org/10.3201/eid2202.151456

O'Keefe, D. J. (1979). Ethnomethodology. *Journal for the Theory of Social Behaviour*, *9*, 187–219. Retrieved from http://www.dokeefe.net/pub/OKeefe79JTSB.pdf

O'Keefe, D. J. (2007). Potential Conflicts between Normatively-Responsible Advocacy and Successful Social Influence: Evidence from Persuasion Effects Research. *Argumentation*, *21*(2), 151–163. https://doi.org/10.1007/s10503-007-9046-y

O'Keefe, D. J. (1999). How to Handle Opposing Arguments in Persuasive Messages: A Meta-Analytic Review of the Effects of One-Sided and Two-Sided Messages. *Annals of the International Communication Association*, *22*(1), 209–249. https://doi.org/10.1080/23808985.1999.11678963

O'Keefe, D. J., & Jackson, S. (1995). Argument quality and persuasive effects: A review of current approaches. In S. Jackson (Ed.), *Argumentation and values: Proceedings of 9th Alta conference on argumentation* (pp. 88–92). Annandale, VA: National Communication Association. Retrieved from http://www.dokeefe.net/pub/OKeefeJackson95Alta.pdf

Ogbonnaya, A. O. (1994). Person as Community: An African Understanding of the Person as an Intrapsychic Community. *Journal of Black Psychology*, *20*(1), 75–87. https://doi.org/10.1177/00957984940201007

Ogunniyi, M. B. (1988). Adapting western science to traditional African culture. *International Journal of Science Education*, *10*(1), 1–9. https://doi.org/10.1080/0950069880100101

O'Keefe, D. (2004). Trends and prospects in persuasion theories and research. In Seiter, J.S and Gass, R. H. (Ed.), *Perspectives on persuasion, social influence and compliance gaining* (pp. 31–43). Pearson/Allyn & Bacon.

O'Keefe, D. J. (1979). Ethnomethodology. *Journal for the Theory of Social Behaviour*, *9*(2), 187–219. https://doi.org/10.1111/j.1468-5914.1979.tb00423.x

O'Keefe, D. J. (1990). *Persuasion: Theory and research*. *Current communication: Vol. 2*. Newbury Park, Calif.: Sage.

O'Keefe, D. J. (2002). Guilt as a Mechanism of Persuasion. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (2nd ed., pp. 329–344). Thousand Oaks, Calif: Sage Publications. https://doi.org/10.4135/9781412976046.n17

O'Keefe, D. J. (2003). Message Properties, Mediating States, and Manipulation Checks: Claims, Evidence, and Data Analysis in Experimental Persuasive Message Effects Research. *Communication Theory*, *13*(3), 251–274. https://doi.org/10.1111/j.1468-2885.2003.tb00292.x

O'Keefe, D. J., & Jensen, J. D. (2007). The relative persuasiveness of gain-framed and loss-framed messages for encouraging disease prevention behaviours: A meta-analytic review. *Journal of Health Communication*, *12*(7), 623–644. https://doi.org/10.1080/10810730701615198

Okigbo, C. C. (Ed.) (2014). *Strategic Urban Health Communication*. New York, NY, s.l.: Springer New York. Retrieved from http://dx.doi.org/10.1007/978-1-4614-9335-8 https://doi.org/10.1007/978-1-4614-9335-8

Olivier de Sardan, J.-P. (2005). *Anthropology and development: Understanding contemporary social change*. London u.a.: Zed Books.

Omidian, P. A., Tehoungue, K., & Monger, J. (24 August, 2014). *Medical Anthropology Study of the Ebola Virus Disease (EVD) Outbreak in Liberia/West Africa*. Retrieved from http://ebolacommunicationnetwork.org/wp-content/uploads/2014/10/WHO-Anthro.pdf

Omonzejele, P. F. (2008). African concepts of health, disease, and treatment: An ethical inquiry. *Explore (New York, N.Y.)*, *4*(2), 120–126. https://doi.org/10.1016/j.explore.2007.12.001

Oran, M. H.M. (2001). Culture of Liberia. In M. Ember (Ed.), *Countries and their cultures* (Ja-Ma). New York: Macmillan Reference USA. Retrieved from https://www.everyculture.com/Ja-Ma/Liberia.html

Osterholm, M. T., Moore, K. A., Kelley, N. S., Brosseau, L. M., Wong, G., Murphy, F. A., . . . Kobinger, G. P. (2015). Transmission of Ebola viruses: What we know and what we do not know. *MBio*, *6*(2), e00137. https://doi.org/10.1128/mBio.00137-15

Palmgreen, P., & Donohew, L. (2010). Impact of SENTAR on Prevention Campaign Policy and Practice. *Health Communication*, *25*(6-7), 609–610. https://doi.org/10.1080/10410236.2010.496843

Pandey, A., Atkins, K. E., Medlock, J., Wenzel, N., Townsend, J. P., Childs, J. E., . . . Gulvani, A. P. Strategies for containing Ebola in West Africa. *Science*, *346*(6212), 991–996. https://doi.org/10.1126/science.1260612

Pechmann, C. (2001). A Comparison of Health Communication Models: Risk Learning Versus Stereotype Priming. *Media Psychology*, *3*(2), 189–210. https://doi.org/10.1207/S1532785XMEP0302_04

Peek, P. M., & Yankah, K. (Eds.) (2004). *African Folklore: An Encyclopaedia*. Great Britain: Routledge.

Pellecchia. Umberto (2015). Do traditions spread Ebola? Retrieved from http://www.ebola-anthropology.net/case_studies/do-traditions-spread-ebola/

Petty, R. E. (1977). The Importance of Cognitive Responses in Persuasion. *Advances in Consumer Research*, *4*, 357–362. Retrieved from http://acrwebsite.org/volumes/5689/volumes/v04/NA-04

Petty, R. E., Brinol, P., & Priester J.R. (2002). Mass media attitude change: Implications of elaboration likelihood model of persuasion. In Bryant, J. and Zillmann, D. (Ed.), *Media Effects: Advances in theory and research* (pp. 155–198). Mahwah, NJ: Lawrence Erlbaum Associates.

Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of Persuasion. In R. E. Petty & J. T. Cacioppo (Eds.), *Springer series in social psychology. Communication and persuasion: Central and peripheral routes to attitude change* (pp. 1–24). New York: Springer-Verlag. https://doi.org/10.1007/978-1-4612-4964-1_1

Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different roles for affect under high- and low-elaboration conditions. *Journal of Personality and Social Psychology*, *64*(1), 5–20. https://doi.org/10.1037/0022-3514.64.1.5

Petty, R. E., Wegener, D. T., Fabrigar, L. R., Priester, J. R., & Cacioppo, J. T. (1993). Conceptual and Methodological Issues in the Elaboration Likelihood Model of Persuasion: A Reply to the Michigan State Critics. *Communication Theory*, *3*(4), 336–342. https://doi.org/10.1111/j.1468-2885.1993.tb00078.x

Podolefsky, A., & Brown, Peter, J. (1994). *Applying anthropology: An introductory reader* (3. ed.).

Pool, R. (1994). On the creation of ethnomedical systems in the medical ethnography of Africa. *Africa*, *64*(1), 1–20. Retrieved from DOI: https://doi.org/10.2307/1161092

Pratkanis, A. R., Breckler, S. J., & Greenwald, A. G. (2014). *Attitude Structure and Function*: Taylor & Francis.

Price Dillard, J. (2013). The Effects of Prior Behaviour on Judgments of Perceived Message Effectiveness: Evaluating HPV Vaccine Messages. *Journal of Vaccines & Vaccination*, *04*(05). https://doi.org/10.4172/2157-7560.1000193

Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research & Practice*, *19*(3), 276–288. https://doi.org/10.1037/h0088437

Prochaska, J. O., Wright, J. A., & Velicer, W. F. (2008). Evaluating Theories of Health Behaviour Change: A Hierarchy of Criteria Applied to the Transtheoretical Model. *Applied Psychology*, *57*(4), 561–588. https://doi.org/10.1111/j.1464-0597.2008.00345.x

Quah, S. (2001). Health and Culture. In W. C. Cockerham (Ed.), *Blackwell companions to sociology. The Blackwell companion to medical sociology* (pp. 23–42). Malden, MA: Blackwell Publ. https://doi.org/10.1002/9780470996447.ch2

Quintero Johnson, J. M., Harrison, K., & Quick, B. L. (2013). Understanding the effectiveness of the entertainment-education strategy: An investigation of how audience involvement, message processing, and message design influence health information recall. *Journal of Health Communication*, *18*(2), 160–178. https://doi.org/10.1080/10810730.2012.688244

Rabelo, I., Lee, V., Fallah, M. P., Massaquoi, M., Evlampidou, I., Crestani, R., Severy, N. (2016). Psychological Distress among Ebola Survivors Discharged from an Ebola Treatment Unit in Monrovia, Liberia. A Qualitative Study. *Frontiers in Public Health*, *4*, 142. https://doi.org/10.3389/fpubh.2016.00142

Radcliffe-Brown, A. R. (1945). Religion and Society. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, *75*(1/2), 33. https://doi.org/10.2307/2844278

Ranard, D. A. (Ed.) (2005). *Cultural Profile: Vol. 19. Liberians: An Introduction to their History and Culture*. Washington, DC: Center for Applied Linguistics. Retrieved from http://www.hartfordinfo.org/issues/wsd/immigrants/liberians.pdf

Rasmussen, A. L., Okumura, A., Ferris, M. T., Green, R., Feldmann, F., Kelly, S. M., . . . Katze, M. G. (2014). Host genetic diversity enables Ebola haemorrhagic fever pathogenesis and resistance. *Science (New York, N.Y.)*, *346*(6212), 987–991. https://doi.org/10.1126/science.1259595

Reed, I. A. (2011). *Interpretation and Social Knowledge*: University of Chicago Press. Retrieved from https://is.muni.cz/el/1423/jaro2015/SOC757/um/1b_Reed_2011_-_Interpretation_and_Social_Knowledge_copy.pdf https://doi.org/10.7208/chicago/9780226706726.001.0001

Revenas, A., Opava, C. H., Martin, C., Demmelmaier, I., Keller, C., & Asenlof, P. (2015). Development of a web-based and mobile app to support physical activity in individuals with rheumatoid arthritis: Results from the second step of a co-design process. *JMIR Research Protocols*, *4*(1), e22. https://doi.org/10.2196/resprot.3795

Rice, R. E., & Atkin, C. K. Public communication campaigns: Theoretical principles and practical applications. In *Bryant, J. and Oliver, M.B. (Eds.) 2009 – Media Effects* (pp. 436–468).

Rice, R. E., & Atkin, C. K. (2012). *Public Communication Campaigns* (4th ed.). Thousand Oaks: Sage Publications. Retrieved from https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=5165258

Richards, P. (2014). Do funerals spread Ebola in Sierra Leone? Retrieved from http://www.ebola-anthropology.net/wp-content/uploads/2014/11/DO-FUNERALS-SPREAD-EBOLA3-2.pdf

Richards, P and Mokuwa, A. (2014). Village Funerals and the Spread of Ebola Virus Disease. Retrieved from https://culanth.org/fieldsights/village-funerals-and-the-spread-of-ebola-virus-disease

Richardson, E.T. e. a. Biosocial Approaches to the 2013-2016 Ebola Pandemic. Retrieved from https://www.hhrjournal.org/2015/12/biosocial-approaches-to-the-2013-2016-ebola-pandemic/

Ridley, R. G. (2004). Research on infectious diseases requires better coordination. *Nature Medicine*, *10*(12 Suppl), S137-40. https://doi.org/10.1038/nm1153

Rimal, R. N., & Lapinski, M. K. (2009). Why health communication is important in public health. *Bulletin of the World Health Organisation*. (87), 247. https://doi.org/10.2471/BLT.08.056713

Ritchie, J., & Lewis, J. (Eds.) (2014). *Qualitative research practice: A guide for social science students and researchers* (2nd. ed.). London: Sage.

Ritterfeld, U., Weber, R., Fernandes, S., & Vorderer, P. (2004). Think science! *Computers in Entertainment*, *2*(1), 11. https://doi.org/10.1145/973801.973819

Rogers, E. M. (1983). *Diffusion of innovations* (3rd ed.). New York, London: Free Press; Collier Macmillan.

Rogers, E. M., Hart, W. B., & Miike, Y. (2002). Edward T. Hall and the history of intercultural communication: The United States and Japan. *Keio Communication Review*. (24). Retrieved from http://www.mediacom.keio.ac.jp/publication/pdf2002/review24/2.pdf

Rogers, R. W. (1975). A Protection Motivation Theory of Fear Appeals and Attitude Change1. *The Journal of Psychology*, *91*(1), 93–114. https://doi.org/10.1080/00223980.1975.9915803

Rosa, E. M., & Tudge, J. (2013). Urie Brofenbrenner's theory of human development: Its evolution to from ecology to bioecology. *Journal of Family Theory & Review*, *5*(4), 243–258.

Rosenbaum, L. (2015). Communicating uncertainty--Ebola, public health, and the scientific process. *The New England Journal of Medicine*, *372*(1), 7–9. https://doi.org/10.1056/NEJMp1413816

Rosenstock, I. M. (1974). Historical Origins of the Health Belief Model. *Health Education & Behaviour*, *2*(4), 328–335. https://doi.org/10.1177/109019817400200403

Rosenstock, I. M. (1974). The Health Belief Model and Preventive Health Behavior. *Health Education & Behaviour*, *2*(4), 354–386. https://doi.org/10.1177/109019817400200405

Roshania, R., Mallow, M., Dunbar, N., Mansary, D., Shetty, P., Lyon, T., . . . Levine, A. C. (2016). Successful Implementation of a Multicountry Clinical Surveillance and Data Collection System for Ebola Virus Disease in West Africa: Findings and Lessons Learned. *Global Health, Science and Practice*, *4*(3), 394–409. https://doi.org/10.9745/GHSP-D-16-00186

Ross, P. J., Etkin, N. L., & Muazzamu, I. (1991). The greater risk of fewer deaths: An ethnodemographic approach to child mortality in Hausaland. *Africa*, *61*(4), 502–512. Retrieved from http://media.proquest.com/media/ch/pao/doc/4011-1991-061-04-000003/doc.pdf?

Rosselli, F., Skelly, J. J., & Mackie, D. M. (1995). Processing Rational and Emotional Messages: The Cognitive and Affective Mediation of Persuasion. *Journal of Experimental Social Psychology*, *31*(2), 163–190. https://doi.org/10.1006/jesp.1995.1008

Rubinelli, S., Wierda, R., Labrie, N., & O'Keefe, D. (2011). The problem of premissary relevance. In Artificial Intelligence and Health Communication - Papers from the AAAI Spring Symposium, Technical Report (Vol. SS-11-01, pp. 53-56) Saarni, C. (2013). Social and affective functions of non-verbal behaviour: Developmental concerns. In R. S. Feldman (Ed.), *Development of Nonverbal Behaviour in Children* (pp. 123–134). Springer New York.

Saarni, C. (2013). Social and affective functions of non-verbal behaviour: Developmental concerns. In R. S. Feldman (Ed.), *Development of Nonverbal Behaviour in Children* (pp. 123–134). Springer New York.

Sabido, M. (2004). The origins of entertainment education. In A. Singhal, M. J. Cody, E. M. Rogers, & M. Sabido (Eds.), *LEA's communication series. Entertainment-education and social change: History, research, and practice* (pp. 61–74). Mahwah, NJ: Erlbaum.

Sáez, M., Kelly, A. H., & Brown, H. (2014). Notes from Case Zero: Anthropology in the time of Ebola. Retrieved from http://somatosphere.net/2014/notes-from-case-zero-anthropology-in-the-time-of-ebola.html/

Sallis, J. F., Owen, N., & Fisher, E. B. (2008). Ecological models of health behaviour. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behaviour and health education.: Theory, research and practice* (4th ed., pp. 465–485). San Francisco Calif.: Jossey-Bass.

Salovey, P., Rothman, A. J., Detweiler, J. B., & Steward, W. T. (2000). Emotional states and physical health. *American Psychologist*, 55(1), 110–121. https://doi.org/10.1037/0003-066X.55.1.110

Salwen, M. B., & Stacks, D. W. (Eds.) (1996). *An integrated approach to communication theory and research*. Mahwah, NJ: Lawrence Erlbaum Associates.

Sangalang, A., Jessie, M., Quintero J., & Ciancio, K. E. (2013). Exploring audience involvement with an interactive narrative: Implications for incorporating transmedia storytelling into entertainment-education campaigns. *Critical Arts*, *27*(1), 127–146. https://doi.org/10.1080/02560046.2013.766977

Santibañez, S., Siegel, V., O'Sullivan, M., Lacson, R., & Jorstad, C. (2015). Health Communications and Community Mobilization During an Ebola Response. *Public Health Reports*, *130*(March - April).

Sayegh, J. (2014, October 7). Ebola and the Health Care Crisis in Liberia — Cultural Anthropology. Retrieved from https://culanth.org/fieldsights/ebola-and-the-health-care-crisis-in-liberia

Schiavo, R. (2014). *Health communication: From theory to practice* (Second edition). *Jossey-bass public health: Vol. 217*. San Francisco: Jossey-Bass a Wiley Brand.

Schramm, W. (1997). *The beginnings of communication in America*: SAGE Publications, Inc.

Schultz, P. W., Tabanico, J. J., & Rendón, T. (2008). Normative beliefs as agents of influence: Basic processes and real-world applications. In W. D. Crano & R. Prislin (Eds.), *Frontiers of social psychology: Attitudes and attitude change* (pp. 385–409). Psychology Press.

Schwab, G. (1947). *Tribes of the Liberian Hinterland*. Cambridge, Massachusetts, USA: Havard University Printing Office.

Schwarzer, R., Lippke, S., & Luszczynska, A. (2011). Mechanisms of health behaviour change in persons with chronic illness or disability: The Health Action Process Approach (HAPA). *Rehabilitation Psychology*, *56*(3), 161–170. https://doi.org/10.1037/a0024509

Schwerdtle, P. M., Clerck, V. de, & Plummer, V. (2017). Experiences of Ebola Survivors: Causes of Distress and Sources of Resilience. *Prehospital and Disaster Medicine*, *32*(3), 234–239. https://doi.org/10.1017/S1049023X17000073

Shannon, S. E. (2015). Ebola, team communication, and shame: But shame on whom? *The American Journal of Bioethics: AJOB*, *15*(4), 20–25. https://doi.org/10.1080/15265161.2015.1010998

Sharoff, L. (2008). Critique of the critical incident technique. *Journal of Research in Nursing*, *13*(4), 301–309. https://doi.org/10.1177/1744987107081248

Sheeran, P., Harris, P. R., & Epton, T. (2014). Does heightening risk appraisals change people's intentions and behaviour? A meta-analysis of experimental studies. *Psychological Bulletin*, *140*(2), 511–543. https://doi.org/10.1037/a0033065

Shen, F., & Han, J. (2014). Effectiveness of entertainment education in communicating health information: A systematic review. *Asian Journal of Communication*, *24*(6), 605–616. https://doi.org/10.1080/01292986.2014.927895

Sherman, D. K. (2013). Self-Affirmation: Understanding the Effects. *Social and Personality Psychology Compass*, *7*(11), 834–845. https://doi.org/10.1111/spc3.12072

Sherman, D. K., & Cohen, G. L. (2006). The Psychology of Self-defence: Self-affirmation Theory. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology: Vol. 38. Advances in Experimental Social Psychology* (1st ed., Vol. 38, pp. 183–242). s.l.: Elsevier textbooks. https://doi.org/10.1016/S0065-2601(06)38004-5

Sherman, S. J., & Gorkin, L. (1980). Attitude bolstering when behaviour is inconsistent with central attitudes. *Journal of Experimental Social Psychology*, *16*(4), 388–403. https://doi.org/10.1016/0022-1031(80)90030-X

Shrestha, S. S., Swerdlow, D. L., Borse, R. H., Prabhu, V. S., Finelli, L., Atkins, C. Y., . . . Meltzer, M. I. (2011). Estimating the burden of 2009 pandemic influenza A (H1N1) in the United States (April 2009-April 2010). *Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America*, *52 Suppl 1*, S75-82. https://doi.org/10.1093/cid/ciq012

Sills, D. L. (1968). International encyclopaedia of social sciences, 17 vols. *International Encyclopaedia of Social Sciences, 17 Vols*.

Siminoff, L. A., & Step, M. M. (2011). A comprehensive observational coding scheme for analysing instrumental, affective, and relational communication in health care contexts. *Journal of Health Communication*, *16*(2), 178–197. https://doi.org/10.1080/10810730.2010.535109

Singhal, A. (2013). Introduction: Fairy tales to digital games: the rising tide of entertainment education. *Critical Arts*, *27*(1), 1–8. https://doi.org/10.1080/02560046.2013.766971

Singhal, A., Rao, N., & Pant, S. (2006). Entertainment-Education and Possibilities for Second-Order Social Change. *Journal of Creative Communications*, *1*(3), 267–283. https://doi.org/10.1177/097325860600100304

Slater, M. D., & Rouner, D. (2002). Entertainment-Education and Elaboration Likelihood: Understanding the Processing of Narrative Persuasion. *Communication Theory*, *12*(2), 173–191. https://doi.org/10.1111/j.1468-2885.2002.tb00265.x

Smedley, B. D., & Syme, S. L. (2001). Promoting Health: Intervention Strategies from Social and Behavioural Research. *American Journal of Health Promotion*, *15*(3), 149–166. https://doi.org/10.4278/0890-1171-15.3.149

Smith, J. R., & Hogg, M. A. (2008). Social identity and attitudes. In W. D. Crano & R. Prislin (Eds.), *Frontiers of social psychology: Attitudes and attitude change* (pp. 337–360). Psychology Press.

Sneller et al. (2019). A Longitudinal Study of Ebola Sequelae in Liberia. *New England Journal of Medicine*, *380*(10), 924–934. https://doi.org/10.1056/NEJMoa1805435

Soka, M. J., Choi, M. J., Baller, A., White, S., Rogers, E., Purpura, L. J., Williams, D. (2016). Prevention of sexual transmission of Ebola in Liberia through a national semen testing and counselling programme for survivors: An analysis of Ebola virus RNA results and behavioural data. *The Lancet Global Health*, *4*(10), 736–743. https://doi.org/10.1016/S2214-109X(16)30175-9

Spengler, J. R., Ervin, E. D., Towner, J. S., Rollin, P. E., & Nichol, S. T. (2016). Perspectives on West Africa Ebola Virus Disease Outbreak, 2013-2016. *Emerging Infectious Diseases*, *22*(6), 956–963. https://doi.org/10.3201/eid2206.160021

Steele, C. M. (1988). The Psychology of Self-Affirmation: Sustaining the Integrity of the Self. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology: Vol. 21. Social psychological studies of the self: Perspectives and programs* (Vol. 21, pp. 261–302). San Diego: Academic Press. https://doi.org/10.1016/S0065-2601(08)60229-4

Stephenson, M. T., & Southwell, B. G. (2006). Sensation Seeking, the Activation Model, and Mass Media Health Campaigns: Current Findings and Future Directions for Cancer Communication. *Journal of Communication*, *56*(suppl_1), S38–S56. https://doi.org/10.1111/j.1460-2466.2006.00282.x

Stets, J. E., & Burke, P. J. (2000). Identity Theory and Social Identity Theory. *Social Psychology Quarterly*, *63*(3), 224. https://doi.org/10.2307/2695870

Stevenson, A. (2010). *Cultural issues in psychology: A student's handbook*. *Foundations of psychology*. London: Routledge.

Stiff, J. B. (1994). *Persuasive communication* (1. print). *The Guilford communication series*. New York, NY: Guilford Press.

Stokols, D. (1992). Establishing and maintaining healthy environments. *The American Psychological Association*, *47*(1), 6–22.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, *10*(4), 282–298.

Stokols, D., Lejano, R. P., & Hipp, J. (2013). Enhancing the resilience of human-environment Systems: A social-ecological perspective. *Ecology and Society*, *18*(1). https://doi.org/10.5751/ES-05301-180107

Storey, D., Seifert-Ahanda, K., Andaluz, A., Tsoi, B., Matsuki, J. M., & Cutler, B. (2014). What is health communication and how does it affect the HIV/AIDS continuum of care? A brief primer and case study from New York City. *Journal of Acquired Immune Deficiency Syndromes (1999)*, *66 Suppl 3*, S241-9. https://doi.org/10.1097/QAI.0000000000000243

Stroebe, W. (2011). *Social Psychology and Health* (3rd ed.). *Mapping social psychology*. Maidenhead: McGraw-Hill Education.

Sturges, J. W., & Rogers, R. W. (1996). Preventive health psychology from a developmental perspective: An extension of protection motivation theory. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *15*(3), 158–166.

Suggs, S. I., McIntyre, C., Warburton, W., Henderson, S., & Howitt, P. (2015). *Communicating health messages: A framework to increase the effectiveness of health communication globally*. Retrieved from WISH Communicating Complex website: https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/public/Complex-health-messages.pdf

Summers, A., Nyenswah, T. G., Montegomery, J. M., Neatherlin, J., & Tappero, J. W. (2014). Challenges in responding to the Ebola epidemic - Four rural counties, Liberia, August - November 2014. *Morbidity and Mortality Weekly Report*, *63*(50), 1202–1204.

Svenkerud, P. J. (2001). Entertainment education: A communication strategy for social change. *International Journal of Intercultural Relations*, *25*(5), 587–589. https://doi.org/10.1016/S0147-1767(01)00026-8

Taverne, B. (2015). Preparing for Ebola outbreaks: Not without the social sciences! *Global Health Promotion*, *22*(2), 5–6. https://doi.org/10.1177/1757975915582298

Teo, T. W. (2013). Different perspectives of cultural mediation: Implications for the research design on studies examining its effect on students' cognition. *Cultural Studies of Science Education*, *8*(2), 295–305. https://doi.org/10.1007/s11422-012-9437-8

Tesla, J. (2016). West Africa - Ebola Outbreak: Fact Sheet for Fiscal Year (FY) 2016. Retrieved from http://reliefweb.int/sites/reliefweb.int/files/resources/04.19.16%20-%20USG%20West%20Africa%20Ebola%20Outbreak%20Fact%20Sheet%20%2310.pdf

The Economist (2016, June 16). Ebola in Africa: the end of a tragedy? Retrieved from http://www.economist.com/blogs/graphicdetail/2016/01/daily-chart-12

Thomas, K. (2014, September 3). Mistrust of government spurs Ebola spread. Retrieved from http://www.irinnews.org/news/2014/09/03

Thomas, R. K. (2006). *Health Communication*. Boston, MA: Springer Science Business Media Inc. Retrieved from http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10150853 https://doi.org/10.1007/b136859

Tokpa, H., Kaufmann, K., Zanker, A., & Franzisca. The Ebola outbreak in comparison: Liberia and Côte d'Ivoire. Retrieved from http://www.ssoar.info/ssoar/handle/document/43063

Tormala, Z. L., Briñol, P., & Petty, R. E. (2006). When credibility attacks: The reverse impact of source credibility on persuasion. *Journal of Experimental Social Psychology*, *42*(5), 684–691. https://doi.org/10.1016/j.jesp.2005.10.005

Tormala, Z. L., & Petty, R. E. (2004). Source Credibility and Attitude Certainty: A Metacognitive Analysis of Resistance to Persuasion. *Journal of Consumer Psychology*, *14*(4), 427–442. https://doi.org/10.1207/s15327663jcp1404_11

Trad, M.-A., Jurdak, R., & Rana, R. (2015). Guiding Ebola patients to suitable health facilities: An SMS-based approach. *F1000Research*, *4*, 43. https://doi.org/10.12688/f1000research.6105.1

Triandis, H. C., & Vasiliou, V. (October, 1967). *A comparative analysis of subjective culture: Communication, cooperation and negotiation in culturally heterogeneous groups*. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/663889.pdf

Triandis, H. C. (2002). Subjective Culture. *Online Readings in Psychology and Culture*, *2*(2), 1–12. https://doi.org/10.9707/2307-0919.1021

Tucker, B. (October, 7. 2014). Beats, Rhymes and Ebola — Cultural Anthropology. Retrieved from https://culanth.org/fieldsights/beats-rhymes-and-ebola

Tufford, L., & Newman, P. (2012). Bracketing in Qualitative Research. *Qualitative Social Work: Research and Practice*, *11*(1), 80–96. https://doi.org/10.1177/1473325010368316

Turner, B. A. (1976). The Organizational and Interorganizational Development of Disasters. *Administrative Science Quarterly*, *21*(3), 378. https://doi.org/10.2307/2391850

Turner, J. C. (1982). Towards a cognitive redefinition of social groups. In H. Tajfel (Ed.), *European studies in social psychology. Social identity and intergroup relations* (pp. 15–40). Cambridge: Cambridge Univ. Press.

Ulmer, R. R., Sellnow, T. L., & Seeger, M. W. (2006). *Effective crisis communication: Moving from crisis to opportunity* (Second Edition). London: Sage.

UNESCO (December, 2014). *UNESCO's response to Ebola: strategy paper* (Strategy Paper). France. Retrieved from UNESCO website: http://unesdoc.unesco.org/images/0023/002311/231158e.pdf

UNICEF (2015, March 25). *Liberia Ebola Situation Report* (No. 78). Retrieved from https://www.unicef.org/appeals/files/UNICEF_Liberia_Ebola_SitRep_25_March_2015.pdf

Updegraff, J. A., & Rothman, A. J. (2013). Health Message Framing: Moderators, Mediators, and Mysteries. *Social and Personality Psychology Compass*, *7*(9), 668–679. https://doi.org/10.1111/spc3.12056

Usdin, S., Singhal, A., Shongwe, T., Goldstein, S., & Shabalala, A. (2004). No short cuts in entertainment -education: Designing Soul City stey-by-step. In A. Singhal, M. J. Cody, E. M. Rogers, & M. Sabido (Eds.), *LEA's communication series. Entertainment-education and social change: History, research, and practice*. Mahwah, NJ: Erlbaum.

Uskul, A. K., Sherman, D. K., & Fitzgibbon, J. (2009). The cultural congruency effect: Culture, regulatory focus, and the effectiveness of gain- vs. loss-framed health messages. *Journal of Experimental Social Psychology*, *45*(3), 535–541. https://doi.org/10.1016/j.jesp.2008.12.005

Vachon, B., & LeBlanc, J. (2011). Effectiveness of past and current critical incident analysis on reflective learning and practice change. *Medical Education*, *45*(9), 894–904. https://doi.org/10.1111/j.1365-2923.2011.04042.x

Vanderford, M. L., Jenks, E. B., & Sharf, B. F. (1997). Exploring Patients' Experiences as a Primary Source of Meaning. *Health Communication*, *9*(1), 13–26. https://doi.org/10.1207/s15327027hc0901_2

Vaughan, P. W., & Rogers, E. M. (2000). A staged model of communication effects: Evidence from an entertainment-education radio soap opera in Tanzania. *Journal of Health Communication*, *5*(3), 203–227. https://doi.org/10.1080/10810730050131398

Vohs, K. D., & Baumeister, R. F. (Eds.) (2007). *Encyclopaedia of social psychology*. Thousand Oaks, Calif: Sage Publications. https://doi.org/10.4135/9781412956253

Voils, C. I., Gierisch, J. M., Yancy, W. S., JR, Sandelowski, M., Smith, R., Bolton, J., & Strauss, J. L. (2014). Differentiating Behavior Initiation and Maintenance: Theoretical Framework and Proof of Concept. *Health Education & Behaviour: The Official Publication of the Society for Public Health Education*, *41*(3), 325–336. https://doi.org/10.1177/1090198113515242

Vries, D. H. de, Rwemisisi, J. T., Musinguzi, L. K., Benoni, T. E., Muhangi, D., Groot, M. de, Pool, R. (2016). The first mile: Community experience of outbreak control during an Ebola outbreak in Luwero District, Uganda. *BMC Public Health*, *16*(1), 161. https://doi.org/10.1186/s12889-016-2852-0

Whaley, B. B. (Ed.) (2014). *Research methods in health communication: Principles and applications*. New York, NY: Routledge.

Whitfield, J. T., Pako, W. H., Collinge, J., & Alpers, M. P. (2008). Mortuary rites of the South Fore and kuru. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, *363*(1510), 3721–3724. https://doi.org/10.1098/rstb.2008.0074

WHO (2007). *Addressing sex and gender in epidemic-prone infections*. Retrieved from https://www.who.int/csr/resources/publications/SexGenderInfectDis.pdf

WHO (2008). *World Health Organization Outbreak Communication Planning Guide* (2008th ed.). Geneva, Switzerland: WHO Document Production Services. Retrieved from http://apps.who.int/iris/bitstream/10665/44014/1/9789241597449_eng.pdf?ua=1&ua=1

WHO (2012). *Communication for Behavioural Impact (COMBI): A toolkit for behavioural and social communication in outbreak response*. Luxembourg, Belgium. Retrieved from World Health Organisation website: http://apps.who.int/iris/bitstream/10665/75170/1/WHO_HSE_GCR_2012.13_eng.pdf?ua=1

WHO (September 2014). *Key messages for social mobilization and community engagement in intense transmission areas* (WHO/EVD/Guidance/SocMob No. 14.1). Retrieved from World Health Organisation website: https://apps.who.int/iris/bitstream/handle/10665/136472/WHO_EVD_Guidance_SocMob_14.1_eng.pdf?sequence=1

WHO (January, 2015). *Factors that contributed to undetected spread of the Ebola virus and impeded rapid containment*. Retrieved from World Health Organization website: http://www.who.int/csr/disease/ebola/one-year-report/factors/en/

WHO (January, 2015). *WHO | One year into the Ebola epidemic: A deadly, tenacious and unforgiving virus*. Emergencies preparedness, response. Geneva. Retrieved from World Health Organization website: http://www.who.int/csr/disease/ebola/one-year-report/introduction/en/

WHO (2016). *GO-pre-deployment training: Ebola virus disease flip book*: WHO Library Cataloguing-in-Publication Data. Retrieved from http://apps.who.int/iris/bitstream/10665/172619/2/978924508858_flipbook_eng.pdf?ua=1

WHO (2019). *WHO global report on traditional and complementary medicine 2019*. Geneva. Retrieved from World Health Organisation website: https://www.who.int/traditional-complementary-integrative-medicine/WhoGlobalReportOnTraditionalAndComplementaryMedicine2019.pdf?ua=1

WHO (2019, November 21). *Ebola virus disease - Democratic Republic of Congo* (Disease Outbreak News: Update). Retrieved from https://www.who.int/csr/don/21-november-2019-ebola-drc/en/

WHO Ebola Response Team, Agua-Agum, J., Ariyarajah, A., et al (2016). Ebola Virus Disease among Male and Female Persons in West Africa. *The New England Journal of Medicine*, *1*(374), 96–98. https://doi.org/10.1056/NEJMc1510305

World Health Organisation (2014). *Ebola Response Roadmap*. Geneva, Switzerland. Retrieved from World Health Organisation website: http://apps.who.int/iris/bitstream/10665/131596/1/EbolaResponseRoadmap.pdf?ua=1

Wilkinson, A., & Leach, M. (2015). Briefing: Ebola-myths, realities, and structural violence. *African Affairs*, *114*(454), 136–148. https://doi.org/10.1093/afraf/adu080

Wilkinson, A., Parker, M., Martineau, F., & Leach, M. (2017). Engaging 'communities': Anthropological insights from the West African Ebola epidemic. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *372*(1721). https://doi.org/10.1098/rstb.2016.0305

Williams, K. C. (2012). Fear Appeal Theory. *Research Business and Economics Journal*, *5*. Retrieved from http://www.aabri.com/rbej.html

Williams, T. R. (1990). *Cultural anthropology*. Englewood Cliffs, NJ: Prentice-Hall.

Williams, John E. and Best, Deborah L. (1994). Cross-cultural views of women and men. *The Journal of Psychology and Culture*, 191–196.

Wilson, D. (1987). Traditional Systems of Communication in Modern African Development: An analytical viewpoint. *Africa Media Review*, *1*(2), 87–104.

Wilson, D. (2008). Research on traditional communication in Africa: The development and future directions. *African Communication Research*, *1*(1), 47–59.

Winkler, E. G. (1997). *English Faculty Book Gallery: Kpelle-English Dictionary with accompanying English-Kpelle Glossary* (21st ed.): Top SCHOLAR. Retrieved from https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1019&context=english_book

Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. *Communication Monographs*, *59*(4), 329–349. https://doi.org/10.1080/03637759209376276

Witte, K., & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behaviour*. (27), 591–615. https://doi.org/10.1177/109019810002700506

Wolcott, H. F. (1994). Education as culture transmission and acquisition. In Husén, Torsten and Postlethwaite, T.N (Ed.), *The international encyclopaedia of education* (2nd ed., Vol. 3, pp. 1724–1729). Oxford UK: Pergamon Press and Elsevier Science.

Wood, C. E., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., & Michie, S. (2015). Applying the behaviour change technique (BCT) taxonomy v1: A study of coder training. *Translational Behavioural Medicine*, *5*(2), 134–148. https://doi.org/10.1007/s13142-014-0290-z

World Health Organization (2015). *2015 WHO strategic response plan: West Africa Ebola outbreak*. Geneva: World Health Organization. Retrieved from https://www.who.int/csr/resources/publications/ebola/ebola-strategic-plan/en/

Wyrick, D. L., Rulison, K. L., Fearnow-Kenney, M., Milroy, J. J., & Collins, L. M. (2014). Moving beyond the treatment package approach to developing behavioural interventions: Addressing questions that arose during an application of the Multiphase Optimization Strategy (MOST). *Translational Behavioural Medicine*, *4*(3), 252–259. https://doi.org/10.1007/s13142-013-0247-7

Zaharna, R. S. (2016). Beyond the Individualism-Collectivism Divide to Relationalism: Explicating Cultural Assumptions in the Concept of “Relationships”. *Communication Theory*, *26*(2), 190–211. https://doi.org/10.1111/comt.12058

Zakary, T. L., & Petty, R. E. (2007). Contextual contrasts and perceived knowledge: Exploring the implications for persuasion. *Journal of Experimental Social Psychology*, *43*, 17–30.

Zanna, M. P. (Ed.) (2006). *Advances in Experimental Social Psychology: Vol. 38. Advances in Experimental Social Psychology* (1. Aufl.). s.l.: Elsevier textbooks.

Zhao, J., Song, F., Ren, S., Wang, Y., Wang, L., Liu, W., Sun, Y. (2012). Predictors of condom use behaviours based on the Health Belief Model (HBM) among female sex workers: A cross-sectional study in Hubei Province, China. *PloS One*, *7*(11), e49542. https://doi.org/10.1371/journal.pone.0049542

Zoroya, G. (2014). Liberian president hopes to defeat Ebola by Christmas. Retrieved from http://www.usatoday.com/story/news/world/2014/11/19/ebola-sirleaf-president-liberia-poster-child-disaster/19279519/