A MIXED METHODS APPROACH TO THE DEVELOPMENT AND VALIDATION OF AN ASSESSMENT TOOL TO MEASURE PSYCHO-SOCIAL FACTORS ASSOCIATED WITH WILLINGNESS TO PARTICIPATE IN CHILD-CENTRED INITIATIVES

by

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Submitted in accordance with the requirements for the degree of

DOCTOR OF PHILOSOPHY

In the subject

PSYCHOLOGY

at the

University of South Africa

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31 January 2018

DECLARATION

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Exact wording of the title of the dissertation or thesis as appearing on the copies submitted for examination:

A Mixed Methods Approach to the Development and Validation of an Assessment Tool

to Measure Psycho-Social Factors Associated with Willingness to Participate

in Child-Centred Initiatives

I declare that the above dissertation/thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

23 January 2018

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ABSTRACT

The primary aim of the study was to develop a psychosocial assessment tool for determining *willingness to participate* in child-centred safety promotion interventions, specifically in a low-income community in South Africa. The secondary aim was to determine the factors associated with *willingness to participate*. The study employed a mixed methods approach to develop the measure, and included content validation, item writing and initial validation processes. Nominal Group Technique discussions were conducted with various role-players in the relevant communities to inform the development of the instrument, while participatory methodologies were utilised to conceptualise the instrument in relation to psycho-social factors associated with intervention participation, with these categorised according to core dimensions. A Delphi method utilising an expert panel reviewed items for relevance, difficulty and ambiguity, with items subsequently amended or removed. Item selection procedures were conducted on the English version of the instrument and these results were applied to the Afrikaans version. A pilot study was conducted as part of the initial validation in order to test the items and format the questionnaire. The instrument was then administered to Afrikaans speaking individuals in a community in the Western Cape. Iterative exploratory factor analysis was conducted at both the item and scale levels to select and reassign items and scales in order to determine the final composition of the questionnaire. The findings indicate that the instrument measures seven factors, namely incentives; priorities and community needs; perceived benefits; social approval; accessibility and values; altruistic capital; and community cohesion. These factors are explained in terms of the Process-Person-Context-Time model and the Theory of Planned Behaviour, considered within a participatory framework. The study findings indicate that the seven factors represent salient dimensions of the construct *willingness to participate* in interventions. The questionnaire and its subscales displayed acceptable to good reliability, with Cronbach's α ranging from 0.55 to 0.80. Since willingness precedes actual participation, it is argued that insight into the factors that relate to *willingness to participate* provides an avenue for motivating actual participation.

KEYWORDS: Participation; willingness to participate; child-centred; safety promotion interventions; violence and injury prevention; assessment tool; community engagement; barriers; enablers; Theory of Planned Behaviour; Process-Person-Context-Time

DEDICATION

To My Parents…..

The only journey you both never got to complete with me!

Thank you, for providing me with a wonderful example of kindness, compassion and integrity, and instilling in me many of the same virtues and passions that you both demonstrated throughout your lives. Your unconditional love, support and reminders were a source of motivation and strength during moments of despair and discouragement and is largely the reason that this PhD has come to fruition today. You are both sorely missed and still deeply loved!

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GLOSSARY OF TERMS

Psycho-social factors. This is shorthand term for the combination of psychological and social, but it also implies that the effect of social processes are sometimes mediated through psychological understanding (Stansfeld & Rasul, 2007). It implies that psychosocial factors, at least in the context of health research, can be seen as: (1) mediating the effects of social structural factors on individual health outcomes, or (2) conditioned and modified by the social structures and contexts in which they exist.

Barriers are obstacles or costs that make it difficult to engage in interventions or specific health related behaviour. It can be understood as factors or obstacles which make it difficult or reduce the likelihood of eligible individuals participating in intervention programmes or specific health related behaviour.

Enablers are capabilities, forces, and resources that contribute to the success of a programme, project or intervention.

Willingness to participate for this study, is defined as the predisposition or readiness to act or engage voluntarily in intervention programmes or organised scientific inquiry (research).

Participation in research refers to equitable involvement and shared decision making of community members, organizational representatives, and researchers in all aspects of the research process, ranging from the choice of research question to the interpretation, dissemination, and application of results (Israel, Eng, Schulz, & Parker, 2005).

Social Participation refers to collective activities that individuals may be involved in as part of their everyday lives and is generally associated with an individual's associational activities in both formal and informal contexts, and may include engagement in cultural, leisure and social groups and involvement in voluntary and community organisations (Jochum, 2003; Pattie et al., 2004; Jochum et al., 2005).

Validity refers to the degree to which an instrument measures what it purports to measure (Walsh & Betz, 2001).

Reliability of an instrument refers to the consistency and dependability of measuring a construct, that is, is the same score noted by the same respondent each time (Walsh & Betz, 2001).

Top-Down Approach – believe that research projects will be most effective when developed, coordinated and implemented through centralized agencies or individuals without engaging local communities.

Bottom-Up Approach refers to local communities actively engaging in the development process in a participatory manner based on their perception of the individual situation. This approach emphasises local decision making, community participation and grassroots mobilisation.

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CHAPTER ONE

INTRODUCTION

"Never doubt that a small group of thoughtful, committed, citizens can change the world.

Indeed, it is the only thing that ever has."

~Frank G. Sommers & Tana Dineen, 1984

1.1. Introduction

Violence[1] and injury[2] are among the leading worldwide public health concerns and a primary cause of mortality, particularly among children and young adults (World Health Organization, 2014). Globally, more than 1.6 million people lose their lives due to violence and a further 5 million as a result of unintentional injury (e.g., traffic, burns, and drowning incidents) annually (World Health Organization, 2014). Each year, approximately 950 000 children younger than 18 years lose their lives as a result of violence or injury, with 90% of these deaths due to unintentional injuries (Harvey, Towner, Peden, Soori, & Bartolomeos, 2009). Ninety-five percent of all child injuries have been reported to occur in low-income and middle-income countries (Harvey et al., 2009). The World Health Organization (WHO) report on child injury prevention (Peden et al., 2008) list road traffic injuries, drowning, poisoning, burns and falls as the five leading causes of child injury deaths. In South Africa, children and the youth are regarded as particularly vulnerable to unintentional injuries (Peden et al., 2008; Seedat, Van Niekerk, Jewkes, Suffla, & Ratele, 2009) as is the case globally, with traffic and burn injuries the most common forms of unintentional injury that affect children (Burrows, Swart, Laflamme, 2009).

In concert with the above global trends, morbidity and mortality resulting from violence and injury represent an unparalleled burden in South Africa (Seedat et al., 2009). In South Africa, young

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[1] Violence is defined by the WHO as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that can result in injury, death, psychological harm, maldevelopment, or deprivation" (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002, p. 4).

[2] Injury is defined by the WHO as "the physical damage that results when a human body is suddenly or briefly subjected to intolerable levels of energy" (Holder et al., 2001, p. 5). Injuries are grouped into two categories: 1) intentional (i.e. interpersonal violence, self-inflicted injuries, collective violence and war-related injuries); and 2) unintentional (i.e. motor vehicle injuries, burns, falls, drownings) (Holder et al., 2001).

people are recognised as one of the most neglected and visibly oppressed groupings (Lockhat & Van Niekerk, 2000), and exposed to violence and injury in all ecosystems, whether in the home, school or broader community (Burton, 2006; Seedat et al., 2009). Individuals in impoverished and disempowering settings experience the greatest burden of violence and injury exposure (Kaminer & Eagle, 2010). Rapid unplanned urbanisation and the shortage of housing has fueled the establishment of squatter camps, informal settlements and other concentrated impoverished communities, where societal ills such as alcohol and drug abuse, and gangsterism are rife.

In South Africa, community life has been profoundly impacted by social conditions enforced and entrenched through the former apartheid system[3]. Many communities were marginalised through legislation that enforced socially oppressive measures such as segregation, freedom of movement, poor health and social services, and racial discrimination, which in turn led to poverty, greatly limited living, educational and professional opportunities (Segal & Labe, 1990), and impaired opportunities for independence, dignity and self-sufficiency (Harvey, 2006). The apartheid system divided families and eroded social cohesion, community connectedness and sense of belonging within marginalised communities and between individuals (Simpson, 2000).

The social challenges to which individuals and families in marginalised communities remain exposed have created conditions where families and children are at greater risk for violence victimisation and perpetration (e.g., Kaldine, 2007). The social and physical features (such as poor housing conditions and lack of infrastructure) of communities have been linked to individual health status and mortality risks (Holt-Lunstad, Smith & Layton, 2010; Tay, Tan, Diener & Gonzalez, 2013). The prevalence of social ills such as conflict, crime, violence, poverty, unemployment, discrimination, addiction, homelessness are more evident in marginalised communities, and demonstrate a strong social class gradient (Segal & Labe, 1990; Visser, 2004; WHO, 2010). People from impoverished economic backgrounds have higher rates of non-fatal injuries and death

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[3] The apartheid system was a political system of racial segregation enforced through legislation by an all-white South African government between 1948 to 1994, under which the rights of the majority black South Africans were discriminated against on the grounds of race and white supremacy was maintained.

from injury (WHO, 2010), with child maltreatment being more prevalent in households that are impoverished, lack social support, or are located in communities with less social capital (Runyan, Wattam, Ikeda, Hassan, & Ramiro, 2002). These disadvantaged communities are associated with less social contact, networks or support amongst community members, which can provide the necessary assistance for struggling parents, families and communities (Simpson, 2000).

In such settings, reducing the injury risk of children and youth is a key public health challenge. Early intervention is an important strategy for promoting the well-being of children, families and communities. Here, interventions refer to strategies or programmes constructed to engender knowledge, attitude or behaviour change to improve health status among individuals or an entire community or population. Schensul and Trickett (2009) define interventions as specific strategies designed to engender behavioural or social change in people, communities or larger social structure. According to Schilling (1997), interventions may also be implemented for the purpose of conceiving, creating and testing innovative human service approaches to prevent or ameliorate social challenges, such as violence, or to maintain quality of life.

A growing body of research underscores the importance of the community for the prevention of violence and injury, and the broader promotion of safety and health (Thomas et al., 2012; Lazarus, Taliep, Bulbulia, Phillips, & Seedat; Cutts et al., 2016). The health and safety literature emphasises consideration and recognition of the existing strengths and needs of communities prior to selection and implementation of interventions (Fixen, Naoom, Blase, Friedman, & Wallace, 2005; Nation, Bess, Voight, Perkins, & Juarez, 2011), which is expected to increase the likelihood of positive outcomes. The engagement of communities is often regarded as the best means of facilitating the promotion of safety issues in South Africa (Coulson, 2000), with the value of a participatory approach being recognised as essential to research approaches in low- and middle-income communities (Tindana et al., 2007). Even though negative consequences of violence and injury are experienced most directly by individuals, these also have an impact on communities and society.

The engagement of communities to address such challenges can significantly improve the safety and health of resident families, and is viewed as a paramount component of a safety strategy

(Brenner & Manice, 2011; Koné et al., 2000). Community engagement is viewed as the process through which people are actively involved in decision-making with regards to activities that affect them, such as projects or interventions being implemented (Eksteen et al., 2012; Phiri, Hendricks & Seedat, 2012). This involvement ranges from decisions about the nature of the project, who in the community will derive benefit, how these projects will be conducted, and how these projects will be evaluated (Eksteen et al., 2012; Popay 2006). Through community engagement, individuals, groups and entire communities can identify common sustainable goals. Community-engaged health and development interventions can improve the latter's positive outcomes, become more sustainable, and achieve broader goals of addressing poverty and fostering well-being (Guijt & Kaul Shah, 1998). This occurs when community engagement is implemented effectively and integrated into these interventions (Guijt & Kaul Shah, 1998).

Providing marginalised communities with an authentic voice in the research process is reported to increase the likelihood of an intervention's success (Minkler & Wallerstein, 2008). Generally, intervention research takes place in a field setting in which researchers and practitioners collaborate on designing and evaluating interventions (Comer, Meier, & Galinsky, 2004). According to McCloskey et al. (2011), community engagement necessitates the participation of community members in interventions that address challenges in their communities. McCloskey and colleagues (2011) further postulate that whatever an individual's motivation, obtaining meaningful community participation and having an efficacious, sustained intervention necessitates that researchers respect, pay attention to, and learn from community members. Furthermore, a lack of mutual respect and reciprocal learning can lead to a loss of time, trust, resources and effectiveness (Miller & Shinn, 2005; Minkler, Garcia, Rubin, & Wallerstein, 2012). Thus, in order for interventions to become more sustainable and effective, that is provide long-term improvements in social conditions and health, and have a positive impact, some initial research should be conducted. This initial research should involve an evaluation of community-based factors that could influence the intervention, if the true effect of the intervention is to be discerned (see Hall & Hallford, 2011; LaRocco & Murdica, 2009). Joffres, Langille, Rigby and Langille (2002) suggest that community-based factors influencing the effective implementation of interventions and their relationships to its outcomes are insufficiently understood. For public health and health promotion practitioners to implement effective community-based interventions,

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community-based factors that may influence intervention implementation need to be taken into consideration (Butterfoss, Goodman, & Wandersman, 1996; Goodman et al., 1998; Hancock et al., 1997). Studies have also demonstrated that the efficaciousness and sustainability of interventions primarily depend on the intervention's ability to retain the volunteers and interventionists (Argaw, Fantahum & Berhane, 2007). Research has also indicated that potential participants' positive attitudes towards the issue in question, experiencing a sense of community and feelings of self and administrative efficacy, and positive expectations with respect to personal and administrative gains enhances community members' initial mobilisation (Joffres et al., 2002).

1.2. Research Problem

Safety promotion interventions, including those specifically focused on violence and injury prevention, remain fraught with complexities and challenges and are also often delayed in their effects (Peden et al., 2008). Multiple factors account for the lack of efficaciousness and sustainability of interventions. One of them is the willingness of participants to engage or participate in interventions. Research findings have indicated the critical importance of participation for positive outcomes of interventions (Heinicke, Fineman, Ponce, & Guthrie, 2001; Ramey et al., 1992). However, evaluation studies have shown that the lack of participation in interventions is problematic, with up to 80% of prospective participants in communities refusing to participate (Hopp et al., 2006; Subramanian, Hopp, Lowery, Woodbridge, & Smith, 2004). Lochman (2000) and Spoth and Redmond (2000) postulate that poor rates of participation often threaten the internal validity (that is, demonstrating the impact of the intervention on the specified outcomes under 'ideal conditions') and external validity (that is, generalisability, applicability, transferability and extrapolation of the outcomes) of interventions, especially when their efficacy has previously been established. With the result, if the external and internal validity of an intervention is threatened, the potential benefits of the implemented intervention may be compromised. According to the WHO, participation is viewed as a key indicator of possible health and well-being outcomes (WHO, 2001). The concept and measurement of the willingness of participation, or engagement of individuals and communities in an intervention provides an opportunity for meaningful reflection and possible corrections of intended interventions prior to implementation (Beebe, Harrison, Sharma, & Hedger, 2001; Donnermeyer, Plested, Edwards, Oetting, & Littlethunder, 1997; Edwards, Jumper-Thurman, Plested, Oetting, & Swanson, 2000).

The challenge, however, is to develop interventions and assessment measures that are relevant to the local context. According to Nastasi and Hitchcock (2009), interventions have shown promising outcomes when utilising culturally-specific measures. In South Africa, which is diverse in its cultural make-up, there is a growing recognition of the importance of culturally appropriate or relevant assessment instruments. With this in mind, the *measurement* of *willingness to participate* needs to take into account this diversity. Thus, utilising a tool developed internationally might not, at a local level, accurately reflect a construct it purports to measure (Ismail & Koch, 2012). Assessment instruments employed across cultures and languages may not produce the same meaning across the different groups (Ismail & Koch, 2012), which may lead to adverse implications for accuracy and fairness where a construct being measured may be relevant to one group and not to another (Huysamen, 2002). Employing culturally sensitive modes of measuring *willingness to participate* to ensure that the same construct is measured across different countries thus becomes critical. Even though numerous measures to assess *willingness to participate* have been developed, these originate primarily from high-income settings in the disciplines of management, education and community policing reform (Arasli, 2002; Butler & Allen 2008; Lee, 2000; Moolman & Blignaut, 2008; Weiner, 2009), and may therefore not be culturally sensitive or contextually relevant to the South African context. More recently, the focus on assessing *willingness to participate* has shifted to the humanities and the social sciences fields (Donnermeyer et al., 1997; Edwards et al., 2000; Parker, Alcaraz, & Payne, 2011; Prochaska, DiClemente, & Norcross, 1992; York & Hahn, 2007). In South Africa, research in this domain is in its early stages, particularly with regards to safety interventions, thus pointing to the need for further research in this field.

In order to improve outcomes for communities and their members, determining the success or failure of an intervention in these communities is vital for the realisation of positive change (Frahm & Brown, 2007). Holt and colleagues (2007) indicate that the assessment of *willingness to participate* could identify gaps that may exist between practitioners, researchers and organisations and the target community. The availability of an assessment instrument that can be used freely in this context by any individual or organisation involved in intervention work could play a key role in the detection of opportune moments to implement interventions in order to gain maximum

positive outcomes. Clark and colleagues (1997) assert that the degree to which individuals are *willing to participate*, whether negative or positive, has a direct impact on an intervention's efficaciousness. Therefore, in resource-constrained environments like South Africa, the implementation of interventions which do not optimise community participation could be regarded as a waste of valuable resources (such as time, money and human resources) that could have been put to better use elsewhere (Savaya & Spiro, 2012).

If groups of individuals are not ready for an intervention programme, the effectiveness of the intervention can be compromised (Edwards et al., 2000). Edwards and colleagues (2000) argue that if interventions (such as interventions that require community participation, and community-led activities) are implemented despite the lack of willingness of particular groups of individuals to participate, the intervention would likely be ineffective. Practitioners, researchers and organisations need to be mindful of the fact that the implementation of an intervention in a 'controlled experimental' setting might be totally different from implementation in everyday settings as it may not proceed as smoothly or always reproduce the identical positive outcomes as in controlled settings (Dalton, Elias, & Wandersman, 2007). With the result, implementing an intervention within a community setting denotes a crucial transition from research (that is, the office or university) to action (that is, implementation in a real world context) (Dalton et al., 2007).

1.3.   Rationale for the Study

Context-specific information about the psychosocial barriers to, and enablers of child-centred safety promotion interventions is required to enhance and assure their efficacy. The determination of such locally-sourced information is expected to be of considerable benefit to the implementation of community safety interventions in South Africa and elsewhere.

Currently, there is no standardised instrument available to measure and quantify the willingness of community members from low-income settings to participate in child-centred safety promotion interventions. It would therefore be of value to develop an accessible and user-friendly tool specifically for the South African population that measures the level of willingness of community members to engage or participate in safety interventions. With *willingness to participate* being difficult to define and even more difficult to measure, engaging in continued exploration of this

construct will produce new knowledge that can inform its further development. Engendering the willingness of individuals to participate in child-centred safety promotion interventions will facilitate the implementation of evidence-based prevention strategies. Moreover, fostering community members' *willingness to participate* will contribute to mobilising efforts within the community to sustain and evaluate the use of evidence-based approaches for the promotion of safety. These efforts are expected to maximise the opportunity for community participation by shedding light on barriers to collaboration and delineating key activities to foster multidisciplinary, collaborative approaches to safety promotion programmes.

The development of a new instrument will address three shortcomings of existing *willingness to participate* measures: (a) the questionnaire will be the first known generic instrument developed that can be utilised across multiple safety intervention domains (including violence and the prevention of injuries due to traffic, burns, poisoning and falls); (b) the conceptualisation of *willingness to participate* as it relates to safety promotion interventions, which will provide a foundation for further research; and (c) the resulting questionnaire will assist researchers and intervention developers to identify not just overall levels of *willingness to participate*, but also specific psychosocial barriers and enablers that can be targeted to improve intervention outcomes.

Individuals in communities are the building blocks of community change; if they do not participate in interventions or programmes, it is unlikely that communities will change. Small and Supple (2001) suggest that individuals are influenced by communities at three levels: 1) via the settings and institutions in which they participate (e.g., schools, churches); (2) through the norms and trust that develop by means of social networks (social capital); and (3) through systemic effects such as social cohesion (emotional closeness among members) and collective efficacy (willingness to engage in collective action).

Thus, gauging individual community members' attitudes and cognitions, and the degree to which an entire community is willing to participate in an intervention could be measured via the aggregation of attitudes and cognitions at the individual level (Holt et al., 2007). Such a tool can play a pivotal role in helping practitioners, researchers and organisations to enhance programmatic

outcomes, which in turn may contribute to long-term ownership and sustainability of interventions in these communities.

1.4. Aims and Objectives of the Study

Considering the limitations of the aforementioned existing measurement tools, the primary aim of this study was to develop a psychosocial assessment tool for determining an individual's *willingness to participate* in safety promotion interventions, specifically targeted at individuals residing in low-income communities. A secondary aim was to determine the factors associated with *willingness to participate* in interventions in low-income communities in a South African context. These two aims were actualised through the following research objectives:

Research Objective 1:   To explore the perceptions and understandings of individuals' willingness to participate in safety interventions towards the development of a willingness to participate measure

Research Objective 2:   To pre-test the draft version of the willingness to participate measure

Research Objective 3:   To evaluate the factor structure and internal reliability of the draft version of the willingness to participate measure

The development of this instrument will assist practitioners, researchers and organisations in determining when communities are at a receptive stage (that is, are ready to receive the intervention) prior to implementing interventions. In under-resourced contexts, such as South Africa, this assessment measure may thus be an invaluable resource for enhancing the utilisation and practicality of programmes that are much needed in communities, as well as assure that existing resources are utilised pragmatically and assiduously.

1.5. Conceptual and Theoretical Framework

This study is located within the field of measurement and validity theory and focuses on the development of a valid and reliable instrument. Validation within the process of instrument development is of critical importance within a multicultural South African context in order to furnish an assessment tool that is culturally and linguistically relevant.

This study also draws on the central tenets of participatory research in order to explore the construct of *willingness to participate* and the development of an assessment tool to measure the psychosocial factors associated with *willingness to participate* in child-centred safety promotion initiatives. The participatory approach highlights the essential role of individuals and communities in social transformation, and how they perceive, interact and reshape physical, cultural, historically constructed, and socially organised forces (Giroux, 2004). This perspective values ongoing processes of participation to address and formulate strategies of transformation.

Research that contributes to the empowerment of participants through participatory processes demonstrates the following attributes: 1) *contextual* - issues of community milieu; 2) *responsive* - the relevance of issues explored to participants themselves; 3) *emergent* - the knowledge that emerges from the research should contribute to the knowledge base of the particular field of study (that is, safety interventions); 4) *participatory* - the mutual involvement of participants in all aspects of the research process; 5) *critical* - the hidden meanings of what is being investigated; and 6) *praxiological* - the theoretical and practical considerations in research that need to be purposefully addressed and represented (Le Grange, 2002).

The study was guided by a Process-Person-Context-Time (PPCT) - Theory of Planned Behaviour (TPB) Framework, within a psychometric milieu. This study utilised two theories of change, namely the PPCT model alongside the TPB (see Chapter Two) as the theoretical framework by which to examine community members' perspectives and understandings of *willingness to participate* in safety promotion interventions. The chosen framework recognises that an individual's behaviour both impacts on, and is impacted by multiple levels of influence; thus, efforts to change behaviour are more likely to be successful when explored within multiple spheres of influence simultaneously (Gregson et al., 2001).

Bronfenbrenner's Process-Person-Context-Time (PPCT) model stresses the bi-directional interplay between the individual and the interconnected systems (that is, process, person, context and time) in their immediate environment (Bronfenbrenner & Morris, 2006). According to the

PPCT model, as individuals exert influence on their immediate environments, so do the immediate environments influence these individuals (Bronfenbrenner & Morris, 2006).

Successful public health programmes and interventions are rooted in an understanding of health behaviours and the context in which these manifest. As a result, innovative and effective interventions to improve safety and health related behaviours can best be planned through understanding relevant theories of behaviour change and the ability to utilise these proficiently. The TPB is extensively utilised to predict an individual's probability of embracing a particular behaviour. In the current study, the TPB is employed as an extension of the PPCT model and postulates that an individual's intention to perform a behaviour is influenced by his or her attitude towards adopting the behaviour, an evaluation of the subjective norms or social influence of others who may encourage or discourage such a behaviour, and an individual's perception of the level of control and his or her ability to adopt the behaviour (Ajzen, 1991).

1.6. Summary of the Research Methodology

Over the past decade, there has been an increased awareness to move from theoretically driven research, where the researcher has full control over all facets of the process, including the rationale behind the research and the outcomes, to a participatory approach in which the researcher and research participants negotiate a reciprocal process. A community-centred research approach foregrounds action research, collaborative relationships, and empowerment practices at every level of the research process (Israel et al., 2008). This indicates engagement with targeted communities utilising collaborative practices from the outset (de Vos, Strydom, Fouché & Delport, 2005).

The psychometric procedures within the current study were framed by Validation Theory (Rust & Golombok, 2009; Waltz, Strickland, & Lenz, 2010), and guided by a participatory approach and community engagement strategy across the instrument development process. The overall research design was a sequential exploratory mixed-methods design, with the emphasis being on instrument development. The development of the instrument draws on both quantitative and qualitative research approaches.

The study was located in Broadlands Park, an under-resourced community in the Helderberg Basin, about 4 kilometers outside Strand in the Western Cape, South Africa. The specific strategy that was employed for selecting participants for the study was random and snowball sampling. Data sources included literature reviews, individual interviews, Nominal Group Technique (NGT), Delphi method panel process, and a questionnaire. The data sets were utilised for the conceptualisation and operationalisation of the construct *willingness to participate* (Phase 1); developing the items for the measure, pre-testing and face validation (Phase 2); and establishment of the factor structure and internal reliability of the measure (Phase 3).

As part of the initial groundwork, the current study undertook an exploration of the literature to identify existing measuring instruments and studies related to barriers and enablers of *willingness to participate*. This was followed by community engagement and individual interviews with community members. Subsequently, NGTs were undertaken with community members, stakeholders, service providers and community interventionists. The next step involved the co-construction and organic development of the items for the assessment tool. The measure was then developed and validated to establish its factor structure and internal reliability.

1.7. Chapter Organisation

Chapter One focuses on the background to this study, as well its location within the context of community research and development, intervention research, and selected theories of change. The chapter highlights the rationale, aim and specific objectives of the study. A summary of the theoretical framework and methodology that underpins this study are provided.

Chapter Two reviews the most salient qualitative and quantitative research that is relevant to the present study, measuring instruments assessing *willingness to participate,* and the theoretical frameworks that inform the current study.

Chapter Three is devoted to the major definitional and conceptual considerations on which the study is premised. This chapter specifically focuses on the theoretical foundation of test construction and the systematic approach underlying the instrument construction process.

Chapter Four describes the study aims, objectives and significance of the study, and outlines the research design of the study. The chapter also provides an overview of the community setting, clarification of the concept *willingness to participate,* the research participants*,* and the data collection methods, procedures and analyses.

Chapter Five and Chapter Six report on the study findings. Chapter Five describes the results of the qualitative component of the study, which includes individual interviews, NGTs, and rounds one and two of the Delphi Panel Review. The quantitative component, in Chapter Six, elucidates the items generated, results of the third round of the Delphi Panel Review, and the results of the pre-pilot and pilot.

Chapter Seven provides an in-depth discussion of the findings reported in the preceding two chapters.

Chapter Eight concludes the thesis with a summary of the primary research findings, and elaborates on the significance of these findings. Furthermore, the limitations of this study, as well as the prospects for future research are addressed.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

"If someone doesn't value evidence, what evidence are you going to provide to prove that they should value it? If someone doesn't value logic, what logical argument could you provide to show the importance of logic?"

~Sam Harris, 2011

2.1. Introduction

The preceding chapter presented the background to the current study by providing a brief overview of violence and injury, both globally and in South Africa, and indicating the paucity in measures that assess *willingness to participate* in safety promotion interventions, which the current research addresses. The primary aim of this study was to develop a measuring instrument to evaluate *willingness to participate* in child-centred safety promotion interventions. The secondary aim of this study was to assess the construct validity of the newly developed instrument.

One of the key activities in instrument development is to identify existing instruments measuring the construct under investigation, as well as indicating a clear definition of the construct to be assessed. This chapter provides an overview of the literature with regards to the most relevant findings and theories related to *willingness to participate* in interventions. The first part of the review commences with an overview of intervention research and participation in research; outlines the psychosocial factors impacting the engagement and participation of individuals in interventions; and focuses on measuring instruments for assessing *willingness to participate*. The latter section of the chapter considers theories identified as relevant to the study aims.

2.2. Intervention Research

Intervention research provides an integrated perspective for developing, and assessing the feasibility and effectiveness of innovative interventions (Bailey-Dempsey & Reid, 1996; Rothman & Thomas, 1994). This has resulted in the systematic investigation of purposive change strategies with an emphasis on design and development of interventions (Fraser & Galinsky, 2010).

Rothman and Thomas (1994) propose that intervention research be understood in terms of three primary components: knowledge development, which entails contributing to basic knowledge of human behaviour by utilising the methods of conventional social science research; knowledge utilisation where knowledge is translated into action by transforming knowledge of human behaviour into concepts and theories applicable to the given target groups' practices; and design and development, where the creation of innovative methods, programmes, service systems, or policies by means of a process of problem analysis, intervention design, early development, advanced development and dissemination materialise. The design and development are two complimentary processes, which generally include identifying social and health problems in such a manner that research informs practice (Fraser & Galinsky, 2010). These three primary components, namely 1) knowledge development, 2) utilisation, and 3) design and development) are interrelated elements forming a comprehensive knowledge generation process with the objective of identifying feasible and effective interventions to prevent or ameliorate problems or to maintain quality of life.

The need for interventions in low-income environments, that are easily accessible to children and families, is especially relevant for South African populations. Research evidence increasingly recognises that the inequities in health status related to the social and physical environment (that is, poverty, inadequate housing, income inequalities, lack of employment opportunities, racism and powerlessness) are associated with poor health outcomes (Israel et al., 2008; Lovell, 2008). An important aim of intervention research is to generate opportunities to improve the health and well-being of community life. The evaluation of interventions is challenging due to the complex nature of the health and well-being interventions. These challenges relate to study design standardisation difficulties, implementation fidelity and assessment of the impact of contextual factors (Hawe, Shiell, Riley & Gold, 2004; Rifkin, 2007; Rychetnik, Frommer, Hawe, & Shiell, 2002; Victora, Habicht & Bryce, 2004; Wolff, 2001). Furthermore, the bi-directional interaction of intervention components across and within various levels is an important aspect of interventions that needs to be taken into consideration in the evaluation process (Nastasi & Hitchcock, 2009). The need to explore the "black box" of multifaceted interventions is important in order to understand some of the key components in intervention success.

2.3. Participation

The construct participation is contested and utilised in diverse ways by various authors in the bodies of literature explored. To date, literature from areas such as community development, public health, and the social sciences have all tended to view the broader construct of participation and its different types in isolation, not considering other disciplines. This exploration of the literature seeks to consider the different bodies of literature on participation to clarify the broad understanding of participation that this study adopts. Furthermore, the term participation is frequently qualified with an array of prefixes, such as civic, civil, community, public, citizen, political, and so forth. In order to simplify the language utilised in this study, I use two broad categories of participation, namely social and individual participation. Social participation refers to collective activities that individuals may be involved in as part of their everyday lives (Jochum, 2003; Pattie et al., 2004). Individual participation refers to choices and actions individuals make as part of their daily life and includes their aspirations of the kind of society they want to live in (Ginsborg, 2005; Melucci, 1989, 1996). It is important to note the fluidity of these broad categories of participation, and their dynamic interrelated and intersecting nature (Ginsborg, 2005; Melucci, 1996).

2.3.1. Participation: Historical overview

Participation entered the mainstream development discourse in the 1990s, but the concept and term has been around for many decades (Cornwall, 2006). Participation is a concept that has been widely utilised in many different fields. As a result, the meaning of this term can vary enormously across disciplines and between varying actors. Participation is a multi-dimensional phenomenon, which can occur in a variety of different forms and contexts. This contributes to the existence of different interpretations of the construct. The literature indicates that the construct of participation is subject to diversity and ambiguity, resulting in a myriad of explanations across disciplines and actors (Cornwall, 2008). Numerous attempts to define the concept have been made (see Fung, 2015; Vroom & Jago, 1988; Webster 1995), but the complexity of the concept, disparities between definitions, and the vast spectrum that these definitions cover (that is, from consultation to citizen power) make it difficult to coin a standard definition. The literature also reveals that the concept of participation is utilised in some studies without providing a definition. What this suggests is that the meaning of this well-known construct is often taken for granted since it forms part of the

general vocabulary of participatory research and thus its meaning is seldom questioned. Cornwall (2008) argues that for the democratising promise of participation to be actualised, the concept of participation needs to be elucidated.

Advocates of participation have drawn extensively on the work of Paulo Freire (1992), emphasising that community participation and development is a process of transformation, which encapsulates both the personal and the structural. The individuals in the community accomplish this transformation through critical reflection and action. In this context, community members and organisations are viewed as vehicles through which development objectives, such as participation in development projects and empowerment of people, may be more easily achieved (Mohan & Stokke, 2000). Accordingly, participation is regarded as a central tool of empowerment, not only as an outcome but also as a process by which citizens can organise, evaluate resources, and design strategies to realise shared objectives (Freire, 1992). This process refers to the establishment of an effective support system for those citizens who have been marginalised because of the severity of the discrimination suffered (Solomon 1976). In other words, empowerment refers to citizens gaining mastery over their lives in the context of changing their social and political situation to enhanced equity and quality of life in their communities (Wallerstein, 1992).

Contributing to the empowerment of communities and strengthening the voices of individuals encompasses a process where the marginalised are supported through the strengthening of their ability to participate in civic matters through interventions (see Cornwall, 2016). With the development of communities, participatory processes are viewed as instrumental to initiatives and interventions that deliver much-needed community infrastructure, economic development and social services. Since citizen participation can facilitate the development of interventions that are more relevant to community needs, which are informed by local knowledge and priorities, it is argued that these interventions are more likely to be efficacious. Brock and Pettit (2007) assert that at the core of augmenting community infrastructure, economic development and social services is a thesis for participation which is rooted in the recognition of people's lived realities and needs in the country. Cooke and Kothari (2000) assert that it is of importance to critically interrogate the meanings of participation and whether the mainstreaming of participation offers opportunities for greater inclusion and democratisation, taking into account the dangers of

exploitation. Hence, community mobilisation without taking into account power relations can skew participation from its developmental aims, reinforce existing patterns of exclusion, and further entrench inequities. Participation is thus a value-laden construct and not merely a method, process or technique, and the perspective that one subscribes to will depend on what interpretation of participation one is referring to (Kelty et al., 2015).

2.3.2.   Typologies of participation

Clarity and specificity in the development and implementation of interventions utilising participatory approaches are necessary in order that it is clear what participants and community members are required to actually do, as well as what the benefits are for these individuals when they are encouraged to participate. The failure to capture the clarity and specificity of the construct of participation can weaken its merit as an agent of change, and as a tool for analysis. Furthermore, clarifying the construct participation foregrounds the notion of empowerment, which is central to challenging power relations. Empowerment may occur at multiple levels (individual, family, or community), and across various domains (government, market, or society) or dimensions (political, social, cultural, and economic). Thus, in an attempt to elucidate on the breadth of the construct of participation, many scholars have formulated a model for understanding the complex and mutually dependent processes involved in participation by outlining varying levels of participation. These typologies stem from a vantage point of intentionality and those individuals who initiate participation approaches (Cornwall, 2008). Much of the theoretical literature on typologies of participation has been derived from the seminal work of Arnstein (1969) who delineated the "ladder of participation", (see Figure 2.1).

Figure 2.1. Arnstein's ladder of citizen participation (1969)

Arnstein (1969) defines citizen participation as the redistribution of power that enables the have-not members of society, who have been excluded from the political and economic arenas, to be deliberately included. Her starting point is the individual or community member who is the recipient of selected interventions and programmes, thus reflecting the degree of control individuals or community members have over local agendas (Silverman, 2005).

Arnstein (1969) differentiates between eight modes of citizen participation, categorising them into three levels, namely non-participation, tokenism and citizen power. These levels are arranged on a continuum, with manipulation at the bottom end of the spectrum and citizen control at the highest end (Cornwall, 2008). The level of non-participation, which includes the modes of manipulation and therapy, sits at the lower end of the ladder and is regarded by Arnstein as a subterfuge and substitute for genuine participation. At this level, it is argued that organisations and practitioners, which Arnstein refers to as power holders, impose their agendas on community members or participants with the intent to educate. The level of tokenism that encompasses the modes of informing, consultation and placation provides individuals (have-nots) with the opportunity to provide 'input'. In other words, 'hear and be heard in interventions'. The World Bank (1996)

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equates this mode of information and consultation as a form of participation. However, Arnstein (1969) argues that the voices of community members at this level of tokenism will not be taken into account or have any effect on the intervention itself and thus their participation often does not lead to change. This occurs because there is no follow-through on the part of the organisation developing and implementing the intervention as these organisations influence and control the developed interventions and the decisions and resources that affect them (Arnstein, 1969). Despite the fact that flow of information is regarded as a less significant form of participation in Arnstein's model, it remains an important end in its-self (Cornwall, 2008).

As individuals move up the ladder of participation, they are exposed to increasing gradations of decision-making power in which they are able to engage. At the uppermost level of Arnstein's ladder of participation lies community-member power. This level includes modes of partnership, delegated power and community member control. At this level, individuals are provided with the opportunity to negotiate and change the status quo of interventions at both the development and implementation phases.

Even though Arnstein's model was developed in the 1960s, it illustrates the nuances of citizen participation, which Cornwall (2008) believes still retains considerable contemporary relevance. Cornwall (2008) expounds on the concept of participation by utilising typologies as a point of departure for distinguishing varying degrees of participation and its modes.

It is argued that the applicability of a comprehensive typology of the modes of participation, as well as a systematic reflection on who is engaging in the various modes of participation and why, is a necessary fundamental step in identifying the role that participation may play in the efficaciousness of interventions (Cornwall, 2008; Longtin et al., 2010). While Arnstein foregrounds the individual in her model, consideration needs to be given to the fact that in real-life situations there may be many more gradations of individual participation unaccounted for in this model, and the interdependence and oscillation of movement across the levels over time within one programme (Cornwall, 2008). Furthermore, Arnstein's model highlights the centrality of power and control but does not elaborate on the interactions of the power structures in society or

between levels. Arnstein's model also fails to take into account the enablers and barriers that may impact on individuals' movement from one level of participation to the next.

White (1996) starts to address these shortcomings in Arnstein's ladder of participation by stressing that the underlying 'politics of participation' are tensions about who is involved, how, and on whose terms. Her typology of participation proposes an alternative framework, which purports to explore the multiple dimensions of, and interests in participation by both the individual and the community.

Table 2.1 (see below) represents White's typology of participation. Her typology of participation distinguishes four major types of participation, and the characteristics of each. The first column displays the form of participation; the second column the interests in participation from the top down - that is, the interests that those who design and implement development programmes have in the participation of others; the third column illustrates the perspective from the bottom up - how the participants themselves see their participation, and what they expect to receive out of it; and the last column characterises the overall function of each type of participation.

Table 2.1

White's typology of participation

Form: What is the level of participation?	Top-Down: What's in it for government or associated agencies?	Bottom-Up: What's in it for individuals and communities?	Function: What is the participation for?
Nominal	Legitimation	Inclusion	Display
Instrumental	Efficiency	Cost	Means
Representative	Sustainability	Leverage	Voice
Transformative	Empowerment	Empowerment	Means/End

White's (1996) typology of participation provides a framework to identify circumstances that either foster opportunities for participation or entrench and reproduce existing power relations. It is important to note that White conceptualises the construct of participation as a dynamic process

which evolves over time. She further notes that the construct of participation has diverse meanings and implications for the different parties involved. In other words, researchers, intervention developers and community members have different intentions and goals within the same programme. The significance of White's model (1996) is that it offers an opportunity to obtain a multi-dimensional understanding of the construct of participation in community development.

The National Council for Voluntary Organisations (NCVO), in partnership with the Institute for Volunteering Research (IVR) and Involve, developed a working framework for understanding individual's pathways through participation (Brodie et al., 2009). Brodie and her colleagues (2009) contend that in order to gain an understanding of the construct participation it needs to be understood from an individual's perspective and not from the conventional institutional perspective. They further assert that while the individual is core in understanding participation, the construct participation needs to be placed within the context (that is, space and place) in which the actions are occurring. This framework thus explores the multiple and unique combinations of context, perceptions, values, formative experiences, place and relationships, to name a few. This framework, which is anchored in social science research, postulates that the aforementioned are the key pragmatic elements that place participation in practice (that is, the participants/stakeholders; the activities; the context in which the activities occur; and the time over which they develop), and motivates an individual's actions (Brodie et al., 2009).

Table 2.2 provides an overview of the working framework developed by the NCVO, IVR and Involve, illustrating the key shaping forces influencing individuals' pathways through participation.

Table 2.2

Framework for understanding individual's pathways through participation

Three models of participation are presented above as relevant to this: the classic Arnstein's ladder of participation; White's typology of participation; and NCVO and IVR's pathways through participation model. These are three illustrations of models of participation from an array of more than 30 available well-known models (Ahmadi, Hashim, Mohamed, Moharamnajad & Shamshiry, 2013; Cornwall, 2008; Creative Commons, 2012). Each of these three models offer a unique contribution to the evolution of typologies of participation and to this study. Many of the models of participation have been derived from the seminal work of Arnstein (1969); however, her model does not articulate how actions and barriers move from one level to the next. White's model (1996) looks beyond earlier limitations and into the diversity of function and form within participation. NCVO, IVR and Involve's model (2009) takes the aforementioned models even further and considers the experiential elements of participation, namely the actors, activities, contexts and

time, which is the lens from which this study is posed. The plethora of participation models evident in the literature indicates that the construct participation has different meanings and implications in different contexts and for different stakeholders involved.

2.3.3. Participation and retention of participants in intervention services

Studies have identified participation and retention as key socio-behavioural determinants associated with interventions that foster optimal impact (Gupta, Pouw, & Ros-Tonen, 2015; Ingoldsby, 2010; Mendez, Carpenter, LaForett, & Cohen, 2009; Prado, Pantin, Schwartz, Lupei, & Szapocznik, 2006). These factors are of critical concern to the successful and effective implementation of interventions.

Research indicates that there is a current paucity in the literature on factors predicting participation and retention in child-centred interventions (Blom-Hoffman, Leff, Franko, Weinstein, Beakley, & Power, 2009; Oke, Stanley, & Theobald, 2007). This gap in the literature is exacerbated by the fact that of the studies published, few report on participation rates (Blom-Hoffman et al., 2009). The dearth of research on participation and retention in interventions is evident across disciplines (see Hackett et al., 2012; Hooven, Walsh, Willgerodt, & Salazar, 2011; Prado et al., 2006). Hooven, Walsh, Willgerodt and Salazar (2011) highlight the need for a coherent and comprehensive framework that serves as a guide for researchers to maximise participation in interventions. It can, however, be argued that the effectiveness of supported interventions would depend on the extent to which it is bound to the context in which it is delivered (Institute of Medicine, 2001), as well as the extent to which parents or participants engage with these interventions. Biglan and Metzler (1999) assert that a lack of parent participation in intervention programmes is a primary reason why these parent programmes do not succeed.

In a study on a family skills-focused preventative intervention, parental attendance was associated with positive child outcomes (Spoth & Redmond, 1996). Despite studies indicating the efficaciousness of parent-centered preventative interventions (Dishion & Kavanagh, 2000; Pantin et al., 2003), getting parents to participate in these interventions and retaining their participation remains a considerable challenge (Gorman-Smith et al., 2002; Heinrichs, Bertram, Kuschel, & Hahlweg 2005; Riley, Brady, Goldberg, Jacobs, & Easterbrooks, 2008; Spoth & Redmond, 2000;

Tandon, Parillo, Mercer, Keefer, & Duggan, 2008). Gorman-Smith and her associates (2002) suggest that a multiplicity of participant characteristics are related to engagement in parent-centered interventions. In addition, studies reveal that interventions encompassing modules and elements focusing on parents as recipients have difficulty in the engagement and retention of participants (Coatsworth, Duncan, Pantin, & Szapocznik, 2006; Heinrichs et al., 2005; Kazdin, Mazurick, & Bass, 1993). Mendez, Carpenter, LaForett and Cohen (2009) propose that parent and caregiver characteristics can play an important role in determining the success of participation in interventions in disadvantaged communities. Despite the efficacious role parent/caregiver characteristics can play in the success of participation in interventions, Kazdin and Wassell (2000) and Spoth and colleagues (1996) reflect on the lack of studies investigating parental characteristics and barriers that may limit parental participation in interventions (Mendez et al., 2009). These characteristics include demographic and socio-economic factors, discussed in the subsequent sections of this chapter.

Studies have also demonstrated that participant-interventionist relationship is of critical importance in sustaining participation and retention in interventions (Brooks-Gunn, Berlin, & Fuligni, 2000; Gomby, 2007; Klass et al., 1996). Participant-interventionist relationship refers to the positive rapport built between the participant and the individual delivering the intervention.

2.4. Willingness to Participate

In this study, w*illingness to participate* is defined as the predisposition or readiness to act or engage voluntarily in intervention programmes or organised scientific inquiry (research) (Shaughnessy, 2013). *Willingness to participate* as a construct can also be regarded as encompassing two parallel elements namely, barriers to participation and enablers of participation in safety promotion interventions. The degree of *willingness to participate* is positively influenced by enablers to intervention participation and negatively influenced by the barriers to participation.

2.4.1. Barriers of willingness to participate in safety interventions

Identifying the barriers to participation in interventions is essential to address the needs of socially disadvantaged communities (Snell-Johns, Mendez, & Smith, 2004), foster optimal participation and retention, and provide opportunities to deliver efficacious interventions (Mendez et al., 2009).

Barriers can be understood as factors or obstacles which make it difficult or reduce the likelihood of eligible individuals participating in intervention programmes or specific safety or health related behaviours. Even though a direct link has been established between barriers and participation (Kazdin, Holland, & Crowley, 1997), the identification of any single barrier or characteristic linked to participation has not been found (Coatsworth et al., 2006; Kazdin et al., 1993). Kazdin and colleagues (1993) are of the opinion that the lack of identification of any single barrier or characteristic may be attributed to the heterogeneity in individual and contextual factors, which may obfuscate the identification of reliable predictors. The manner in which barriers impede individual participation and/or behaviour change is dynamic and context-specific and will impact individuals differently (Mendez et al., 2009). The assumption is that participation in an intervention is likely to occur when intervention-related needs outweigh perceived intervention-related barriers. However, if perceived barrier effects are cumulative, individuals may not participate in an intervention, even if the need exists for the intervention.

The literature has highlighted that factors, including socio-cultural factors, contextual factors, personal factors and others, may generate barriers to intervention participation and retention (Cohen & Linton, 1995; Orrell-Valente et al., 1999; Sampson & Laub, 1994). It is postulated that these barriers can diminish interest and *willingness to participate* in intervention programmes either as individuals or as a family (Biglan & Metzler, 1999; Conger et al., 1992; Conger et al., 1993; Prinz & Miller, 1996; Sampson & Laub, 1994). Numerous studies also draw attention to additional barriers, such as mistrust (McCluskey, Alexander, Larkin, Murgula, & Wakefield, 2005; Yancey, Ortega, and Kumanyika, 2006), perceived irrelevance of intervention programmes (Redmond, Spoth, Shin, & Hill, 2004; Spoth, Redmond, & Shin, 2000), and experiencing feelings of apprehension due to a lack of anonymity (Polizzi & Gottfredson, 2003; Spoth, Redmond, Hockaday, & Shin, 1996).

A study that examined the barriers to participation in a child safety intervention in a low-income community in Western Cape, South Africa found that social disparities, a lack of appropriate coping mechanisms, and pessimistic psychological sense of community impede participation amongst caregivers (Van Niekerk & Ismail, 2013). Attrition and low levels of participation in intervention programmes targeting families were also reported by Watson (2005). Among the

barriers identified by Watson (2005) were lack of community awareness, cost, transport, child care, programme schedules, lack of confidence, and lack of trust in the usefulness of the intervention.

In a subsequent study, Sahay and her colleagues (2005) identified pragmatic and personal barriers, such as the inability to take time off from work, the lack of supportive networks to assist with family commitments, influencing an individual's *willingness to participate* in prevention initiatives. In a systematic review on barriers to community participation, Mills and colleagues (2004) identified such factors as safety concerns, mistrust of researchers, fears relating to the intentions of study investigators, and concerns about the study design, as significant barriers. These barriers were identified in studies conducted across the United States, Brazil, Canada, Thailand, Uganda and Kenya.

South African researchers Lesch, Kaffaar, Kagee and Swartz (2006) conducted a qualitative study into the barriers and enablers to *willingness to participate*. They contend that both barriers and enablers can best be understood as occurring on two axes. In their model, barriers and enablers fall along the X-axis, and the Y-axis denotes the continuum from abstract to concrete along which the barrier or enabler occurs. As a result, the model creates four quadrants in which one can locate abstract barriers, abstract enablers, concrete barriers or concrete enablers. Lesch and her associates (2006) further assert that each barrier or enabler can occur at an individual, family, community or societal level. Barriers at the individual level included monetary costs of participation and fear. Lack of information, negative community reactions, and mistrust of researchers were identified at the community level, and negative family reactions at the family level.

While the barriers highlighted above appear discouraging and potentially unassailable, it appears from the literature reviewed that many prospective participants remained willing to participate in intervention programmes.

2.4.2. Enablers of willingness to participate in safety interventions

Facilitators or enablers can be understood as those factors which increase the likelihood of eligible individuals participating in an intervention programme. A study investigating the willingness of

employees to participate in health promotion programmes found that a positive attitude by employees, a high level of social support, and a high self-efficacy facilitated their *willingness to participate* (Rongen et al., 2014). These findings align with social cognitive theories which hypothesise that behaviour change is the result of a positive intention, that this positive intention results from a positive attitude and high self-efficacy, and is supported by high levels of social support (de Vries, Dijkstra, & Kuhlman, 1988). Behaviour change and positive intentions were also reported by Ismail and her associates (2016) in a study that examined the efficacy of a child, safety, peace and health intervention in a cohort of caregivers in Western Cape, South Africa. Among the many possible reasons cited for participation, positive attitudes and increasing levels of self-efficacy of the caregivers were noted as enablers to participation and retention. This was attributed to a positive participant-interventionist relationship. Given that the participant-interventionist relationship has been shown to be key in sustaining participation and retention in interventions (Brooks-Gunn et al., 2000; Gomby, 2007; Klass et al., 1996), the influence of increased confidence and self-efficacy (Ismail, Isobell, Arendse, Suffla, & Seedat, 2016) within the participant-interventionist relationships is assumed to positively affect decisions of individuals to participate and remain in intervention programmes. The critical role the participant-interventionist relationship plays in the efficacy of an intervention is supported by empirical findings (Brooks-Gunn et al., 2000; Gomby, 2007; Klass et al., 1996).

The South African study referenced earlier identified convenience and practicality of participation, and confidentiality and financial incentives as concrete enablers at the individual level (Lesch et al., 2006). Positive reactions from family and community members, and knowing someone with HIV were identified as enablers at the community level, while positive role models were identified as an enabler at the societal level.

In South African research, Jaspan and colleagues (2006) and Lesch and her associates (2006) identified altruism as an enabler of *willingness to participate*. Kafaar (2015) determined that altruism predicts *willingness to participate* in clinical trials. These findings concur with international research (Sahay et al., 2005; Strauss et al., 2001) identifying altruism as a predictor of *willingness to participate*. In addition, Kafaar's (2015) study also supported the qualitative findings of Swartz and colleagues (2006), indicating leadership potential as a predictor of

willingness to participate. These findings are in keeping with both international and South African literature.

2.4.3. Measuring willingness to participate in an intervention

A major challenge in intervention programmes is to increase individuals' *willingness to participate* in such programmes. It has been hypothesised that low rates of participation in any intervention programme can reduce the impact of these intervention programmes, as well as threaten the external validity of various future intervention efforts (Icks et al., 2007; Zhao, 2008). Gottfredson (2002) and Coday and colleagues (2005) view low participation in intervention programmes as a significant methodological concern. It is evident from international literature that participation in intervention pilots are generally below 50% (Coie, Underwood, & Lochman, 1991; Garvey, Julion, Fogg, Kratovil, & Gross, 2006; Heinrichs et al., 2005; Fontana, Fleischman, McCarton, Meltzer, & Ruff, 1988). In addition, low participation rates of participants in intervention programmes has implications for the efficacy and effectiveness of these intervention programmes (Vitaro & Tremblay, 2008). Vitaro and Tremblay (2008) further assert that low levels of participation in an intervention programme may have consequences for funding as the utility of the intervention as a tool for social change is threatened due to lack of mass participation. It is thus essential to gain a better understanding of individual's *willingness to participate* in intervention programmes.

Studies indicate that there is a compendium of techniques utilised to measure an individual's *willingness to participate* in interventions. The most fundamental prerequisite for an instrument to be scientifically valid is that it is based on well-defined concepts. The absence of a clear and standardised definition for the construct of *willingness to participate* creates a dilemma for instrument developers and measurement of the construct (Coster & Khetani, 2008). This lack of a clear standardised definition may lead to different instruments being developed which purport to measure *willingness to participate* but in reality might be measuring distinct definitions of this construct, resulting in the interpretation of the construct being left open to a multitude of interpretations. For example, three quantitative studies exploring the construct *willingness to participate* in biomedical studies utilised a single question on *willingness to participate* as their measure of this complex construct (McCallum, Arekere, Green, Katz, & Rivers, 2006). In a

subsequent biomedical study conducted in four American cities, a 60-item survey (the Tuskegee Legacy Project Questionnaire) was utilised as a measure of the construct *willingness to participate* in an intervention (Katz et al., 2006).

Due to the complexity of the construct, a clear definition of *willingness to participate* is essential in order to generate items that: mainly reflect the construct under investigation; demonstrate discrete dimensions of the construct rather than aspects of each other; and can be clustered together in order to formulate varying dimensions which will be used to formulate scales to measure the underlying construct (Coster & Khetani, 2008). The definition of the construct *willingness to participate* sets parameters for the literature review process to identify instruments that measure *willingness to participate*. These selection criteria for identifying instruments will ensure that valid measures are identified, thereby allowing for valid inferences to be made from the data gathered.

2.4.4. A theoretical framework for studying willingness to participate in interventions

Conceptual and theoretical frameworks represent an integrated understanding of issues, within a given research domain, enabling researchers to address specific research problems under investigation from different theoretical and conceptual perspectives (Imenda, 2014). The current study therefore elucidates on the role that psychosocial factors play as enablers and barriers to *willingness to participate*, and describes how the different levels of context interact with each other. The study is thus situated within Bronfenbrenner's (1989) Process-Person-Context-Time (PPCT) model.

Given that the PPCT paradigm foregrounds the environment in which individual behaviour is shaped and developed, and given the complexity of human behaviour and environmental interactions, individual adaptive responses in these environments cannot be ignored. Therefore, theoretical approaches need to explicitly combine ecological dynamics and human behaviour to address the interactions between the different systems levels (Bots, Schlüter, & Sendzimir, 2015). The PPCT paradigm will thus be supplemented with the Theory of Planned Behaviour (TPB) in the current study (see section 2.3.4.2).

2.4.4.1. *Process-Person-Context-Time (PPCT) model.* The PPCT model is the "mature form" of Bronfenbrenner's Bio-ecological Systems Theory and lays emphasis on the interaction between an individual's biological disposition and his or her environment. This version of the model is defined by the interrelatedness of its four fundamental concepts, namely process, person, context and time (Bronfenbrenner & Morris, 2006; Tudge et al., 2009.). As such, it purports identification of factors that influence community members' *willingness to participate* at different levels of interaction.

The systems approach provides a structural analysis of the processes of interaction between the individual, subsystems and time (see Figure 2.2). The processes of interaction occur at various levels of society, namely the individual, micro-systems (the family, friendship network), organisations (connection between the structures of the micro levels), localities (organisations, neighbourhoods), macro-system (culture and society) and chrono-level (a time-based dimension that filters through all levels of the ecological systems) (Paquette & Ryan, 2001). Each layer impacts the other in an interdependent manner. Each layer provides its unique contribution to the entire global system.

Interventions are aimed at identifying, managing and conserving resources to solve issues, as well as to enhance development to benefit the community as a whole (Visser, 2007). Rappaport (1981) suggests that efficacious interventions necessitate collaborative relationships with community members, given that the resources and energy for transformation emanate from within the community itself. Interventions can be viewed as occurring in subsystems in the ongoing flow of community life (Trickett, Kelly, & Vincent, 1985), thus necessitating a broadening of our lens of understanding to consider all contexts that may impact individuals and their environments. An individual exists in an environment that is constantly in flux, influenced by the changing relationships between individual contexts and the macro-context within which these micro-contexts develop (Visser, 2007). Visser (2007) postulates that interventions should not centre solely on an individual's behaviour, but should be introduced at broader levels of society. This approach introduces novel methods of conceptualising an individual's behaviour. Challenges faced by individuals are not regarded as a mere consequence of intra-individual processes, but seen as inconsistencies between the individual and their environments (Visser, 2007).

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Lesch and colleagues (2006) and Swartz and associated (2006) propose a similar model to Bronfenbrenner's (1989) ecological systems theory, which recognises that factors influencing *willingness to participate* occur at different systemic levels, as indicated in section 2.3.1. This relates to some degree to Bronfenbrenner's (1989) micro-, meso-, exo- and macrosystems. These levels of context interact with each other whilst at the same time affecting the individual (Lloyd, 2002). Since influences are bi-directional, as individuals exert influence on their surrounding environments (context), so too do several influences impact upon an individual (Gabriel, Doiron, Arias de Sanchez, & Wartman, 2010; Paquette & Ryan, 2001). Barriers and enablers to *willingness to participate* in interventions have been documented at different levels of interaction (Kafaar et al., 2015; Lesch et al., 2006). Bronfenbrenner's framework therefore provides a means to understand the factors that impact upon *willingness to participate* and to explore these factors at the different levels of interaction.

The body of literature in education surrounding *willingness to participate* supports the conceptualisation of the construct in terms of three dimensions, namely education, organisation and individual, with a critical link between the organisation and the individual dimensions (Mellencamp, 1992; Wolf, n.d.). According to Wolfe (1983), these domains are interrelated and influence each other, creating a parsimonious framework. This conceptual framework correlates with the PPCT model, which is the framework utilised in this study. The layers within the PPCT model profoundly permeate an individual's existence and in turn the communities in which these individuals live. Engaging in continued study of these social systems will produce new knowledge that can inform the challenging issue of *willingness to participate* in preventative programmes. Thus, this approach, in conjunction with the TPB, provides an appropriate framework for gaining a clearer picture on *willingness to participate*, since willingness to engage the behaviour of individuals, as well as perceptions of these behaviours are manifested in individual factors and also the broader environmental factors.

Societal, Cultural, Political
Macrosystems

Community-based Services
Localities

Clinics

Organisations

Media

Economy

Social Welfare

Mosque

Family

Microsystems

Church

Workplace

Neighbourhood

Individual

Chronosystem

Subjective Norms

Attitudes

Perceived Behavioural Control

Behavioural Intentions

Behaviours

Figure 2.2. Conceptual scheme of Theory of Planned Behaviour and Bronfenbrenner's systems and their interactions

2.4.4.2. *Theory of Planned Behaviour.* The TPB is regarded as a theoretical model of behaviour change, which proposes that behaviour is best predicted by intention (Ajzen, 1991). The TPB evolved from the Theory of Reasoned Action following criticism concerning the limited applicability of the latter (Liska, 1984), which rests on the premise that individuals are either in complete control or have no control over their behaviour. The TPB emerged as a means of addressing this dichotomy postulated by the Theory of Reasoned Action.

TPB (Ajzen, 1991) has been utilised extensively as a theoretical basis to predict and understand a wide variety of behaviours across various disciplines, and serves to underscore the strengths and suitability of the PPCT model for the current study. TPB is able to predict and expound on both volitional and non-volitional behaviour. Pee, Woon and Kankanhalli (2008, p. 121) suggest that the "TPB is a deliberative processing model that implies that individuals make behavioural decisions based on careful consideration of available information." A central tenet of the TPB is

the notion that behaviour is intentional and that intentions are antecedents of actual behaviour. Thus, actual behaviour can be predicted from an individual's intention to perform the behaviour in question. Behavioural intention is a manifestation of an individual's willingness to execute a given behaviour or action. Behavioural intention is the precursor of actual engagement with the target behaviour (Ajzen & Fishbein, 2005). The TPB model posits that individual behaviour is driven by behaviour intentions. Behavioural intention is a manifestation of an individual's willingness to execute a given behaviour or action. Behavioural intention is the precursor of actual engagement with the target behaviour (Ajzen & Fishbein, 2005).

Determinants of Behavioural Intention. This behavioural intention is a function of three determinants, namely an individual's attitude toward behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). In addition, perceived behavioural control is regarded as a higher order construct comprised of self-efficacy and controllability (Ajzen, 2002). The following section will elaborate on the three determinants of behavioural intention.

Attitude towards the behaviour represents an individual's global assessment of a given action. Attitude towards the behaviour is "a learned disposition to respond in a consistently favourable or unfavourable manner toward an attitude object" (Fishbein & Ajzen, 1975, p. 6). In other words the individual's evaluation of performing the behaviour is based on the perceived positive or negative outcomes likely to result from the action. Thus, a more favourable attitude towards the behaviour is likely to result in a stronger intention to perform it. In this case, attitude towards the behaviour can be interpreted as individual community members' attitude towards different facets of participation in child-centred intervention as it relates to their lives.

The TPB contends that an individual's attitude towards a behaviour, such as participating in child-centred interventions, is determined by his or her salient behavioural beliefs. For example, in the context of this study, community members hold an attitude that is either in favour of, or against, community members participating in child-centred initiatives, subject to their beliefs. The behavioural beliefs are a function of two constructs, the perceived outcome of performing the behaviour and the belief strength (Ajzen & Fishbein, 1980). This shaped attitude impacts the behavioural intentions, either to initiate action and participate in child-centred initiatives, or not.

Moreover, as the theory assumes that a determining factor of behavioural intentions is the attitude towards behaviour, it is theoretically possible to predict intention implicitly from behavioural beliefs through attitude. In order for the relationship between behavioural beliefs and behavioural intention to be established, the aforementioned prediction is dependent on a number of prerequisites that need to be in place to facilitate the mediating role of attitudes. Thus, it must be illustrated that behavioural beliefs predict the attitude toward the behaviour; subsequently, the attitude toward the behaviour must be illustrated to predict intention (Ajzen & Fishbein, 1980).

An individual's beliefs, values and behaviours are influenced by his or her social environment. This process of influence occurs in small groups, in the work environment, and society at large. The second determinant of behavioural intention, subjective norms, refers to an individual's perception of general social pressures to perform or not to perform specific actions or behaviour. The subjective norm is determined by whether the individual is of the opinion that significant others endorse or disapprove of his or her behaviour, and therefore are more likely to be motivated to comply with those significant others. These beliefs, which underlie an individual's subjective norm, are termed normative beliefs. Thus, an individual who believes that important referents believe that he or she should perform a particular behaviour (for example, participate in child-centred interventions) and is motivated to act in accordance with those referents' needs, will hold a positive subjective norm.

Perceived behavioural control can be defined as an individual's perception of his or her ability to execute a given behaviour (Ajzen, 2006). This construct involves the apparent ease or difficulty an individual associates with a specific task or behaviour which, in this study, refers to participation in child-centred initiatives. Thus, the intention to perform a given behaviour is increased when an individual perceives he or she has adequate resources and opportunities to support change. By extension, the converse also holds true that the intention to perform a given behaviour is decreased when individuals perceive insurmountable obstacles or impediments to change.

Thus, individuals who participate may demonstrate greater intention to do so when: 1) the individual weighs up the advantages and disadvantages associated with participation and decides

that participating in child-centred initiatives is a meaningful exercise; 2) the individual experiences social pressure from significant others who support that participation is advantageous; and 3) the individual perceives that participating in child-centred initiatives is an achievable goal. Armitage and Conner (2001) believe that this model demonstrates utility in explaining behavioural change across a wide-range of health related concerns

Beliefs based measures of TPB-indirect determinants. The TPB postulates that an individual's decision to execute or not to execute a given behaviour is rooted in his or her salient beliefs pertinent to the behaviour. These salient beliefs are deemed to be the dominant determinants of an individual's intentions and actions. The TPB is founded on three types of belief constructs: behavioural, normative and control.

Behavioural beliefs denote the subjective likelihood that an individual's behaviour will lead to a particular outcome (Ajzen & Fishbein, 1980). For example, community members may be of the opinion that engaging or participating in child-centred initiatives or programmes will bring about positive outcomes, such as increasing safety for children in the community, or negative ones such as interfering with daily work schedule. Normative beliefs relate to the probability that important referent individuals or groups would endorse or object to the behaviour (Ajzen & Madden, 1986). Control beliefs centre on factors that may facilitate or impede execution of the behaviour and the perceived influence of these factors (Ajzen, 1985).

Figure 2.3 provides a representation of the tenets of the TPB. The figure illustrates the three determinants of behaviour and the pathways followed to action behaviour.

Figure 2.3. Adapted conceptual model of the Theory of Planned Behaviour (Azjen, 2006; 2011)

Despite substantial support for the TPB as a measure of predicting behaviour, research continues to investigate supplementary variables that may augment the predictive capabilities of the theory in varying contexts (Ajzen, 2014). However, there are numerous reasons as to why it is advantageous to utilise the TPB model as the foundation on which an instrument is grounded. In the first instance, the theory posits distinct constructs through which behaviour is hypothesised to function. Furthermore, meta-analytic reviews of correlational studies utilising the TPB model have offered empirical support with regards to its potential to predict an array of behaviours (Armitage & Conner, 2001; Conner & Sparks, 2005), including physical activity (Hagger, Chatzisarantis, & Biddle, 2002). The TPB model is one of the most universally utilised social cognition models within numerous disciplines, including health psychology and education (Godin, Conner, & Sheeran, 2005; Johnston, French, Bonetti, & Johnston, 2004; Ogden, 2003).

2.5.   Summary of the Chapter

This chapter provided an overview of participation and outlined the psychosocial factors impacting the willingness of individuals to participate in interventions. This was followed by an overview of the barriers and enablers of *willingness to participate* in interventions, and measuring

instruments for assessing *willingness to participate*. Added to this, we discussed theories in an attempt to firstly conceptualise the concept of participation for this study, and secondly to combine dispositional, situational and environmental factors into composite models of participation.

The main assumption of this study is that there are social, cultural, economic and political factors that may influence the effective participation of individuals in child-centred safety promotion initiatives or interventions. According to Derges and colleagues (2014), there are limited qualitative studies exploring the interconnection between social context, individual agency and participation as well as personal agency and its relationship to social determinants of health framework. This integrated model comprising of the Ecological Systems Theory and Theory of Planned Behaviour provides a theoretical basis from which to conceptualise, measure, and identify factors that influence *willingness to participate* across cultures and population groups.

Chapter Three discusses the methodological considerations in instrument development, and demonstrates the importance of validation within the instrument development process.

CHAPTER THREE

METHODOLOGICAL CONSIDERATIONS IN INSTRUMENT DEVELOPMENT

"All measures are numbers ... but not all numbers are measures."

~Ben Wright, 1997

3.1. Introduction

This chapter focuses on the methodological considerations that need to be reflected upon when planning, developing and validating an instrument. To ensure a valid and reliable measure, various stages in instrument construction have been documented (Foxcroft & Roodt, 2005; Walsh & Betz, 2001) in order that a construct and its dimensions is transformed into a fully-fledged valid, and technically sound practical measurement instrument. The development of an instrument is a complex and lengthy process which, according to Foxcroft and Roodt (2005), requires careful planning, well written items, as well as piloting of the initial version of the measure in order to ascertain the effectiveness of the items. Once the final items are chosen, the measure is administered to a representative sample in order for the validity and reliability to be established, and norms developed (Allen & Yen, 1979). The final step in the construction process is the development of the test manual (Foxcroft & Roodt, 2005).

This study is located within the field of measurement and validity theory, and focuses on the development of a valid and reliable instrument, namely the *Willingness to Participate Questionnaire* (WTPQ). The WTPQ is applicable to child-centred violence and injury prevention and safety promotion within a South African context, which can be used to identify an individual's negative or positive propensity towards participation in safety promotion interventions. The chapter will highlight the systematic approach underlying the instrument construction process pursued in this study, namely planning, item writing and refinement, item analysis and validation. The chapter will also illustrate the various types of evidence that can be collected for the building of a validity argument, and provide ideas of how these arguments are usually measured. Furthermore, the chapter will discuss the critical importance of validation within the process of instrument development since it is both morally and ethically wrong to utilise assessment measures without proving its validity and reliability as well as potential bias against certain groups (cultural

and linguistic relevance), within a multicultural South African context. The focus of this chapter will be less on defining the concept of validity and more on the process of validation - understanding the manner in which the process of validation occurs in diverse assessment settings within the instrument development process.

Measurement theory provides the guiding principles of measurement that underpin the process of instrument development, and specifies definitive assumptions and preconditions as to how an instrument could be analysed, and how such analyses could be interpreted. Measurement theory can generally be categorised into either traditional or modern theories. Traditional theories have most repeatedly been utilised in the health and social sciences, and are based on the assumptions underlying classical test theory. Modern theories refer primarily to Item Response Theory (IRT) and associated Rasch Modelling. The utilisation of modern theories has witnessed a marked increase owing to the attempt of these theories to address the supposed limitation embedded in traditional methods (Hobart & Cano, 2009). However even though studies have indicated that classical test theory have been the most commonly employed method in instrument development, modern approaches to instrument development provides opportunities to address the limitations of this classical approach.

The ensuing discussion is divided into two sections; section one focuses on the theoretical foundation of test construction, and section two describes the instrument development process.

3.2. Theoretical Foundation of Test Construction

Validation theory is the foundation which forms the bedrock of the instrument development process (Rust & Golombok, 2009; Waltz, Strickland, & Lenz, 2010). Validity theory is dynamic and continually emerging, and can be viewed as less of an attempt to define or delineate the concept of validity, and more as a framework to guide the thinking around this concept, and about the process of development and validation of an instrument. Validation is characterised in social science research methodology as a means of legitimating knowledge, and judging the quality of research (Kaplan, 1997; Lather, 1993, 2001; Lincoln, 1995; Lincoln & Guba, 2000). This process of validation is regarded by some social science methodologists as a means of critically reflecting on the inquiry process, and increasing the transparency of the research methods (Erickson, 1986;

Moss, 1998). Even though validity has been regarded as a nebulous concept, it has often been described as the most salient concept in psychometric theory (Sireci, 2009). Therefore, critically reflecting on the development process and increasing the transparency of the development methods, could legitimate inferences and the quality of information.

Validity theory has evolved extensively over the past three decades in response to the resurgence in the popularity of assessments across multiple disciplines, including health sciences, social sciences and education (Anastasi & Urbina, 1997; Kane, 2006; Messick, 1989). Goodwin and Goodwin (1999) postulates, that the definitions of validity can be described within four general periods of evolvement: 1) the 1920s to 1950s in which validity focused on the test itself, given that a test was considered valid when correlated with the construct under investigation; 2) the 1950s to 1970s, which centered around the validity of a test for a particular purpose, amidst a particular population, and within a particular context; 3) the 1980s which gave rise to the emergence of Messick and Cronbach's notion of modified definitions of validity; and 4) the current view, which focuses on Messick's (1989) notion of validity and how studies must take into consideration the social consequences of test use. The trajectory of this progression demonstrates a shift from a purely quantitative positivistic approach, to a concept of validity dependent on the interpretation of multiple evidence sources incorporated into validity arguments (Kane, 2001; Messick, 1989; Moss, 1998). The historical view of validity has been that there were multiple forms of validity. However, contemporary views of validity refer to validity as a unitary construct, supported by distinct forms of evidence in order to draw relevant and appropriate interpretations or inferences from the results of assessment instruments. Messsick (1995; 1989) asserts that validity is a unified, but multifaceted and evolving property, and validation is a scientific theory.

Contemporary views of validity are thus predicated on the assumptions around which the instrument will be developed, and the evidence will indicate that scores can be interpreted in a particular manner (in other words what the participants' scores will be indicative of). If any of the theoretical, evidential, or contextual dimensions of the assessment measure change, then validity must be re-examined and subsequently the interpretation of the scores may also change (AERA, APA, & NCME, 1999; Messick, 1995; Strauss & Smith, 2009).

3.2.1. Procedures for validity evidence

The conventional view of validation, which regards validity as categories of content validity, criterion validity and construct validity, is fragmented and falls short, because it does not consider evidence of the value implications of score meaning as a foundation for actionable items or the social consequences of using the assessment scores. Validity is not a property of the test or assessment, but rather it is a reflection of the meaning of the test or assessment scores. Messick's contemporary view on validity, that is, the Unified Theory of Construct Validity (Messick, 1989), requires the gathering and integration of various complementary and interdependent sources of evidence in the process of validating an assessment measure. This is necessary in order to differentiate unified validity into several distinct aspects, and to foreground issues and nuances that might otherwise have gone unnoticed or been inconspicuous. The integration of the validity evidence gathered is utilised to build an argument to illustrate the degree to which the assessment measure is, or is not a valid measure of the construct in question. The utilisation of the procedures of the validity of evidence are contingent on whether or not they generate evidence for, or contrary to the validity of the assessment measure. Messick (1989) argues that every validation study does not necessitate each procedure to be employed. Even though multiple sources of evidence are preferred (AERA, APA, & NCMA, 1999), only the appropriate procedures should be utilised in order to gather evidence for or against the recommended use and interpretation of the assessment measure. Compelling evidence in support of one procedure of validity evidence does not therefore necessarily demonstrate validity in the absence of other sources of support (AERA, APA, & NCMA, 1999). This essentially implies that assessment measures that demonstrate evidence from limited sources should be utilised with caution when drawing inferences and making recommendations on the basis of their assessment scores (Cook & Beckman, 2006).

Messick (1989) introduced six distinct aspects of construct validity or procedures of validity evidence, namely: 1) content (construct relevance and representativeness); 2) structure (the internal structure of the instrument has to be consistent with the internal structure of the construct domain); 3) external factors (the extent to which the relationship between the instrument score and other measures or behaviours reflects relations in the construct); 4) generalisability (representative coverage of the content and processes of the content domain); 5) substantive (appropriate domain content and processes), and 6) consequential aspects of validity (accumulation of evidence in

support of positive consequences). In essence, the utility of these six aspects are regarded as general validity criteria or standards for educational and psychological assessment instruments (Messick, 1989, 1995).

3.2.1.1. *Content validity evidence.* Evidence for validity based on content typically consists of a demonstration of a strong linkage between the content of the assessment measure and the content of the domain. In other words, content-related evidence supports the assumption that the operationalisation of the construct is a good reflection that the content of the assessment measure is representative of the content of the domain in question about which inferences are to be drawn or predictions made (Wainer & Braun, 2013). Sireci (1998) defines content validity as encompassing four elements of instrument quality, namely: domain definition, domain representation, domain relevance, and appropriateness of the instrument development process. However, many validity theorists are of the opinion that content validity is not a technically accurate term, because validity denotes interpretations of test scores and not to the content of an assessment instrument (see Messick, 1989).

Messick (1989) postulates that content validity evidence can be classified into two categories: content relevance and content representativeness. This implies that, in order for an assessment measure to demonstrate content validity evidence, items from a particular domain not only have to be representative of the domain being assessed, but also have to be relevant to that domain.

In the development process of an assessment measure, content validity is an integral part of the process, and is achieved by ensuring that the assessment measure is truly representative of the domain being assessed (Domino & Domino, 2006). This requires comprehensive knowledge of the domain being assessed. Walsh and Betz (2001) asserts that, delineating the meaning of a construct (i.e. operationalising the construct) is the most complex step in instrument development. Instrument developers consult a myriad of sources to assist in concisely defining and operationalising the construct in question in terms of observable, measurable behaviours (Foxcroft, 2004). Furthermore, the assessment measure should not only adequately cover the contents of the domain being measured, but decisions must also be made about the relative representation of specific aspects. Instrument content should not be restricted to knowledge of the domain only, but

also include themes, wording and format of items, tasks or questions on an assessment measure as well as guidelines regarding administration and scoring.

In the development of an assessment measure, content validity evidence is generally gathered by having experts in the given domain evaluate whether the construct in question is in alignment with the content area of the assessment measure (Walsh & Betz, 2001; Simms & Watson, 2007). This is of critical importance as content validity is directly related to the conceptualisation and definition of the construct in question. A second method of evaluating content validity, is through the internal consistency reliability coefficient. The internal consistency reliability coefficient assesses how consistent the results are of the assessment measure for different items for the same construct within the measure (Anastasi & Urbina, 1997; Walsh & Betz, 2001).

3.2.1.2. *Structural validity evidence.* Structural validity evidence evaluates the fidelity of the scoring structure to the structure of the domain being assessed (Messick, 1989). The internal structure of the assessment measure is regarded as a critical component of construct validity. Structural validity evidence assesses whether the hypothesised theory is consistent with the assessment measure. This implies that the internal components of the assessment measure should correspond with the construct being assessed. This is achieved through the gathering of evidence based on the instrument's factor structure and its reliability by assessing "how well the scoring structure of the instrument corresponds to the construct domain" (Onwuegbuzie et al., 2009, p. 203). Analysis of the internal structure of an assessment measure can provide an indication of the degree to which a relationship amongst the items and components conform to the construct on which the proposed assessment measure score interpretation is based. It can also reveal the extent to which the relationship between items and components of the assessment measure are consistent with the construct on which the postulated assessment measure score interpretations are established (AERA, APA, & NCME, 1999).

3.2.1.3. *External validity evidence.* The procedure of external validity evidence is concerned with evaluating the correlation of the assessment measure data with a criterion variable (i.e. other measures), and explicating any relationships that exist. The relationships between the data on an assessment measure and other measures provide added validity evidence. This category is

regarded as the most extensive category (Goodwin & Leech, 2003), and encompasses criterion-related validity (concurrent and predictive validity), as well as traditional aspects of construct validity (convergent and discriminant validity) (Messick, 1995). Convergent relationships are indicative of a correlation between the data sets, and support the substantiation of the measurement meaning (i.e. assessing correlations between assessment measure data and other measures intended to assess similar constructs). Discriminant relationships suggest divergence among the data sets, and corroborate the distinctness of a measure (i.e. assessing correlations between assessment measure data and other measures intended to assess different constructs). Criterion-related evidence (predictive or concurrent), involve the correlation amongst assessment measure data or test scores and participants' performance on a criterion measure (Cronbach, 1971, Messick, 1989).

3.2.1.4. *Generalisability validity evidence*. Generalisability evidence can be characterised as the reliability consistency performance of items, settings, occasions or raters that are representative of the broader domain (Brualdi, 1999). Generalisability evidence is postulated by Messick (1989) as the need for "systematic appraisal of context effects in score interpretations" (p. 56). He further asserts that the extent of generalisability is of particular importance across a myriad of contexts, including populations, settings, time periods and domains. Empirical evidence can be collected to ascertain the degree to which the assessment data interpretations can be generalised to other population groups, situations or settings, time periods, as well as to other tasks representative of the construct domain.

Empirical evidence can be gathered to assess generalisability by employing test-retest analyses, group comparison tests as well as exploratory factor analysis (Messick, 1989). Messick, (1989) asserts that group comparison tests are utilised in order to explore the differences in the assessment measure structure as well as the processes over time or across groups or settings. Messick (1989) further states that, test-retest analyses also demonstrate changes over time. Test-retest analyses are utilised to ensure that assessment measure scores demonstrate the same level of stability as the construct being measured.

3.2.1.5. *Substantive validity evidence.* The substantive aspect of construct validity emphasises the function of theoretical rationales for the observed consistencies in instrument responses,

including process models of task performance, and empirical evidence that the theoretical processes are actually engaged by respondents in the assessment tasks (Embretson, 1983; Messick, 1995). This implies that the substantive evidence is characterised by how well an assessment measure items is an illustration of the cognitive processes predicted to impact the construct in question. Response consistencies that are expected by theory, think-aloud protocols, and structural equation modelling would provide evidence of this aspect (Messick 1995).

Substantive aspects of validity can also be identified through the use of substantive theories and process modelling, or discourse analysis (Embretson, 1983; Messick 1989). When determining the substantiveness of an assessment measure, one should consider two elements. Firstly, the assessment tasks must have the ability to provide an appropriate sampling of domain processes, in addition to traditional coverage of domain content. Secondly, the engagement of the sampling of domain processes in these assessment tasks must be confirmed by the accumulation of empirical evidence.

3.2.1.6. *Consequential validity evidence.* The consequential aspect of validity evidence appraises the value implications of score interpretation as a basis for action, and the actual and potential consequences of test use, in particular, with regard to sources of invalidity related to issues of bias, fairness, and distributive justice (Messick, 1980, 1989, 1995). Messick (1998) asserts that score interpretations have social consequences which in essence contribute to score meaning and thus to construct validity. Messick (1989) is often credited with highlighting the importance of taking into account both the consequences (intended and unintended) that arise from the interpretations or uses of assessment measures. The social consequences of score interpretations include: the value implications connected to the construct label, the broader theory within which the construct is situated, as well as broader ideologies that confine and influence theory construction (Messick, 1989). Whilst for a number of validity theorists, consequences both intended and unintended are regarded as an integral part of validity (APA, 1985; Messick, 1989, 1994, 1998; Shepard, 1997), others argue that these consequences are viewed as an important consideration in the process of validation, but not as a defining characteristic of validity (i.e. Mehrens, 1997; Popham, 1997; Stenner, Fisher, Stone, & Burdick, 2013). Regardless of this debate, there is a general consensus that consequences must at the very least be considered as a factor in the validation process. Moss

(2003) and Zumbo (2007) highlight that the exact utility of consequences in the concept of validity remains a contentious and debated issue.

Consequential evidence of validity takes into consideration consequences of measurement, albeit it positive or adverse, intended or unintended, as well as immediate or long-term. These procedures of validity evidence are especially important when it concerns adverse consequences for individuals and groups that are associated with bias in scoring and interpretation, as well as unfair use of assessment tools (Rudner & Schafer, 2002). Messick (1989) postulates that the evaluation of value implications, and the social consequences of interpreting and utilising assessment measure scores in a particular way, are methods of gathering empirical data to substantiate consequential evidence of validity.

3.2.2. Threats to construct validity

Every assessment is aimed at measuring a particular construct. The construct under investigation is presumed to be rooted in a conceptual framework that provides a clear and detailed definition of the construct, and that delineates how the assessment scores are related to the construct (Gipps, 1994). Threats to construct validity are numerous, and cloud the meaning and interpretation, of instrument scores. Messick (1989) postulates that these threats to construct validity fall within two main categories, namely: construct irrelevance and construct under-representation.

The first of these two threats to construct validity is construct irrelevance and is defined as the nuisance variance in an instrument, that is, those unrelated elements that creep into assessment and contaminate it (Messick, 1989). Thus, construct irrelevance refers to the introduction of extraneous, unrestrained variables in an assessment measure or the systematic influence of components that do not form part of the construct thus, reducing the meaningfulness and accuracy of the assessment measure score interpretations (Kane, 2006; Messick, 1989; Rudner & Schafer, 2002; Slomp, Corrigan, & Sugimoto, 2014).

Construct irrelevance occurs when inferences are elicited based on evidence and arguments that are not related to the conceptual framework and the construct being assessed. Construct irrelevance includes items like testwiseness, response sets, item bias and guessing propensity

(Messick, 1996). Messick (1989) identifies categories of construct irrelevance, namely construct-irrelevance difficulty and construct-irrelevance ease. Construct-irrelevance difficulty arises when "aspects of the task that are extraneous to the focal construct make the test irrelevantly more difficult for some individuals or groups" (Messick, 1989, p. 34). Conversely, construct-irrelevance ease arises when "extraneous clues in the item or test formats permit some individuals to respond correctly in ways irrelevant to the construct being assessed" (Messick, 1989, p. 34). Thus construct-irrelevance can lead to lower or higher scores for some test takers, with the result that the variance difference across the groups can be due to bias.

Construct irrelevance is regarded as a major source of bias in scoring, and interpretation, and of unfairness in instrument use. Messick (1995) asserts that even though considering construct irrelevance is important in all assessment measures, considering construct irrelevance is more so in richly contextualised assessments due to the contextual clues inherent in the items. An important aspect in this regard is to recognise whether the aforementioned contextual clues are construct relevant, or due to construct irrelevance difficulty, or ease.

The second main category of threat to construct validity is construct under-representation, and relates to the inability of the instrument to adequately tap all aspects of the construct. In other words, the assessment measure's construct is too narrowly defined and conceptualised, and thus fail to incorporate salient dimensions (Messick, 1995). When construct under-representation occurs, the assessment measure will not be a true representation of the construct, and will unlikely be able to support legitimate inferences to the domain. When developing an assessment measure, it is vital to collate the characteristics and elements of the construct of interest consistent with theoretical frameworks and definitions of the construct intended for assessment. In other words, the boundaries and structure of the construct are based on the domain theory. The omission of certain intrinsic characteristics and elements that should have been included restricts and confines the meaning and interpretation of the assessment scores. Thus, when an assessment measure score does not adequately sample the assessment measure content, engage the psychological processes, or evoke particular ways of responding, the meaning of the assessment measure score is restricted (AERA, APA, & NCME, 1999; Kitto, 2006). Validation therefore involves careful consideration of these possible misrepresentations.

These two categories of threats to validity evidence rest upon accurate information and knowledge of the study within which the construct is embedded, and a well-defined operational definition for each of the traits being assessed (Hammond, 2006). Establishing construct relevance and representativeness are the rudimentary steps towards developing a valid assessment measure. Both the aforementioned threats are present to some degree in all assessment measures. However, the validation process provides the opportunity for evidence to be collected to respond to these threats to construct validity. The distinction between construct irrelevance and construct under-representation can be a valuable basis for investigating the reported evidence and arguments that underlie test score interpretations (Bakker et al., 2008). Thus preventing systematic error leading to undesirable changes in true scores which is unrelated to the appropriate ability or performance being measured (Lord & Novick, 1968).

3.2.3. Summary of the theoretical foundation of test construction

The above section highlighted the argument-based validation approach, and shed light on the main inferences in constructing a validity argument. The next section will focus on the systematic approach underlying the instrument development process relevant to this study, specifically the planning, item writing and refinement, item analysis and validation phases. Research in instrument development rarely delineate a systematic procedure of all the steps followed in the development process. This may partly be because researchers have not followed a rigorous process of instrument development, or alternatively, because validation is considered a continuous process and thus occurs over an extensive period of time (Cizek, Rosenberg, & Koons, 2008; Cizek, Bowen, & Church, 2010; Zheng et al., 2011).

Loevinger (1957) postulated a theory-driven method of instrument development which is grounded in the concept of construct validity. This method recognises three distinct aspects of construct validity, namely: substantive validity, structural validity, and external validity. The substantive validity phase is established by: 1) reviewing existing literature to determine if a new assessment measure is required; 2) defining precisely what is to be measured by the new measure; 3) compiling and writing items; and 4) evaluating the pool of items through pilot testing and/or expert review. The objective of the structural validity phase is to determine the structure of the items, which is

often accomplished through data collection and factor analysis. This phase may recommend changes to the questionnaire item pool based on data collected and analysis conducted. The final phase, the external validity phase, is the phase in which the researcher determines whether the assessment measure predicts results of an independent assessment (a criterion), and whether items on the scale that should be related (i.e., items purported to measure *willingness to participate*) are statistically related, while those that should not be related (i.e., items purported to measure none-participation) are statistically shown to be unrelated. This phase may also recommend changes to the items allocated for the measure.

In this study, a six-step instrument development process will constitute the basic features of the three phases of the instrument development process as postulated by Loevinger (see table 3.1). This study employs a modern application of Loevinger's (1957) instrument development principles outlined in Figure 3.1, and provides a description of each phase (to be complemented by greater exploration and in-depth discussion in Chapters Four (Methodology), Five (Results Phase One and Two), Six (Results Phase Three) and Seven (Discussion).

3.3. The Process of Instrument Development

Researchers are continuously required to construct or develop new measurement instruments even though there are highly reliable measures or instruments available (Miller & Salkind, 2002). Assessment measures allow researchers to numerically capture the level, direction, and intensity of a given variable or construct under investigation (Babbie & Mouton, 2001; Durrheim & Painter, 2006). On identification of a problem prior to constructing an assessment measure, researchers should firstly ensure that there are no available assessment measures measuring the construct of interest. If it is ascertained that there are no measures available or those available are unreliable, invalid, inappropriate and not easy to administer or score, then consideration to develop a new instrument can be warranted. As mentioned previously, the process of instrument development is a complicated and extensive process that comprises a number of crucial steps (see table 3.1 & figure 3.1 below). It is important to note that even though developing an instrument is an iterative process, we will discuss each phase, step and process in a more sequential and linear fashion. Figure 3.1 provides a diagrammatic overview of the various stages and phases utilised during the process of developing an instrument.

Figure 3.1. Flowchart depicting the instrument development process (Adapted from Simms & Watson, 2007)

Table 3.1 provides a synopsis of the instrument development process to be employed as a framework in this study**.**

Table 3.1

The 6 step process in developing an instrument (Adapted from Foxcroft & Roodt (2005) & DeVellis (2012)

Steps	Actions
Planning	Specifying the aim of the measure
	Defining the content of the measure
	Developing the test plan
Item Writing	Writing the items
	Reviewing the items
Assembling and Pre-testing the draft version of the instrument	Arranging the items
	Finalising the length
	Answer protocols
	Developing administration instructions
	Pre-testing the draft version of the measure
Item analysis	Determining the item difficulty values
	Determining item discrimination values
	Investigating item bias
Revising and Standardising the final version of the instrument	Revising test and item content
	Selecting items for standardisation version
	Revising and standardising administration and scoring procedures
	Compiling the final version
	Administering the final version to a representative sample of the target population
Technical Evaluation and Establishing Norms	Establishing validity and reliability
	Devising norm tables, setting performance standards or cut points

3.3.1. Step 1: The Planning Phase

The planning phase is a crucial component within the process of instrument development as it allows the instrument developer to map the entire developmental or construction process. The product of this phase in the development process is a formalised plan which provides a systematic layout of the entire process, as well as the precise areas to be covered by the measure (Allen & Yen, 1979). Within a South African context the planning phase in instrument development provides a vital platform where cultural and contextual relevance and potential bias can be highlighted right at the outset, and basic issues such as, what methods of instrument administration might be appropriate or inappropriate for certain cultural populations and what language to develop the test in can be dealt with (Foxcroft, 2004). The planning phase therefore provides the perfect opportunity to explore and critically consider various instrument design issues.

In general, an instrument plan consists of the following aspects: specifying the purpose and rationale for the test, as well as the intended target population; defining the construct or content domain and creating a set of test specifications; selecting the test format; selecting the item format; and specifying the administration and scoring methods (McIntire & Miller, 2000). The following section provides an elucidation of the aforementioned aspects within a test plan.

3.3.2. The Substantive Validity Phase

3.3.2.1. *Review of the literature*. This phase commences with a review of the literature to ascertain former attempts to measure and conceptualise the construct in question. Reviewing the literature is a fundamental step in the instrument development process as it provides vital information, such as whether there already exists psychometrically sound measures of the construct in question. This will result in determining whether the measures identified and available are reliable, valid, appropriate, and easy to administer or score and whether there is sufficient justification for developing a new instrument. Thus, the identification of psychometrically sound measures does not necessarily preclude the development of a new instrument. Careful consideration is necessary in order to ascertain whether the existing measures are based on a similar definition of the construct, and further the scope is consistent with the conceptualisation of the new instrument (Simms & Watson, 2007).

3.3.2.2. *Specifying the objective of the measure.* At the outset, the main purpose of the instrument and the construct to be measured should be clearly defined. McIntire and Miller (2000) suggest that the purpose of a measure should include an indication of the construct to be tapped (e.g. *willingness to participate*) as well as how the outcomes of the instrument developed will be utilised. Thus, it is essential when specifying the objective of the instrument to indicate whether the measure is to be utilised for screening purposes or for in-depth diagnostic assessment and what types of decisions could be made on the basis of the instrument scores (Foxcroft, 2009). For example, in this study the focus is on developing a measure to determine the willingness of individuals to participate in child-centred safety, peace and health interventions, with the information from the scores obtained will ultimately be utilised for making decisions with regards to intervention development, recruitment and retention of participants.

Delineating the target population is another important aspect that needs to be covered when specifying the objective of the instrument. The instrument developer should enumerate the characteristics of the intended target population, and should place special emphasis on those characteristics of the target population that could impact on how they will respond to the instrument items, as well as their performance on the instrument (Foxcroft, 2004). Age is a particularly critical characteristic of the intended target population as it would influence, for example, the nature of the instrument format, and items in the instrument (Foxcroft, 2009). So, if the intended target population is young children, the instrument format and items in the instrument need to be formulated at their level of skills and interests. An illustration of this point can be seen in infant and pre-school measures which differ in content according to the age range they cover. Measures for infants (i.e. birth to 2 years) include items that primarily measure the sensory and motor development, while measures for older children (i.e. 3 to 6 years) focus more on the child's verbal and conceptual abilities (Grieve, 2005).

Educational status is another distinguishing and complex characteristic that needs to be considered when delineating the target population. According to Grieve (2005), proficiency in reading, writing and numbers as well as higher order cognitive development, influence how people think, their work ethic, the reasoning strategies they utilise, how they approach problems and their ability to deal with issues in an independent way. Thus, if the target population comes from a

disadvantaged educational background like in South Africa, educational status needs to be kept in mind since individuals with a poorer quality educational background were not exposed to the same opportunities to develop proficiencies and cognitive skills as those from more advantaged backgrounds.

Consequently, if an intended target population in South Africa is to be defined in terms of covering a range of disadvantaged communities, instrument developers need to be mindful of the fact that the disparity of the quality of the schooling that potential test-takers have been exposed to could differentially impact on both their way of responding to the instrument as well as their scores (Foxcroft, 2004). In addition, Nell (2000) is of the opinion that language is the most critical moderator variable, especially in a multilingual society like South Africa. Language provides all sorts of complications when assessment measures are administered. If an assessment measure is administered in a language in which test-takers are not proficient, it becomes difficult to unravel whether poor performance on the test is as a result of language or communication difficulties or due to the fact that test-takers have a low level of understanding of the construct being assessed (Foxcroft, 2004).

It is evident that it is of vital importance when specifying the objective of the measure to be comprehensive and document and highlight the major themes that come to the fore in the instrument development process. These aspects discussed above become especially sensitive when considered in a multicultural context. A full description on the multicultural aspect within instrument development is critical but beyond the scope of this thesis.

3.3.2.3. *Define the content of the measure.* The content of a measure is directly related to the purpose of the measure. Constructing a measure commences with a careful, and detailed definition of the construct to be measured. According to Walsh and Betz (2001), delineating the meaning of the construct is the most difficult step in instrument development. Generally, instrument developers consult a variety of sources to assist them in concisely defining and operationalizing a construct in terms of observable, measurable behaviours (Foxcroft, 2004). Simms and Watson (2007) posit that an important function of an exhaustive literature review is to develop a well-defined conceptualisation of the construct under investigation. Clarke and Watson (1995) propose

creating a formal definition of the construct under investigation and this definition should encompass both the breadth and scope of the construct. Jooste (2001) postulates that the purpose and the construct of an instrument should be linked to the theoretical and empirical literature on the topic and how this relates to the need for a measure in practice. As a result, the purpose and the definitions of the main concepts, and how these relate to the literature on the topic (i.e. the rationale of the measure), will according to Jooste (2001) determine the instrument content. This theory-driven or rational method has been utilised traditionally to guide the development of instrument content and specifications (Murphy & Davidshofer, 1998; Loevinger, 1957). The advantage of a theoretically grounded instrument or measure, is that assessment practitioners and researchers can draw on the theory to make predictions about behaviour. Furthermore, there is often a close link between instrument results and suggestions for interventions (Foxcroft, 2004). However, Murphy and Davidshofer (1998) are of the opinion that instruments based only on theory have severe limitations. The most obvious one being, that the validity of the test is closely linked to validity of the theory on which it is based. Thus, a measure will only be as good as its theory.

Once the construct has been conceptualised through a theoretical review, the dimensions of the construct identified are then utilized as a basis for operationalising the construct more concretely (Foxcroft, 2009). Babbie and Mouton (2001) define a dimension as a specifiable aspect or facet of a construct. Because many concepts comprise a number of dimensions, it is advantageous to spell them out as this assists in further refining the definition of the construct. For example, we might have a construct participation, and the literature might reveal that participation has various dimensions to it, such as political, epistemological, ecological and spiritual, etc. These dimensions could even further be sub-divided into sub-dimensions. According to Babbie and Mouton (2001) specifying the different dimensions of a construct often paves the way for a more sophisticated understanding of what is to be measured. In the example of the construct of participation, the dimension political participation could incorporate the dimensions of level of participation in the neighbourhood, nature of relationships, and experiences of social participation. Thus, it becomes possible to specify exactly which dimension of the construct the instrument is measuring. Therefore, measures can focus on one dimension at each level, but the instrument developer can be exhaustive and can develop measures for each conceivable dimension and sub-dimension. However, this would depend on the objective of the study and the area of focus.

According to Foxcroft (2005), a measure rarely utilises only one approach when operationalising the content domains of a measure. The aforementioned rational approach is often combined with the empirical and criterion-referenced approach to ensure that the resultant measure is not only grounded in theory, but also linked to an important criterion (Foxcroft, 2005). Thus, when considering the purpose of the measure, the instrument developer needs to take into account whether the measure needs to discriminate between different groups of individuals, such as disadvantaged populations who may require extra attention. Information will have to be collected about aspects of the construct on which these groups usually differ. This is referred to as criterion keying or referencing (Foxcroft, 2005).

Furthermore, Foxcroft (2004) highlights that when developing a measure for utilisation in a multicultural and multilingual context, it becomes vital that the construct to be measured is researched in terms of each cultural and language group's understanding of it, as well as its value for each group. Concurrent to defining the content areas to be measured, instrument developers also need to delineate the cognitive levels or process areas to be measured depending on the construct to be measured (Sireci, n.d.). In order to assess the specific levels or dimensions of mastery of a construct, a framework for elucidating these dimensions is required. An awareness of these levels can assist in determining how well a test-taker really knows the content. Once the construct to be assessed has been defined and operationalised, it can be built into the test specifications or blueprint.

3.3.2.4. *Development of the instrument plan or blueprint for the measure.* An instrument plan is essential in instrument development as it lays out specifically what is to be measured. It is important to note that in the absence of an instrument plan, the development of a measure can potentially proceed with little clear direction. According to Cohen and Wollack (2010), constructing a measure without an instrument plan could cause an over or under-representation of certain objectives on the measure. Thus, the instrument developers might run the risk of some objectives, particularly those for which writing good items are difficult, not appearing in the measure at all. A test plan should therefore be regarded as a starting point of every instrument development process.

Foxcroft (2004) posits that instrument specifications document the content domains, behaviours, or constructs to be tapped by the measure, and the specific dimensions or objectives of each content domain, behaviour or construct that will be tapped, and an estimate of the number of items that the final measure should ideally have for each content domain, behaviour, and/or construct, and for each of the specific dimensions.

With a clear picture in mind of the instrument specifications, the format of the measure, items, and responses need to be addressed next in the instrument plan. According to McIntire and Miller (2000), instrument formats consist of two aspects, namely the item (stimulus) to which the test-taker responds, and the utilisation of a specified response mode. Item formats can take on different formats and types, namely open-ended items, forced-choice items, sentence completions items, and performance-based items (Foxcroft, 2005). Open-ended items refer to items where no limitations are imposed on the response of the test-taker, while forced-choice items can range anything from multiple-choice, to true and false items, where careful consideration needs to be taken since alternative options are utilised as distracters (Foxcroft, 2005). Performance-based items require objects to be manipulated such as when a scientific experiment needs to be performed, an essay needs to be written, or an oral presentation needs to be prepared (Linn & Gronlund, 2000). These items assess the test-takers' problem identification skills, their logical thinking, organizational ability, as well as oral or motor performance (Foxcroft, 2005). However, due to the nature of these items they are more difficult to score. Furthermore, when considering the practicalities of a measure, the instrument developers need to select the most appropriate item type based on the purpose that the measure intends to serve.

The method of responding to an item in an assessment tool comprises both objective and subjective formats. Objective formats refer to where there is only one response that is correct, such as in multiple-choice items or true or false options where the response is perceived as providing evidence of a specific construct (Foxcroft, 2005). Subjective formats, on the other hand, refer to the test-taker providing a verbal response such as in an interview, or in writing such as an open-ended or essay-type question (McIntire & Miller, 2000). The scoring of these items is highly subjective as the interpretation of these item responses are subject to the judgement and assessment of the individual scoring the measure at the time (McIntire & Miller, 2000). It is important at this

stage of instrument development that instrument developers be mindful of the fact that bias could inadvertently be introduced into the process through either the item stimulus or the mode of response (Foxcroft, 2005). According to Foxcroft (2004) when developing a measure for utilisation in a multicultural context, it is of critical importance to guard against method and response bias.

The purpose of the measure is directly linked to the length of the measure, and needs to be considered at this stage of instrument development. A measure that is developed to tap a range of dimensions of a construct should logically have more items than a measure that focuses solely on one dimension of a construct, otherwise, the validity of the measure could come into question (Foxcroft, 2005). Thus, once all the aspects related to the dimension of the construct to be tapped, item and response format, test length, and number of items are taken into account, the instrument developer will have a clear conceptualisation of the specifications of the measure. This culminates in an instrument plan or blueprint that identifies the specific content domains to be included, and the number of items that will be included in each domain.

3.3.2.5. *Step 2: Item construction.* Item construction is a critical step in the instrument development process. When constructing items, instrument developers should exploit every resource available (literature, self-descriptions, educational curricula and anecdotal evidence) to construct items (Foxcroft, 2009). Guided by considerations from the test blueprint, instrument developers develop an initial item pool relevant to the intended construct. The primary consideration during this step of the instrument development process is to generate items representative of all content that is potentially relevant to the construct in question (Loevinger, 1957; Simms & Watson, 2007). Allen and Yen (1979) and Simms and Watson (2007), suggest an over-inclusiveness of the initial item pool consisting of items broader and more comprehensive than the theoretical model of the construct of interest. Subsequent psychometric analysis can identify weak, unrelated items that should be dropped from the emerging instrument (Walsh & Betz, 2001). Clarke and Watson (1995) posit that an item pool lacking depth, content and construct relevant items cannot be remedied even by the most sophisticated data-analytic techniques. Thus, at the culmination of the instrument development process, ideally, the final item pool of the measure should fall within the boundaries of the construct under investigation.

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Clarke and Watson (1995) and Foxcroft and Roodt (2005), delineate two broad aspects of item writing: item clarity and response format. The wording of items must be clear and succinct (Linn & Gronlund, 2000). Ambiguous, complex and lengthy sentences or clumsy wording should be avoided (Foxcroft, 2009), as such unclear items make it difficult for test-takers to understand. This could lead to different interpretations or item bias. Also, the instrument developer should take into consideration the level of language, and use vocabulary that the targeted population could identify with (DeCoster, 2005; Foxcroft, 2009).

3.3.2.6. *Step 3: Piloting the draft version of the test.* The measure needs to be administered to a sample that is representative of the target population for whom the measure is intended (Walsh & Betz, 2001). However, sample size would also depend on what analysis is required and what inference would be made from this analysis. According to Foxcroft (2005) the sample should be approximately 400 to 500 from the target population. She further asserts that both quantitative and qualitative information regarding the performance on each item should be gathered (Foxcroft, 2005). In other words, qualitative information can be gathered by those who administer the measure by observing the test-takers and identifying which items they generally struggled with or did not understand. This exercise could provide valuable information during the process of item refinement and final item selection (Foxcroft, 2005).

3.3.3. The Structural Validity Phase

3.3.3.1. *Step 4: Item analysis.* According to Izard (2005), item analysis is a quantitative technique where the instrument developer examines each item to determine whether they serve the intended purpose. Item analysis provides an opportunity to acquire information of how each item interacts with or affect other items in the same measure. The analysis allows the developer to moderate the consistency of the entire measure, thereby providing the opportunity to improve instrument items or eliminate ambiguous or misleading items (Anastasi & Urbina, 1997; Simms & Watson, 2007). It is through the use of several statistical techniques that the researcher or instrument developer is able to examine the characteristics of each item and select and organise the final items (Foxcroft, 2005). This analysis determines the difficulty of an item, its weaknesses as well as the item's power to discriminate between poor and good performers.

a. *Item difficulty.* Item difficulty is an index that indicates how challenging an item in a measure is for the individuals taking the measure (Foxcroft, 2005). The indices usually range between 0 to 1.0, or is defined in percentage or portion 0 to 100 (Anastasi & Urbina, 1997). The item difficulty (*p*) is calculated by the number of people who answered the item correctly divided by the standardised sample of test-takers. Generally, the larger the percentage of correct responses per item the easier the item, and conversely the smaller the percentage of correct responses per item, the more difficult the item. For instance a correct response of *p* = 0.8 of a standardised sample is in essence regarded as easier as a correct response of *p* = .2 (Anastasi & Urbina, 1997). The closer the *p*-value ranges to the extremes of the index, i.e. 0.00 or 1.00, the less information there is about the respondents. The closer the *p*-value to 0.50 on the measure the more differentiation that item provides. According to Anastasi and Urbina (1997), this value is the benchmark to which items should be selected as it provides the optimum differentiation. The instrument developer should take into account that most items in a measure inter-correlate, and this could possibly lead to one group of respondents obtaining a perfect score and the other zero. Thus it is best to select items with a moderate spread of difficulty of approximately .50 (Anastasi & Urbina, 1997). This provides a consistent measure of the difficulty of items across both the domains and dimensions of the measure, and thus acts as an index for final selection of test items (Foxcroft, 2005).

b. *Item discrimination.* The aim of item analysis is to determine which items best measure the content or construct of interest. In essence a good item consistently measures the same characteristic as the measure in its entirety. Thus, through the process of item discrimination, the instrument developer is able to examine the ability of an item to differentiate correctly among respondents on the basis of the content the instrument is designed to measure (Anastasi & Urbina, 1997). This item discrimination power can be calculated by the item discrimination index as well as item total correlation (Foxcroft, 2005).

The item discrimination index (*D*) is a statistical index utilised to evaluate how efficiently an item discriminates between respondents in obtaining either a high or low score on the complete measure (Gregory, 1996). There are numerous methods to calculate the item discrimination index, including the Pearson product moment correlation and the point-biserial correlation. The index ranges from -1.0 to +1.0, and the negative sign is an indication that the item either needs to be

revised or replaced (Gregory, 1996). If the index is zero it is an indication that an equal amount of respondents in the extreme groups answered the item correctly and should thus either be revised or removed. In general a good item will be positive and closest to 1.0.

c. ***Item bias.*** Item bias refers to anomalies of a measure at an item level due to poor translation (Van de Vijver, 1998), inapplicability of an item in a specific culture, and inaccurate translation (Van de Vijver & Hambleton, 1996). In cross-cultural and multilingual countries such as South Africa, construction of items should not only be based on the content, but should also be culturally, linguistically and socio-economically sensitive of the intended population.

Statistical techniques allow the instrument developer to identify items that could disadvantage the instrument result of a group. Quintessentially the procedure consists of a comparison of instrument results of two different groups to identify the possible biased items. There are many different techniques to identify differential item functioning (DIF) which is beyond the scope of this thesis. Some of these include factor analysis, item difficulty, chi-square, logistic regression, Mantel-Haenzsel procedure as well as item response theory (IRT) (Anastaci & Urbina, 1997; Foxcroft, 1997).

3.3.3.2. *Step 5: Revision.* Once the quantitative and qualitative information on the items and formats of the pilot of the instrument has been gathered, and the items have undergone a rigorous process of item analysis, the next step focuses on revising the items and the assessment measure, and thereafter administering the final version of the measure to a large sample for standardization purposes (Foxcroft, 2005).

Items that were identified as problematic during the item analysis phase need to be relooked at, and decisions need to be made as to whether these items should be discarded or revised (Foxcroft, 2005). Once this process of identifying and deciding on each problematic item has been finalised, the instrument developer has a pool of empirically verified items from which the final items can be selected (Foxcroft, 2005). The final version of the measure is then administered to a large representative sample in order to establish the psychometric properties and norms (Foxcroft, 2005).

3.3.4.   The External Validity Phase

3.3.4.1. *Step 6: Technical evaluation and establishing norms.*

a.   *Establishing validity and reliability.* In order to obtain valid and reliable data, researchers must ensure that the measurement instruments utilised will have acceptable levels of reliability and validity (de Vos et al., 2005). Validity is regarded as a fundamental prerequisite of any assessment measure, and refers to the extent to which a measure actually measures the characteristics or dimensions it intended to measure (Walsh & Betz, 2001). In other words validity asks the question: 'does the measure capture the meaning of the construct?' Whereas reliability refers to the consistency and dependability of measurement of that construct. Depending on the nature and the purpose of the measure various types of validity and reliability coefficients can be computed (Foxcroft, 2005). However, an exhaustive discussion concerning the different types of validity and reliability as well as how they are established is beyond the scope of this thesis.

It is important to note that if a norm-referenced measure is developed, the final step in standardising the measure would be to establish the appropriate norms. This occurs by comparing an individual's test score with that of a similar group of individuals (i.e. the norm group), so that the score can be more meaningfully interpreted (Foxcroft, 2005). Norms thus provide an external comparison that permits interpretation of participants' instrument performance based on high, average and low. If, on the other hand, a criterion-referenced measure is utilised, cut-scores is required in order to interpret instrument performance and guide decision-making (Foxcroft, 2005).

b.   *Instrument manual.* The instrument manual is regarded as the instruction manual to the assessment measure, and contains vital information for assessment practitioners, researchers and evaluators. This information details the rigorous methodology followed in developing the assessment measure, and indicates, amongst others: the purpose of the measure, to whom it should be applied, what the limitations are, how to administer, score and interpret the measure, its cultural appropriateness, the measure's validity and reliability, and the norms, performance standards and cut scores of the measure (Foxcroft, 2005).

3.4. Summary of the Chapter

This chapter provided an overview of Validation Theory and the instrument development process in the context of construct validity. Validation theory highlighted the procedures of validity evidence and construct validity. The instrument development process included the planning phase, the substantive validity phase, the structural validity phase and concluded with the external validity phase.

In order to prevent contributing to the existing approach inherent in the process of instrument development (that is, not taking into consideration local knowledge), consideration needs to be given to the fact that developing an instrument does not occur in an autonomous knowledge vacuum but is part of the global South and, more specifically for this study, the South African context which should allow for equal knowledge exchange. Disrupting the notions of a standard way of tool development which privileges a top-down approach, one needs to take into consideration the processes around meaning-making, namely the context in which meaning is made, which is often not accounted for in instrument development. Taking this into consideration the instrument development process needs to develop in a space that allows for interrogation, advocacy, and reflection on a more inclusive, more representative and more engaged forms of the construction process. Acknowledging indigenous voices, contributions, and understandings, within a community-based research approach, is a step towards the decolonisation of this modality, and within the instrument development process.

Chapter Four is the methodology chapter, and provides the operationalisation of the instrument development process taking the aforementioned shortcomings in the instrument development process into consideration.

CHAPTER FOUR

METHODOLOGY

"If you can't explain it simply, you don't understand it well enough"

~Albert Einstein n.d.

4.1. Introduction

This chapter provides an in-depth description about the methodology employed in this study to develop the *Willingness to Participate Questionnaire* (WTPQ). The development process took place in three distinct phases, namely: Phase one: Development of the *willingness to participate* in interventions constructs; Phase two: Construction of the *willingness to participate* in interventions items; and Phase three: Validation of the *willingness to participate* in interventions measure. Accordingly, the different research activities are discussed within the ambit of these three phases (see Table 4.1) in order to provide a comprehensive account of the different strategies employed.

The chapter commences with the aims, objectives and significance of the study, and outlines the research design of the study. Thereafter, Phases one, two and three are expounded on in terms of the three objectives of this study (see section 4.2 below). Phase one comprises: an overview of the community setting where the study was conducted; clarification of the concept *willingness to participate*; a description of the participants, recruitment and data collection process, and analysis of the individual interviews, NGTs and Delphi Review Panel respectively; and development of the blueprint. Phase two includes the procedure of constructing the items; the third round of the Delphi Review Panel; the draft version of the measure; and the translation of the draft version of the WTPQ. The final phase, namely validation of the WTPQ, consists of piloting the measure; determining preliminary reliability; and determining the factor structure of the WTPQ. In addition, this phase includes a description on the data analysis protocols utilised to extract relevant information from the different data sources, as well as data management and analytical steps of the pilot with reference to the Statistical Program for the Social Sciences (SPSS, version 24.0) package.

The chapter concludes with the methods utilised to ensure reliability, validity and trustworthiness, some reflective thoughts on the research process, and the ethical considerations relevant to the study. Table 4.1 below provides an overview of the research process, and the various phases in the development of the *willingness to participate* instrument.

Table 4.1

Methodology Process Steps: Overview of Phases and Objectives of the Study

4.2. Aims, Objectives and Significance of the Study

The primary aim of this study was to develop a *Willingness to Participate Questionnaire* (WTPQ) for individuals who will be eligible to participate in interventions related to violence and injury prevention and safety promotion. A secondary aim was to determine the factors associated with *willingness to participate* in interventions in low-income communities in a South African context. These two aims were actualised through the following research objectives:

1. To explore the perceptions and understandings of individuals' willingness to participate with regards to safety interventions towards the development of a willingness to participate measure
2. To pre-test the draft version of the willingness to participate measure
3. To evaluate the factor structure and internal reliability of the draft version of the willingness to participate measure

The WTPQ can assess an individual's negative or positive propensity towards participation in interventions in communities by measuring psycho-social factors associated with participation in initiatives. The measure can be utilised in low-socio-economic communities in South Africa to identify barriers that individuals are exposed to when interventions are being implemented, and which may hamper participation, and intervention success can be addressed preventatively. The WTPQ therefore provides a means where researchers gain a clearer and more accurate understanding of the dynamics in communities that influence participation in interventions. This will result in improving or increasing the success rate of intervention implementation in communities.

4.3. Research Design

A mixed-methods design was utilised in this study, which is rooted in pragmatism, and considers practical consequences or experiences of the world as crucial elements of meaning and truth (Johnson & Omwuegbuzie, 2004). In other words, a mixed-methods design offers a multi-dimensional approach in answering the research problem by addressing, for example, different facets of the same research problem and/or the same research problem from different perspectives (contextualised vantage points) in order to provide a more complex, comprehensive and 'true' understanding and perspective (Ivankova, Creswell & Plano-Clark, 2007). Mixed-methods thus provide a "more complete picture by noting trends and generalisations as well as in-depth knowledge of participants' perspectives" (Creswell & Plano-Clark, 2007, p. 33).

Creswell, Plano-Clark, Guttman and Hanson (2003) speak about a transformative mixed-methods design, defining this research design as rooted in social change that could range from the personal to a broader political change. This transformative paradigm lays emphasis on the inclusion of

values and perspectives of marginalised groups as opposed to the social exclusion marginalised groups generally suffer. Marginalised groups suffer social exclusion on various levels, from lack of resources to material deprivation and limited social participation. This transformative perspective necessitates attention to power, privilege, and voice throughout the research process (Mertens, 2003). In this study, this perspective was accomplished in several ways. For example, the research process provided opportunities for silenced voices to be heard, and the research procedure involved community members in the initial discussions of the research focus.

This study finds synergy in both the transformative and pragmatic nature of the mixed-methods design as the aim of the research is to develop an instrument that departs from the classical linear method of instrument development, and draws on a community-based participatory approach that incorporates the marginalised voices of the people the instrument aims to assess.

More specifically, since the research question provides the impetus for the choice of research methods the study utilised a sequential exploratory mixed-methods design in the development and validation of the assessment tool. A sequential exploratory mixed-methods design is an amalgamation of both qualitative and quantitative approaches to collect and analyse data (Creswell, 2009). This design is frequently employed with the development of an instrument, and is an important facet of the whole study (Creswell, 1999; Creswell, Fetters, & Ivankova., 2004). Exploratory designs commence with a qualitative, in-depth exploration of the construct in question and then progress to a secondary quantitative phase that is contingent on the preliminary qualitative results. In the present study, the conclusions and themes drawn, based on the results of the first phase, led to formulations of categories and dimensions that framed the Delphi panel survey questions, development of items for the instrument, and collection and analysis of data in the second phase. The second phase of the study was conducted to provide an understanding of the findings of the first phase. The final items for the instrument were based on the findings of phase one and two of the study.

The development of an instrument is an intense and rigorous process, which in general, is rooted in a quantitative approach. However, incorporating a qualitative approach provides an added dimension to the top-down quantitative approach. Onwuegbuzie, Bustamante, and Nelson (2010)

argue that even though a mixed-methods framework is time-consuming, this framework augments the development process of an instrument. Table 4.1 (see introduction section above) illustrates the various steps taken during the three phases of the study, and highlights at what stages qualitative and quantitative data were utilised. The final phase of the study involves the piloting of the developed instrument or measure.

4.4. Phase One: The Development of the Willingness to Participate in Interventions Constructs

Phase one represents the first objective of the study, namely:

Research Objective 1: To explore the perceptions and understandings of individuals' willingness to participate in safety interventions towards the development of a willingness to participate measure.

This phase of the study utilised a qualitative approach. In this phase of the study, the conceptual work commenced with the literature review, the qualitative component that included concept clarifications, description of the target population, and the development of the table of specifications (blueprint) for the construction of the dimensions and measure items. The qualitative component comprised the individual interviews, the NGTs and the first two rounds of the Delphi Review Panel.

4.4.1. The study setting

Broadlands Park, also known as Tarentaal Plaas, is an under-resourced community consisting of low-cost government housing and backyard dwellings, and is situated in the Helderberg Basin about 4km outside of Strand in the Western Cape. The community has been in existence for 19 years, with community members previously located in nearby informal settlements and backyard shacks (Bulbulia & Van Niekerk, 2012). This community is predominantly an Afrikaans speaking community, and under South Africa's previous racialised legislation would have been classified

as a 'coloured'[4] community. Broadlands Park covers approximately a 2.2 km^2 radius (Census, 2011) consisting of 1162 houses and 126 shacks, approximately 8234 residents, comprising 5534 adults and 2700 children. The community has limited infrastructure, with 16% of the residents living in informal dwellings, and close to 30% of the adult population unemployed (The Unit for Religion and Development Research, 2001). The average income per household for Broadlands Park ranges between no income to 2124 rand per month (The Unit for Religion and Development Research, 2001). Since most residents have not completed secondary schooling, with 6% of adults 20 years and older not having any formal schooling. Those who are employed are engaged in either skilled, semi-skilled or domestic work. Even though Broadlands Park was designated as a member of the International Safe Communities Network in 2006, the community has a high incidence of both intentional and unintentional injuries (Unit for Religion and Development Research, 2001). The community also experiences gangsterism, drug and alcohol abuse and other psychosocial challenges on a daily basis.

4.4.2. Concept clarification

An exploration of the literature ascertained if the construct has been defined, how the construct has been defined, as well as how the construct has been measured. The review of literature assisted in articulating the conceptual boundaries of the construct. In this study concept clarification was a two-step process which entailed: 1) a review of the literature in order to obtain background information on the construct of participation as well as theories and models related to *willingness to participate*, and to locate existing instruments designed to measure this construct; and 2) the identification of individual and community perceptions of the construct. The formulation of a well-defined conceptualisation of the construct under investigation is the foundation of instrument development (Cook & Beckman, 2006). A well-defined clear definition of the construct elucidates how the construct is positioned within the literature, and how it relates to other constructs (Gehlbach & Brinkworth, 2011). Furthermore, a well-defined construct allows the researcher to determine the level of abstraction at which to measure the construct (Gehlbach & Brinkworth, 2011).

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[4] The term 'coloured' constitutes one of the legally recognised population groupings used under the apartheid system to refer to people of mixed heritage and is currently still socially recognised and administratively reported on in South Africa

In step one of this study, the process of conceptualising, articulating and circumscribing the construct of *willingness to participate* was supported by investigating and exploring both South African and internationally relevant literature through a search of key terms and/or a combination of these terms (such as *willingness to participate*, receptiveness, readiness, receptivity scale, community readiness) using online databases. The online database literature searches were employed as the principal method for exploring the literature and locating articles. The search strategy for exploring existing assessment tools measuring *willingness to participate* utilised a number of search engines, including Elsevier, Ebscohost, SAePublications, Proquest, Google Scholar, Jstore and Sage Publications. Specific journals included in this review were the Journal of Community Psychology, American Journal of Community Psychology, the Global Journal of Community Psychology, and other grey literature included dissertations, fact sheets and reports.

Titles and abstracts were evaluated for relevance, and then full articles were sourced. These articles were then assessed for meeting the study's selection criteria. The initial set of literature explored and reviewed was utilised as the foundation to establish further search terms and related literature. A further round of literature exploration took place utilising the same process delineated above (refer to the Literature Review Chapter Two).

The scope of the review explored studies defining *willingness to participate*, theoretical frameworks of the construct *willingness to participate* and assessment of *willingness to participate*. This review particularly explored studies that were conducted in the field of Psychology. Once the scope and content domain of the construct was ascertained, and the definition attained, next was to determine whether the conceptualisation of the construct through the literature review corresponded with how prospective respondents would think about it.

In order to ensure that the construct is defined holistically, taking into consideration multiple perspectives, step two and step three involved research with the study participants, which consisted of eleven individual interviews and three nominal group discussions.

When developing an instrument, it is important to ensure that the voices of key informants, which include those on whom the instrument will be administered, are heard, with a view to

understanding their cultural milieu, and to learn from their community-embedded knowledge. Individual interviews, nominal group discussions, and direct observations can play an important role at this juncture. A key objective in this phase is the construction of an instrument that possesses cultural sensitivity (Banks & McGee Banks, 2001), so that the instrument will yield data that are optimally reliable and valid. The ensuing section will elucidate on the study setting, the numerous study participants, data collection procedures and data analysis utilised in this phase of the development of the instrument.

4.4.3. Step 1: Individual interviews

4.4.3.1. *Individual interview of study participants.* A small number of preliminary individual interviews with targeted respondents were held in order to provide a glimpse of the participants' realities, and which may help clarify ideas about participants' perceptions of *willingness to participate* in interventions in their community. The interview data was utilised in conjunction with the NGT data to develop the indicators related to the construct *willingness to participate* to provide a broader reach of perceptions and perspectives of the community in Broadlands Park, and to add to the trustworthiness of the data through triangulation.

Eleven participants, of whom 10 were females, were purposively recruited to participate in the individual interviews. Since the interviews were conducted during the week, more females were recruited, with more men in this community tending to be at work. The participants were only eligible to partake in the study if they fulfilled specific inclusion criteria, namely: not having attended an intervention within their community, and being a parent of a child or children aged 0-7 years. The participants were predominantly Afrikaans speaking, and had been long standing members of this community, living there on average just more than ten years. Prospective participants were invited to participate in the individual interviews depending on the participant's time and availability. Potential participants were identified with the assistance of community fieldworkers and invited on an individual basis. During the invitation session, the research aims, expectations for involvement and ethical issues pertaining to participation were outlined. Subsequently, fieldworkers provided me with a list of potential participants' names, addresses and contact numbers and we then visited their homes to brief and possibly enroll them into the study. Once informed consent was obtained from each participant, an appointment was arranged to

conduct the interview. Participants were given the option of selecting a suitable venue for the interview. Most of the participants preferred being interviewed at their homes, while others selected the closest church hall.

4.4.3.2. *Data collection procedure of the individual interviews.* Interviews commenced during the latter part of 2012 during the initial stages of the study and took place over a period of four months. Each interview included the principle researcher and a co-interviewer, both of us coming from a research psychology background. I utilised a co-interviewer for making notes of important observations, and or questions I missed during the interview, thus, allowing for later questioning, so as not to interrupt the participant. The interview length was influenced by the talkativeness of participants and their willingness to engage at a deeper level during the interview, and ranged from 50 to 80 min. A semi-structured interview schedule was used as a guide (see table 4.2), but on most occasions, participants led in their own story constructions. While some participants found it easy to speak about their experiences, others struggled with where to start.

Interviews were conducted in four stages, namely initiation, main narration, questioning, and concluding discussion (Jovchelovitch & Bauer, 2000). In order to stimulate the process of participants' accounts of their experience during the initiation stage, the participant was briefed on the research, and explained about the narrative interview process and the central topic. I obtained permission from participants to audio record the interviews for the purposes of transcriptions, analysis, and interpretation, and provided participants with the opportunity to ask questions. The main narration stage provided the participants with the opportunity to tell their story, with mainly encouragement to continue the narration, and with more active probing at the end of certain sections (Jovchelovitch & Bauer, 2000). This probing was guided by a semi-structured interview guide (see Table 4.2) which centred around three core themes: child safety, factors stimulating, and impeding involvement. The questioning stage was thereafter employed, mainly to elicit new and complementary data beyond the narrative and to expound on gaps in the narrative. In the final stage of the interview, the participants were given the opportunity to supplement their narratives with anything else they thought needed to be added. Prior to closure, my co-researcher and I explored participants' feelings about the interview process, and allowed a space for debriefing.

The interviews were conducted in both English and Afrikaans because most residents in the Broadlands Park and the immediate surrounding areas have an understanding of both languages.

Table 4.2 below provides the semi-structured interview schedule utilised during the individual interviews.

Table 4.2

Semi-structured Interview Guide of the Individual Interviews

Interview Guide
1. How do you feel about the safety and peace interventions happening in your community?
2. Why would you participate in these interventions?
3. Why would you not participate in these interventions?
4. Why do you think people in your community do not participate in these interventions?
5. Why do you think people in your community participate in these interventions?

4.4.3.3. *Analysis of the individual interview data.* This section of the study employed a thematic analysis. Braun and Clarke (2006) postulate that one of the advantages of thematic analysis is its theoretical freedom that can be either inductive or theory-driven. This analysis was driven both by theoretical interest and the nature of the data. Inspired by what qualitative research data might add to the quantitative research, and data on the development of a cross-cultural instrument on *willingness to participate* in interventions, conducted in a low-income community context, other than Western contexts, the starting point is a theoretical one. At the same time, the focus is on the participants own experiences, and therefore the study builds on a participatory approach.

The analysis adopted a semantic approach, in other words, the themes extracted were categorised according to the "explicit or surface meanings of the data" (Braun & Clarke, 2006, p. 84). This is

contrary to analyses conducted at the latent level, where the researcher goes beyond what the participants actually said in order to uncover underlying beliefs or mindsets that govern what people say.

Initially, the interviews were transcribed by a post-graduate psychology research intern. To ensure that the transcripts were representative of the written text, the interviews were transcribed verbatim. After the first reading, I checked the transcriptions against the tape-recorded material, and notes taken during and immediately after the interview, and made changes when necessary. Interviews were transcribed verbatim soon after the interviews took place in order to make it easier to remember the context in which the statements were made, and heighten the representativeness of the transcripts to the verbalised dialogue.

For the analysis, I started by reading through all the interviews to obtain an overview, and thereafter proceeded to read each transcript meticulously. In the subsequent reading a line-by-line coding was done, ascribing each sentence in the interviews with a code that described the main essence of the sentence. In this study, the initial codes were both inductive and deductive, since they originated both from my own theoretical understandings and from the respondents themselves (Miles & Huberman, 1994). Thus, I contend that the codes did not emerge exclusively from the data, since such a claim would have been disparaged by many scholars practicing thematic analysis (Braun & Clarke, 2006; Miles & Huberman, 1994).

In the guidelines for conducting thematic analysis made by Braun and Clarke (2006), all data are coded, and codes are gathered into numerous abstract codes until they represent a theme or a pattern. In this analysis, the coding of the data was based on the framework depicted by Braun and Clarke (2006). After the initial coding, codes were merged into larger units organising those that were similar in meaning and content. This merging of codes into larger units persisted until there remained only a few. The next step in the analysis, involved integrating the codes into themes (see table 4). A theme was defined as the smallest unit that in a meaningful way could express the codes that were included in it. Finally, three dimension encompassing numerous themes were developed, that depicted the participants' experiences of *willingness to participate* in interventions. The decision to conduct the analysis manually was influenced by my knowledge of the process,

and by the number of participants in the study. The familiarity and understanding achieved with the data through the manual method (Webb, 1999) provided invaluable insights into factors that contributed to participants' *willingness to participate* in interventions.

4.4.4. Step 2: Nominal Group Technique

4.4.4.1. *Nominal Group Technique - study participants.* Initially, a purposive sample of 35 participants including community fieldworkers, community members, stakeholders and service providers, were identified. The participants were only eligible to partake in the study once they met certain inclusion criteria, namely: being a long-standing community member; were aware of community interventions that took place in the community, and either participated or declined; and had the ability to converse in English. However, these inclusion criteria were revisited and amended once it was decided to translate the measure into Afrikaans (see section 4.5.4).

Prospective participants (35 participants) were invited to participate in three nominal group discussions. Invitations were extended via the South African Medical Research Council-University of South Africa Violence, Injury and Peace Research Unit (which has a long-standing relationship in these communities) to community fieldworkers, community members, stakeholders and service providers. Recruitment took place in two stages: initially, I approached community fieldworkers in Broadlands Park via telephone to make an appointment, and then in person, depending on their availability at the time of data collection. The three recruited community fieldworkers were then tasked with approaching community members, stakeholders and service providers in the targeted community and extended an invitation to participate in the study. The fieldworkers were briefed on identifying individuals who met the inclusion criteria prior to the recruitment process. Community fieldworkers then invited participants on an individual basis, and explained the research aims, expectations for involvement and ethical issues relating to participation. Once the fieldworkers recruited the 35 community members, stakeholders and service providers, they provided me with a list of prospective participants' names, addresses and contact numbers. The prospective participants were contacted to debrief and possibly sign up for one of the three NGT discussions. I decided to have the groups interspersed with stakeholders, community members and service providers, to ensure a platform for varied perspectives, animated interaction and discussion. I provided all potential participants with an information pack, including

an invitation letter, consent form and information sheet, as well as answered any questions pertaining to the study. An appointment to conduct the NGT discussion was then scheduled. A total of 23 from the invited 35 participants attended the NGT discussions with an attrition rate of 34%. Table 4.3 below disaggregates the three sample groups by gender, and indicates that the sample consisted of more females (14) than (9) males.

Table 4.3

Demographic composition of the sample of the Nominal Group Technique (N = 23)

	Male	**Female**	**Total (N)**	**Percentage**
NGT 1	5	5	10	43,48
NGT 2	1	5	6	26,09
NGT 3	3	4	7	30,43
Total	**9**	**14**	**23**	100

4.4.4.2. *Data collection procedure of the Nominal Group Technique.* A modified version of the Delphi method was employed. This involved a NGT (see Vonk Noordegraaf, Huirne, Brölmann, Mechelen, & Anema, 2011) with 'non-experts' (community fieldworkers and residents) as well as 'experts' (stakeholders and service providers) because of their experiences and familiarity in communities that received interventions.

The NGT is a formal method of consensus development that uses structured interaction within a group, combined with statistical derivation of group judgments. In other words, the nominal groups generate ideas, which are then discussed and ranked by the groups (Butterfield, 1988). I facilitated and guided the process of the three NGT discussions, controlling the group process through the management of information flow, acting essentially as a collector of ideas (O'Neil & Jackson, 1983), as opposed to leading the discussion. Even though the discussion was audio recorded, a research psychology intern provided support in highlighting themes as they emerged from the conversations and note-taking. All the voting was recorded both on paper and electronically while the discussion was in progress. This impartiality and structure for obtaining qualitative information was achieved through a systematic process to reach consensus (see Table 4.4).

The NGTs unfolded as follows: After each member signed in the register, I introduced, explained and re-familiarised the group with the study. The process commenced with an informal 'check-in', where each member introduced themselves to the group and shared information about their organisation or community group. The group collectively agreed to the ground rules for the duration of the NGT discussion. I introduced the group to the NGT process, and presented the main question to the group in written form, as well as read the question. The group members were requested to note down their ideas with regards to the *willingness to participate* construct in brief phrases or statements on the relevant sets of cards provided to each group member. Each member was given ten minutes to work silently and independently to generate ideas, noting them down on the sets of cards provided. Members of the group were encouraged to draw on their experiences in the community, and working with organisations when generating their phrases or statements. Thereafter, group members engaged in a round-robin feedback session to concisely record each idea they generated. I wrote down each idea of a group member on a flipchart, until all the ideas had been recorded, and were visible to the entire group. Each idea was then discussed with the group to obtain clarity and importance. Once these ideas had been discussed and clarified by the group, each member privately ranked all the ideas in terms of priority. These votes were then aggregated to identify the ideas that were rated highest by the members of the group. Each group member selected five most important items from the list of ideas on the flipchart and ranked the five chosen ideas. The most important idea received a ranking score of 5, and the least important a ranking score of 1. I then created a tally sheet on the flip chart recording all the rankings from the group. The ideas that were most highly rated by the group were the most favourable ideas in response to the question posed at the beginning of the NGT. The group spent a few minutes to discuss the selected ideas, and the session was concluded by thanking all participants. The master list with all the individual ranked ideas were collated and placed on an excel sheet and emailed to the entire group. Table 4.4 below provides an overview of the NGT process.

Table 4.4

Nominal group process steps (Butterfield, 1988)

Stage 1	**Developing and Stating the Question**
	✓ **Introduce nominal group process to the group**
Stage 2	**Working Alone**
	✓ Silent and independent generation of ideas in writing by each participant
Stage 3	**Gathering Ideas**
	✓ Round-robin listing ideas
Stage 4	**Discuss and Clarify Ideas**
	✓ Discussion of each idea, one by one on a flipchart
Stage 5	**Developing Priorities**
	✓ Rank ordering ideas
Stage 6	**Counting Votes**
	✓ Total rankings
Stage 7	**Discussion**
	✓ Implications of the results
Stage 8	**Conclusion**
	✓ Developing next steps provide closure

The table above indicates the various stages followed as well as what was accomplished in each stage.

4.4.4.3. *Analysis of the Nominal Group Technique data.* The qualitative data collected during the three NGTs were analysed according to emerging themes in order to identify priorities in the data. The data were collated into a list of ideas and ranked according to top priority ideas, in order of importance. The high priority list was limited to no more than eight items, since people could have become confused trying to rank more than eight items. There was a possibility that the criteria for setting priorities could vary among groups, or that the group would be allowed to develop several categories of priority. However, participants in each NGT session were in agreement when selecting and ranking the priorities. In other words, the participants agreed on what the top ranked priorities were.

The strict imperative of a NGT dictates unanimous agreement among participants about the rating of each priority (Indicator), the median and inter-quartile range of all responses is required to fall within one of three pre-determined agreement areas, namely 1-3, 4-6, and 7-9. The relaxed rules indicate the median may fall anywhere along the 9-point rating scale and the inter-quartile range may not extend beyond a 3-point range. The "top five" ideas from each group member was collapsed into a condensed list (see Table 4.5 below).

Table 4.5

Nominal Group Technique 'Top 5' Ranking List

Sample	Ranking Order	Code	Total	Theme
A	1	Empower themselves with knowledge	12	Personal gain/help-seeking
	2	**Respect from the leaders	11	Social/Community approval and trust
	3	Child safety comes first	10	Expectation and Motivation towards change
	4	Change mindsets	9	Intervention Overload
	4	There must be interest in the intervention	9	Intervention Overload
	5	**Provide food	8	Incentive
B	1	organisational networking	16	Networks and Communication
	2	Workshops aimed at skills development via: social/media/flyers	13	Personal Gain/help-seeking
	3	Needs assessment of the community	12	Motivation
	4	Time	11	Convenience
	4	More informal workshops re: language	11	Networks and Communication
	5	**Available counsellor	10	Lack of Social Support Systems
	5	**Food	10	Incentive
C	1	Proper arrangement -let know if cancelled in time	19	Social/cCommunity approval and trust
	2	**Gain trust / Earn respect	17	Social/Community approval and trust
	3	Looking for platform where idea are heard and used	12	Personal Gain/help-seeking
	4	**Lack of counsellors in the community	8	Lack of Social Support Systems
	5	Promote before function, awareness about the day (gain attention to get involved)	4	Social/Community approval and trust
	5	Music attracts crowds	4	Entertainment
	5	Punctuality of the organisation	4	Social/Community approval and trust
		**appears across samples		

The above table indicates a summary of the NGTs outcomes. The table is disaggregated according to the three groups as well as according to the top five ranking statements.

4.4.5. Step 3: Delphi Review Panel

The Delphi method is a structured process for collecting and distilling knowledge from a group of 'experts' by utilising a series of questionnaires or feedback forms interspersed with opinion feedback (Hsu & Sanford, 2007). In this study the Delphi Panel Review was employed to firstly enhance the trustworthiness of the data and secondly, to establish content validity.

4.4.5.1. *Delphi Review panellists.* Even though there is no consensus on what constitutes an ideal sample size for a Delphi review, studies have indicated that Delphi panels with fewer than ten panellists are rarely conducted (Akins, Tolsin, & Cole, 2005). In this study potential experts were selected using a snowball sampling method. Firstly, individuals in particular specialist fields, such as community psychology, were identified through their research endeavours. These endeavors included, for example, whether I/and or my dissertation supervisor had worked with these individuals on previous projects; they had published in peer reviewed journals in the area of community psychology; had authored books or chapters in the field; or had been extensively involved in community-engaged and intervention work within disadvantaged communities in South Africa. Secondly, published literature related to community-based interventions, community psychology and community participation were specifically utilised to identify additional academics. Lastly, some academics were asked to recommend other colleagues with expertise in specific domains. Fifteen academics were invited to be part of the review panel as experts in an effort to ensure that a minimum of 10 academics agreed to participate. An attrition rate of three academics occurred, which resulted in 12 academics participating as expert reviewers.

A second group of 10 community experts was subsequently invited to participate in the review panel. In selecting panelists from the community, each community expert was required to meet 4 minimum criterion. These criteria included: 1) Residency - had lived or was living within one of the communities in the Helderberg Region for at least more than 5 years; 2) Knowledge - had knowledge and or experience of interventions and community engagement in low-income communities in South Africa; 3) Experience - had a history of or was performing consultation services for an organisation (that is, the Violence, Injury and Peace Research Unit; an NGO, an intervention agency; government); and 4) Willingness - panel members must have been prepared to fully participate in the entire Delphi review process. An attrition rate of 6 community members

occurred, which resulted in 4 community members agreeing to participate. A total of 16 experts were therefore part of the Delphi review. Reviews of the panellists were strictly confidential and were not divulged to any outside party, including other panellists. Tables 4.6-4.8 below represents the distribution of the Delphi review sample in terms of the academics, community members and gender.

Table 4.6

Distribution of participants of the Delphi Review Panel by gender

Gender	Sample Size (n)	Percentage
Male	9	56.25
Female	7	43.75
Total	**16**	**100**

Table 4.6 disaggregates the sample by gender. This table indicates that the sample consisted of more males than females.

Table 4.7

Distribution of Delphi Review Panel participants by expert group

Expert Group	Sample Size (n)	Percentage
Community Member	4	25
Academic	12	75
Total	**16**	**100**

Table 4.7 indicates the number of participants from each expert group. The academic group was three times bigger than the community members group. The academic group was supplemented by community members in order to recognise and acknowledge the contribution of each community member in the construction of knowledge which was key in this study. The inclusion of community members is important in this process because it recognises and affirms the experiences and contribution of local community members to knowledge production.

Table 4.8 indicates the expert groups disaggregated by field of expertise (community psychology and community engagement/intervention work). Half of the group of experts were specialists in the field of community psychology, while both groups were conversant with community engagement.

Table 4.8

Distribution of Delphi Review Panel participants by field of expertise

Expert Group	Field of expertise			
	Community Psychology	**%**	**Community Engagement/ Intervention Work**	**%**
Academic Group	6	50	12	100
Community Group	0	0	4	100

4.4.5.2. *Data collection procedure of the Delphi Review Panel.* Invitations to serve on the expert panel were sent either via email or were hand-delivered, and included an information pack. The information pack consisted of a formal invitation to serve on the review panel, brief description of the study, information pertaining to serving as a reviewer, and the first round of documents to be reviewed (see Appendix C & D). The return of the first round of documents by the invited expert panellist was an indication of the panellist's agreeing to act as a reviewer for the study. The review panellist were required to complete the attached demographic information required such as: professional title, areas of expertise, occupation and affiliation in their follow-up email.

In the first round, the reviewers were informed that the process could last up to three iterations, depending on panelist feedback and comments. In this study, three iterations were required before a draft version of the measure was finalised. The reviewers were urged to answer all questions, even though I did not expect them to have in-depth knowledge of all the questions. The reviewers were given the opportunity to revise their answers in subsequent rounds. In the reviewing rounds, reviewers were asked to comment on, evaluate and review *willingness to participate* indicators. The reviewers were able to answer most of the questions with only a single selection. Where

appropriate, a space was also provided for the reviewers to comment on the underlying reasons for their responses. I also included guiding questions for panellist as a framework within which they would evaluate the various indicators (see table 4.9).

Table 4.9

Guiding questions to assist panellists in assessing indicators

The following questions might be helpful in guiding your assessment of the value of each indicator:
a. Is the indicator useful for guiding intervention developers in assessing community members' willingness to participate in interventions?
b. Is the indicator helpful in identifying psychosocial factors that deter willingness to participate?
c. Is the indicator useful for guiding intervention developers in reducing the barriers that prevent willingness to participate in interventions?
d. Is the indicator useful for guiding intervention developers in managing how they would implement an intervention successfully in communities?

In formulating their responses, the reviewers were not expected to assess the feasibility or cost of data collection for the indicators. Content-relevant evidence included restricting indicator and item selection to the measure blueprint, and obtaining content validity ratings from the Delphi review panel (see *The Standards* 1.7).

Once feedback from round one was received from all panellists, a summary document was compiled with all the indicator rankings as well as recommended changes, modifications or deletions from the panellists. This was emailed to the panellists to check for consensus as to whether they agree with the rankings of the indicators. Panellists also had to confirm whether they agreed with the selection of indicators that were recommended to be added to the measure and those items that were flagged to be removed from the measure.

Once feedback from round two was received from all panellists, the findings were collated and summarised and the items were formulated for the draft version of the measure (see section 4.5.).

This was then sent out to the panellists for feedback in round three. Figure 4.1 provides an overview of the Delphi Review Panel Process.

Figure 4.1. Delphi Review Panel Procedure

4.4.5.3. *Analysis of the Delphi Review Panel data.* The initial criteria utilised for retention of indicators in round one was an aggregated expert rating to indicate a sufficient level of content validity of that indicator in relation to *willingness to participate* in interventions, or a subset of indicators having a mean rating of 3 or lower. An indicator that was related to the construct *willingness to participate* was rated with a score of three or lower on a 5-point Likert scale, with 1 indicating most important and 5 indicating least important. Those indicators which reviewers gave a mean rating higher than 3 were noted in the next round of feedback to reviewers in order to understand and ascertain whether these indicators might require modification or elimination. This allowed reviewers to confirm whether those indicators selected for retention, modification and or removal in the round two feedback should retain its status quo. However, as the researcher of this study, the final decision as to whether or not to retain indicators and items was within my discretion, taking into consideration both the data collected from the stakeholders, service providers, community members and Delphi panellists as well as my experience in the community over the past six years. DeVellis (2012) asserts that the final decision to retain items should lie with the researcher, with the result the item retention criteria specified in one round can be altered in the next round at my discretion. The reviewers' responses were analysed using IBM SPSS version 24 (Statistical Package for Social Sciences). Minimum score, maximum score, range, mean and standard deviation was calculated for each indicator.

4.4.6. Developing the blueprint

Developing a blueprint was the first step in defining the construct, and specifying the areas to be assessed. A blueprint is essential in instrument development as it assists outlining specifically what is to be measured, and to improve content validity and reduce measurement error. Cohen and Wollack (2010) purport, that developing an instrument without a questionnaire plan could cause an over or under-representation of certain objectives on the instrument. Questionnaire specifications document the content domains, behaviours, or constructs to be drawn on by the instrument, the specific dimensions or objectives of each content domain, behaviour or construct that will be engaged, and an estimate of the number of items that the final instrument should ideally have for each content domain, behaviour, and or construct, and for each of the specific dimensions (Foxcroft, 2004).

The preliminary questionnaire plan in this study provided a framework of the instrument specifications, the proposed format of the instrument, items, and responses required in the assessment measure (Standards, 1999, p. 38). Depending on the purpose of the measure and the instructional objectives, the questionnaire may vary in length, difficulty, and format.

I began developing the preliminary measure blueprint based on indicators identified through exploring the literature, as well as indicators identified in the individual interviews based on the thematic analysis and consensus of community members in the NGTs (see Chapter Five, section 5.2.2.). Dimensions of the construct *willingness to participate* were added to the blueprint from the ongoing exploration of the literature, and the Delphi Panel Review feedback on the identified indicators. The indicators were organised into dimensions, and constituted the scales of the questionnaire. The operational definitions of the indicators and the item content were based on the data from the individual interviews and NGTs. The relevance and representativeness of these dimensions with regards to the construct *willingness to participate* were assessed as content evidence towards the validity of the instrument.

Second, given projections regarding size of the participant sample to provide more accurate estimates of item properties, I decided to make use of a 5-point Likert Scale in the questionnaire (see Table 4.10) utilising an additive scoring method. Likert Scales offer ordinal response

categories where participants are able to provide responses indicating the intensity of their responses (Swart, Roodt, & Schepers, 1999).

Based on the theoretical foundations, and individual perceptions of participation achieved in aim one, all the aspects related to the dimension of the construct drawn on, item and response format, questionnaire length, and number of items were addressed. A preliminary questionnaire blueprint was developed to specify the content areas to be assessed. Evidence of content validity includes a questionnaire blueprint, the definition of the content domain, expert rater review, and a questionnaire of adequate length to sample across the content domain (Cronbach & Meehl, 1955). The blueprint is meant to ensure content validity of a questionnaire through mapping questionnaire items, even though it is primarily utilised in achievement tests (The Standards, American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 1999, 1.6). I then had a clear conceptualisation of the specifications of the measure. This culminated in a preliminary questionnaire plan or blueprint that evolved as the study progressed, and outlined the specific content domains included and the number of items to be included in each domain (see Table 4.10 below). Table 4.10 below provides the framework of the various specifications required during the development of the instrument.

Table 4.10

Preliminary Questionnaire Blueprint

1.	*Purpose of the Questionnaire*	To assess people's level of willingness to participate in interventions
2.	*Target Population*	Adult population of under-resourced communities receiving interventions
3.	*Format of Items*	Ordinal/Likert Scale Items [5-point Likert Scale]
4.	*Questionnaire Length*	A minimum of 3 items tapping each dimension
5.	*Mode of Administration*	Individual at the household level
6.	*Interventionist Characteristics*	Pre-training on understanding and administration of the questionnaire

7. *Questionnaire Content*	Experiences and perceptions of participants
8. *Dimensions to be tapped*	• Opportunity for personal growth • Cater to the Community's Needs • Research Approach • Community Perceptions • Expectation and Motivation • Incentives • Competing Priorities • Empathy and feelings of responsibility for safety of children of others • Awareness • Political Climate • Participant-Interventionist Relationship • Entertainment • Personal Factors (i.e. negativity, disinterest, hopelessness…) • Community Cohesion, Networks & Communication • Empathy and feelings of responsibility for safety of children of others • Social Support Systems
9. *Scoring Procedure*	Hand scoring/computer assisted scoring
10. *Interpretation*	Adding up the numbers that reflect the individual's extent of agreement or disagreement with various self-descriptive statements
11. *Item Analysis*	Utilising both quantitative and qualitative methods
12. *Validity*	Face Validity & Construct Validity
13. *Reliability*	Cronbach's Alpha

4.5. Phase Two: Constructing the Willingness to Participate in Interventions Items and Compiling the Questionnaire

Phase two is directed at the second objective of the study, that is:

Research Objective 2: To pre-test the draft version of the willingness to participate measure

This phase comprised the following steps: Item generation, review of the items for the WTPQ by the Delphi panellists, and compiling the draft version of the WTPQ. Item generation and scale construction, that is phase two, occurred in the latter half of 2016.

4.5.1. Step 1: Procedure of constructing the items

The construction of items of the draft version of the assessment measure was based on the data gathered in aims 1 and 2 of the study, that is, the literature review, the nominal group discussions and the individual interviews (Phase One). Once all the indicators had been finalised, I commenced with developing items that related to the indicators. During this process I also had to decide on a format for the measure. A response format was selected prior to developing the individual items. These items were developed utilising the table of specifications which provided a framework for the development of the instrument (refer to table 4.10). A large pool of 64 items were constructed using the data generated in aims 1 and 2, that is, items were based on the indicators that were extrapolated from the literature, the data collected from the individual interviews and from the nominal group discussions, as well as the feedback provided from round one and two of the Delphi review panel. A consultant with expertise in test construction provided support throughout the item construction process.

4.5.2. Step 2: Delphi Review Panel

The provisional item pool was subsequently reviewed by a team of academics and community members in order to assess the significance and appropriateness of these items.

In this, the third and final round of iterations of the Delphi review, the panellists had to judge the content validity of the draft version of the questionnaire by rating items in terms of: how it related to the indicator; whether the response format was applicable or not; and whether items should be

retained or removed. In other words, qualitative content validity was determined based on item ambiguity, difficulty and or irrelevance. All items were checked and the Delphi panel's recommendations were inserted into the questionnaire. The panellists were asked to evaluate each item utilising a 3-point Likert scale: 1 = essential; 2 = useful but not essential and; 3 = unessential. To obtain the final set of items, items that did not speak directly to the construct or those found to be ambiguous, difficult and or irrelevant were amended, rephrased or removed from the questionnaire. The Delphi panel validity ratings for each of the dimensions in the draft version of the questionnaire were employed to assess the structural validity (Messick, 1995).

4.5.3. Step 3: Draft version of the measure

The revised items were collated into a draft version of the measure and administered to a group of eight stakeholders and service providers to obtain qualitative information regarding the face validity and comprehensibility of the items, as well as the clarity of the instructions. The stakeholders and service providers were asked to evaluate the questionnaire and score the importance of each item on a 5-point Likert scale. Although a quantitative instrument was being developed, it was essential that each item be accompanied by open-ended items that ask the stakeholders and service providers to assess the quality of each item and to offer suggestions for improvement. This information was utilised to make final revisions to the items. The above procedure in developing items are recommended by both DeVellis (2012) and Foxcroft and Roodt (2009). The final pool of items comprised of 46 items clustered under a number of dimensions as extrapolated in phase one.

4.5.4. Translating the draft version of the measure

The final pool of 46 items made up the draft version of the WTPQ. Since the community in which the measure would be administered was predominantly Afrikaans speaking, and the measure was developed in English, a decision had to be made whether or not to translate the items into Afrikaans. This decision had implications for the inclusion criteria set for the recruitment of potential participants (refer to section 4.4.3.1). During the training of the data collectors, the team came to a decision that although the community had an understanding of English, every members' comprehension of English might differ, and thus, it would be best to administer an Afrikaans version of the measure in order to prevent misunderstandings or skewed results. Thus, a decision

was made to translate the English draft version into Afrikaans utilising the translation-back-translation procedure (Brislin, 1986).

Firstly, two external translators were tasked with the responsibility of translating the draft version of the measure into Afrikaans (target language). The Afrikaans version of the measure was then given to a group of community members in the target population to assess whether the translated version was congruent or equivalent to the English version of the measure. Community members provided feedback on the Afrikaans version of the measure and this feedback was discussed with me and incorporated into the Afrikaans version of the measure. Subsequently, these two Afrikaans translated versions were given to a different set of external translators to back translate the Afrikaans versions back into English (the original language) to assess whether errors between the original and back-translated versions of the measure exists.

The main advantage of this translation design is that researchers not familiar with the target language can examine both versions of the source language to gain some insight into the quality of the translation (Brislin, 1986). A disadvantage of this design is that the evaluation is carried out in the source language only. This was controlled for in the study by employing four independent translators (i.e. two to conduct the translation independent of each other and two to conduct the back translation independent of each other). Engaging with community members in the translation process is indicative of acknowledging their expertise and promoted a participatory ethos.

4.6. Phase Three: Validating the WTPQ

Phase three is directed at the final objective of the study, that is:

Research Objective 3: To evaluate the factor structure an internal reliability of the draft version of the willingness to participate measure

Phase three pilot-tested the preliminary WTPQ. This phase comprised administering the WTPQ to a sample of participants (n=349), determining the factor structure of the WTP through exploratory factor analysis (EFA), and determining the internal consistency of the WTPQ and its subscales by examining Cronbach's Alpha. This latter phase of the study was executed in 2017.

4.6.1.   Step 1: Piloting the questionnaire

4.6.1.1. *Sample of the piloting study.* The assessment tool was administered to a sample of 375 community members (i.e. fieldworkers and household members). An anticipated attrition rate of 7.4% resulted in a final sample of 349. This resulted in a subject to variable ratio of 1:7 in the 46 item assessment tool developed.

4.6.1.2. *Procedure of the piloting study.* Participants for this phase of the study were recruited from November 2016 to March 2017. Participants were recruited from an under-resourced community, Broadlands Park (refer to section 4.4.1. for a detailed description of this community) in Strand in the Western Cape. Initially, the entire Broadlands Park households were mapped from google maps and all addresses captured into an excel file. The households mapped totalled 1014 addresses, and this not include backyard dwellings. Subsequently, the mapped households were divided into five zones (see Figure 4.2, Broadlands Park Map) before going through the process of randomisation. Each zone consisted of approximately 200 addresses per zone. This was done in order to allow for an even spread of potential participants across the entire community. Once the randomisation list had been generated, every second address on the list was selected to compile the final list of participants for the study.

Thereafter, a letter was sent to the Broadlands Park civic informing them about the study and seeking their endorsement to conduct the study in Broadlands Park. The civic endorsed the study and made themselves available if assistance was required.

Subsequently, community members in Broadlands Park were identified, and invited to apply for five vacancies as data collectors in the current study. Potential applicants went through an interview and selection process, and once successful, were given training on interpersonal skills, conflict resolution management, communication skills and how to administer the questionnaire. The successful data collectors consisted of 2 females and 3 males, and each was assigned with administering 75 questionnaires. Four of the data collectors were from the area, while one data collector was from outside the area. During the training, data collectors were given a map of the area subdivided into zones (see Figure 4.2) allocated to them for easy reference as well as a list of addresses for them to invite potential participants.

Figure 4.2 below provides a visual representation (map) of Broadlands Park and the subdivided zones for data collection that were provided to the data collectors as part of their information pack.

Figure 4.2. Broadlands Park subdivided into colour-coded zones

Data collectors then invited randomly selected participants from the households selected on an individual basis, outlining the research aims, expectations for involvement and ethical issues pertaining to participation. Data collectors were briefed prior to the recruitment process. If the potential participant refused the opportunity to participate, data collectors were advised to thank the individual for their time and continue to the next address on their list. The data collectors were also advised that if at any time they felt unsafe they should immediately terminate data collection for the day and leave the area.

Once invitations were successful, data collectors provided me with a list of 400 prospective participants' names, addresses and contact numbers. Subsequently, I called prospective participants to confirm interest, briefed prospective participants and invited them to enroll into the study. From the 400 prospective participants only 375 agreed to participate in the study. The data collectors thereafter, provided these 375 participants with a consent form, an information sheet and my contact details. I was available to answer all questions participants had pertaining to the study as well as provide feedback once the study had been completed.

Once the consent form was signed, the data collectors collected the sheets and either administered the questionnaire at the same visit or scheduled an appointment to administer the questionnaire at a more convenient time. The data collectors administered the questionnaire to the participants at their homes.

The completed consent forms and questionnaires from the data collectors were collected on a bi-weekly basis. During these collection meetings, I would check up on how the process was going as well as conduct quality checks to ensure the consent forms and questionnaires were completed correctly. A WhatsApp group was created with the data collectors and was specifically developed for communication on a daily basis. The data collectors could also utilise this platform of communication in case they had urgent matters to discuss or raise certain concerns or questions with me.

During this period of data collection, there were a few occasions where the data collectors felt unsafe, and had to stop in the middle of data collection and either leave the area or go home. On one occasion one of the data collectors was in the middle of administering the questionnaire when he heard gun shots coming from outside. Bradly[5] had taken the decision to continue with administering the questionnaire. Fortunately he was safe inside the home of the participant. Gun shots during the day in Broadlands Park had been increasing, and the data collectors had heard about it from participants on more than one occasion. Bradly was also faced with the situation where one of the randomised addresses on his list was the house of a drug-lord. Once again, as

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[5] The names utilised in this study are not the real names of either participants or data collectors. The names have been changed in order to uphold the confidentiality and ethical considerations agreed to with data collectors and participants prior to the commencement of the study.

was explained in training, they were reminded that if at any time they felt unsafe they should leave either the area or the home they are administering the questionnaire, and find safety. Bradly did not feel comfortable and safe going to this home and so went to the next address on his list. Chantelle, who was the only data collector from outside the community, also had to leave the area on more than one occasion because she felt unsafe and was perceived as a threat by the gangsters in the community due to her presence and visibility in Broadlands Park. At the initial incident of not feeling safe, she first called me to voice her concerns and then decided to leave after I reiterated the fact that her life and safety was more important than collecting data. Gangsters felt that she might be an informant for the police since the police presence increased after a gunshot incident where a teenager was shot in the street. Initially we thought that Chantelle was targeted because she was an outsider to Broadlands Park, however, Petro, who lived in Broadlands Park, experienced the same safety concerns when going out to collect data. She was even stopped and cautioned by one of the gang members, who coincidently was an acquaintance of hers, to stop with her data collection. Petro explained to the gang member what the study was about, and it was clear from their conversation that they had no idea what our study was about and had reached other conclusions. Thereafter, there were no further incidences that occurred where data collectors felt a high degree of unsafety to the extent where they had to leave the area or go home.

Data collection occurred over a period of two months with a total of 349 completed questionnaires. All participants of the pilot-test received a R50 Shoprite voucher for participating and as part-compensation for their time spent in the study. Data collectors were also compensated for their time and effort put in to the collection of the data.

Table 4.11 provides an overview of the four samples utilised in the different phases in the development of the WTPQ.

Table 4.11

Summary of the discrete sample sizes in the different phases of the instrument development

Phase	Sample	Empirical Step	Sample Size
One	Community members	Individual Interviews	N=11
One	Community members, stakeholders, service providers, community fieldworkers	Nominal Group Discussion	N=23
One & Two	Academics & community interventionists	Delphi Panel	N=16
Phase Three	Community members	Pilot Sample	N=349

4.6.1.3. *Data preparation of the piloting study.* Once the data collection phase was completed, the 349 questionnaires needed to be captured in a data file to prepare the data for analysis. A database template was developed to capture each questionnaire (i.e. the raw data). The database was developed with dropdown menus of all 46 questions, as well as the demographic information on the hardcopy in order to expedite the capturing process. The questionnaires (responses in words) were captured in the Microsoft Office Excel Programme and converted to a SPSS file when analysis was required. The research intern captured 70 questionnaires while I captured the remaining 279. The raw data (responses in words) were then cleaned and coded (i.e. variables were categorised and provided with numerical codes for responses recorded in words) and sent to an external evaluator (sample verification) to verify whether items were captured correctly or erroneously. All the questionnaires were filed according to the data collectors and zones within which the questionnaire was administered. This allowed for easy access to check if suspected errors were discovered. Once the external evaluator verified the data, the data was checked once again by myself and converted into a SPSS file to prepare for analysis.

4.6.2.   Step 2: Factor analysis

The method used for evaluating the factor structure of the draft version of the WTPQ was the statistical technique of exploratory factors analysis (EFA) at item-level using the Statistical Program for the Social Sciences (SPSS, version 24.0) package. The motivation behind utilising

EFA is to identify a latent subset of characteristics or factors that underlie a specific domain (Schaap & Vermeulen, 2008). EFA is considered appropriate when the objective is to determine the initial factor structure (dimensions) of a new measure when the factor structure is unknown or cannot be theoretically hypothesised (de Vet, Adèr, Terwee, & Pouwer, 2005; Dimitrov, 2012).

Factor analysis is a multivariate, linear reduction, statistical technique that is utilised to examine the empirical associations between variables. The method allows for the reduction of variables that the researcher has to deal with, while simultaneously increasing the conceptual understanding of the areas measured by the instrument (Hair, Anderson, Babin, & Black, 2010). Factor analysis is viewed as a means of holistically extrapolating a pragmatic set of underlying dimensions from an immeasurable corpus of variables (Thompson, 2004). In essence, factor analysis is a process whereby a complex set of data is condensed in order to resolve the multifarious nature of the data by identify underlying sets of associations between variables (Hair et al., 2010).

There are two broad approaches to data reduction utilising the factor analytic techniques: (1) exploratory factor analysis; and (2) confirmatory factor analysis (CFA). The exploratory approach is the more common approach, and is drawn upon when the data under exploration is to be analysed from a theoretical perspective, and/or the various factors to be extrapolated are identified and labelled post facto (Campbell, Walker, & Farell, 2003). In other words, in exploratory factor analysis, the researcher has little or no knowledge about the factor structure. In contrast, CFA on the other hand, assumes that the factor structure is known or hypothesised a priori.

A preliminary exploratory factor analyses was conducted with the final item pool in order to identify the underlying latent constructs existing in the draft version of the measure. Factor analysis is essentially a statistical technique utilised to investigate the observed and empirical relationships between variables. Since factor analysis is a linear process, the first step was to decide on the method of extraction. A common factor analysis method of extraction was used in the study.

The next step entailed selecting the number of factors to retain. Since an a priori factor structure was not employed, the use of a scree-plot and the EFAs eigenvalues to determine how many factors to retain, was included.

The subsequent step was to decide which rotation method to choose. An oblique rotation was decided upon for this study, as it produces correlated factors facilitating easy interpretation (Hair et al., 2010). An oblique rotation was employed because literature suggests that one is likely to discover a relationship between factors (Cummins, 2000).

According to Field (2009), oblique rotation requires an examination of the Pattern Matrix table, which is the next step in the Factor Analysis process. In order to consider the relative contribution of each item to a factor, a strict critical value of 0.30 was employed (refer to Hair et al., 2010). Items that loaded on more than one factor was regarded as poor items, and at least three items should load on a factor in order for it to be considered a stable factor.

4.6.3. Step 3: Determining preliminary internal reliability

The reliability of an assessment tool refers to the extent to which it consistently and accurately measures a construct. The concept reliability is grounded in two fundamental considerations: (1) do items in a single measure actually assess a single construct?, and (2) do measures assessing a single construct produce consistent estimates of that construct across multiple measurements? (Hair et al., 2010).

Two methods of reliability were employed in this study. The first measure of reliability assessed the internal consistency reliability. Conbach's alpha is the most frequently utilised estimate of internal consistency, and provides an estimate of the degree to which items co-vary or hang-together as a common unit (Cronbach, 1971). Alpha ranges from 0.00 to 1 with higher scores indicating greater internal consistency of a measure (Hammond, 2006). Hammond (2006) asserts that Cronbach's Alpha may thus be regarded as a method of construct validation. It is argued that a high degree of internal consistency can be regarded as a precondition for high validity (Kline, 1993). However, consideration needs to be given to the fact that the higher the alpha (i.e. > .90)

the more likely it may indicate undue narrowness or item redundancy (McCrae, Kurtz, Yamagata, & Terracciano, 2011).

The second measure of reliability assessed was item-total correlations. Izard (2005) asserts that item analysis is a quantitative technique whereby the researcher examines the items in the scale to determine whether these items serve the intended purpose. Item analysis gives an opportunity to acquire information on how each item interacts with or affects other items in the same questionnaire. The analysis allows the researcher to moderate the consistency of the entire questionnaire and thus improve questionnaire items or eliminate ambiguous or misleading items. Utilising several statistical calculations the researcher is able to examine the characteristics of each item, and select and organise the final items (Foxcroft, 2009). This analysis determines the difficulty of the item, its weaknesses as well as the item's power to discriminate between poor and good participants, and thus acts as an index for final selection of questionnaire items.

In order to investigate the reliability of the preliminary assessment measure, the internal consistency of each subscale as well as the entire measure was evaluated. This allowed for consistency of responses of all items in the measure to be assessed. Internal consistency reliability for the preliminary assessment measure was explored utilising the Conbach's alpha in order to ascertain the number of items and their strength of inter-correlations. For the present study, reliability co-efficient above .70 was regarded as displaying good reliability (Nunnally, 1978).

The item-level analyses considered the item discrimination of each item and was computed using inter-item correlations. Item discrimination refers to the degree to which an item can differentiate among participants (DeVellis, 2012). As a general rule, values of .20 and above are considered to be desirable. Item-total correlations compare scores on items against the total score of an instrument. The item-total correlation value is a reflection of how well items measure what they are intended to be measuring. Correlations should be between 0.2 and 0.7 (Streiner & Norman, 2008). Correlations that exceed 0.7 suggest item redundancy, while correlations less than 0.2 suggest the item is measuring an entirely different construct. In this study, a critical value of 0.30 was utilised to evaluate the items. Items below 0.30 were removed from the scale as it indicated that the item did not correlate well with the overall score (Hair et al., 2010).

This analysis determined the final composition of dimensions of the WTPQ (Appendix X). Preliminary psychometric properties provides the basis for the final draft of the questionnaire.

4.7. Validity, Reliability and Trustworthiness of the Study

Any study, irrespective of whether its approach is qualitative or quantitative, needs to be evaluated in order to illustrate the integrity and robustness of the research. However, each research approach utilises distinct evaluation criteria to ensure the rigor of the inquiry. Quantitative researchers take into consideration validity and reliability as a means of ensuring the trustworthiness of the study. In contrast, qualitative researchers consider credibility, dependability, transferability and confirmability as trustworthiness criteria for qualitative investigation (Guba, 1981; Schwandt, Lincoln, & Guba, 2007). Since the study utilised a mixed-methods approach both qualitative and quantitative means of ensuring trustworthiness of the study was employed.

4.7.1. Validity and reliability evidence of the study

Validity refers to the degree to which an instrument measures what it purports to measure (Walsh & Betz, 2001). In other words, validity raises the question, does the WTPQ capture the meaning of the construct *willingness to participate*? The three types of validity that were utilised in this study to assess the initial validity of the WTF questionnaire were structural validity, face validity and content validity (refer to Chapter Three for an in-depth discussion on validity).

Face validity, which refers to the degree to which the questionnaire 'looks' valid and seems to measure what it purports to measure, was ascertained by asking community members for whom the questionnaire was intended to assess and evaluate the WTPQ. Experts in the field were also asked to assess the WTPQ to assess whether it looked valid. Academics and community members in the field of intervention work were asked to comment on the questionnaire developed to measure *willingness to participate* in interventions. This form of validity is the most straightforward way in which validity evidence can be collected (Foxcroft, 2005).

Structural validity evidence (see section 3.2.1.2.) was achieved through piloting the instrument and assessing the WTPQ's factor structure utilising factor analysis (see section 4.6.2.). To ensure

content validity (see section 3.2.1.1.) of the questionnaire, a provisional draft was emailed to various academics and community stakeholders for their input and critique prior to the finalisation of the questionnaire (see Chapter Five, section 5.3.2.).

The reliability of an instrument refers to the consistency and dependability of measuring a construct, that is, is the same score noted by the same respondent each time (Walsh & Betz, 2001). The reliability of the WTPQ was determined by computing the Cronbach's Alpha which provides an indication of the internal consistency of the measure (refer to section 4.6.3).

4.7.2. Trustworthiness of the study

The rigour of the qualitative segment of this study pertains to the overall planning and implementation to ensure the authenticity and trustworthiness of the research process. The trustworthiness of this research phase was ensured by applying the following criteria: credibility, dependability, transferability and confirmability (Guba, 1981; Schwandt, Lincoln, & Guba, 2007). The adherence to the identified criteria for qualitative research, ensured the authenticity and trustworthiness of this research segment.

4.7.2.1. *Credibility.* Credibility refers to establishing believable research results. In this study credibility was ensured through the process of triangulation. The following strategies were employed to enhance triangulation: use of multiple data sources, that is, individual interviews, NGTs and Delphi Review Panel, by which information/data was gathered; inclusion of a co-facilitator for both the individual interviews and NGT; and engaging with, and synchronising the data (i.e. recordings, notes and transcripts). A further strategy to enhance the credibility of the study was the use of an independent coder to identify themes of the qualitative data.

4.7.2.2. *Dependability.* Since the four issues of credibility, dependability, transferability and confirmability are inter-related, the dependability of this study is also referenced against the utilisation of a set of related methods of inquiry, as alluded to above and detailed in this chapter. Care was taken to ensure that the research process was coherent, traceable, and clearly documented in a reflexive manner by providing a detailed account of the research process.

4.7.2.3. *Transferability.* Transferability is established by providing evidence that the study's findings could be applicable to other contexts, situations, times and populations. This study focused on the development of a questionnaire, and since the qualitative research was but one segment of the study, transferability was best addressed by providing a detailed description of the research process adhered to as well as the protocols observed (see this chapter). Lincoln and Guba (1985, p. 36) postulate that the onus is not on the researcher to "provide an index of transferability, it is his or her responsibility to provide the data base that makes transferability judgements possible".

4.7.2.4. *Confirmability.* Since confirmability relates to the extent to which the research findings may be confirmed or corroborated by others (Guba, 1981), the research results were shared with participants, stakeholders, community members and academic experts for purposes of verification at every step and phase of the development process. A further strategy to enhance the confirmability of the study was the use of an independent coder to identify themes of the qualitative data and verify my findings. Confirmability was supported through my reflexivity (see section 4.10.) as well as the detailed description of my research methodology in order to permit the integrity of research results to be evaluated.

4.8. Ethical Considerations

When there is contact and interaction between the researcher and people they are studying, the researcher is guided by ethical principles (Department of Health, 2004) in order to protect the rights and well-being of these individuals. These ethical principles serve as a benchmark for researchers to evaluate their conduct within the study (Strydom, 2005). Ethical clearance for this study was sought and granted by the University of South Africa's Ethics Committee in November 2013 (see Appendix A). This doctoral study was conducted in accordance with the ethical guiding principles stipulated by the University of South Africa, and the ethical code of conduct recommended for social research (Babbie & Mouton, 2001).

4.8.1. Informed consent and voluntary participation

All the research participants (community members, stakeholders, service providers) were fully informed regarding the nature, aims and purpose of the study (see Appendix C & H). It was made

clear to participants that they had the right to withdraw from the study at any time without any negative consequences, and that there were no anticipated risks involved in participating in this study. Participants were provided with an information sheet (see Appendix C & H) that offered a brief overview of the study as well as ethical considerations. Signed informed consent was then obtained from participants. The information sheets and consent forms (see Appendix G) were translated into Afrikaans prior to being utilised in the community.

4.8.2. Privacy, confidentiality and anonymity

The ethical principles pertaining to privacy, confidentiality and anonymity, were upheld in this study. I did my utmost to treat all information gathered as private, confidential and protected the identity of participants. According to Strydom (2005, p. 61) "privacy implies the element of personal privacy while confidentiality indicates the handling of information in a confidential manner". The questionnaires were stored securely in locked steel cabinets throughout the analysis of this data. Questionnaires were numbered, thus there were no identifying personal information on questionnaires, ensuring that information obtained from participants remained not only private but confidential and anonymous as well.

4.8.3. Beneficence

The participants were informed about the potential benefits that may be gained from the study. All participants and stakeholders were also informed about the diverse benefits that each would derive from the study. The data collectors would not only gain financially from the study as they would receive a stipend[6] to administer the questionnaire in homes in the community, but would also acquire knowledge, training[7] and experience that could be of benefit in future work opportunities. For the community, the anticipated benefit would be that the willingness of communities to participate in interventions would be improved and strengthened due to the applicability of the WTPQ. This improved participation in interventions is envisaged to have a ripple effect which could lead to improved safety, peace and health in communities. An additional benefit was that, as a researcher I benefited from valuable first-hand knowledge and experience in instrument development and managing a project.

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[6] The data collectors received R33 for each questionnaire completed and questionnaire participants received a R80 food voucher at the end of the study.
[7] Training included how to administer a questionnaire, data management and interpersonal skills.

4.8.4. Protection from harm

As previously mentioned, participants were assured that there were no anticipated risks involved in participating in this study. Data collectors were trained to conduct and administer the questionnaire in an honest and respectful manner, always being considerate towards participants. Participants were always reminded about their right to remove themselves without any negative consequences at any point during the research process, and were valued throughout the research process. Similarly data collectors were also reminded about their right to safety and to removing themselves at any time without any negative consequences from a situation they feel threatened or uncomfortable in at any point during the data collection process (see section 4.6.1.2).

4.8.5. Reflections on the research process

An important part of qualitative research is the idea of situating oneself as the researcher, making the research process more visible and open to scrutiny. Even though this study was only in part qualitative in nature, this section presents some reflections on my own contribution to the construction of meaning throughout the research process. In locating myself as the researcher in this doctoral study I found myself reflecting on the past six years and wondering if I had paid attention to my positionality, reflexivity, and the production of knowledge and the power relations that were inherent in the research process (Sultana, 2007 p.380).

As a key feature of the research process, I firstly reflect on my own identity as a researcher, a youthful Muslim adult female, with a university degree, and the influence of these factors on my research process, environment and participants. Race, age, gender and social class can often serve as a barrier to gaining entry into a research setting (Hesse-Biber & Leavy, 2011). Being a female in an environment predominantly dominated by young gang members loitering in the streets during the day meant that, amongst other things, my presence was initially met with suspicion. Even though I had informed the civic (Broadlands Park's Civic Association) about my study, the gang members were unsettled by my presence as they were under the impression that I was an informant for the police. I was followed, tracked and monitored when in the area. I also recognised that being a female researcher in Broadlands Park made me more vulnerable in the community as opposed to my male counterparts. I therefore decided to utilise the branded car of the research unit I am employed at when going into the community. The unit has a 16 year working relationship

with the community of Broadlands Park, and is well-known and respected in the community. The decision to use the branded care was to allay the fears of these young gang members that I was not an informant for the SAPS. The use of the unit's car with the logo on it did assist in this regard. I also had someone from the community accompany me on my trips. In Phase Three, which was the piloting of the questionnaire, I facilitated and managed the process so I only met regularly with my data collectors and thus did not have to personally go to homes in the area.

Whilst the aforementioned factors played a role in the initial negative perceptions of gang members in the community, this was not the case with my data collectors and participants. My social identity (of race, age, gender and social class) actually acted as an enabler since participants and data collectors treated me like they would any other community member. Being an older, coloured female, from a middle-class background could have adversely affected my gaining entry into the community as participants and data collectors could have held at me at arm's length, viewing me as an outsider, displaying feelings of mistrust, uncomfortableness and reticence. However, participants and data collectors related to me and felt at ease and comfortable with me to such an extent that participants would take the opportunity to speak to me about family problems, work-related problems or even other personal issues.

This feeling of ease did not come without its downfall as I was also regarded as a resource centre. At times, due to my affiliation to the University of South Africa, participants would ask about courses offered at UNISA, bursaries, funding or even gaining admission into the University without a matric certificate. These requests had to be navigated with care to prevent raising unwarranted expectations, and to avoid detracting from the research process. I had to take care so as not to offend or sever ties with these community members when addressing requests. I thus did provide members with information and assistance where I could, without jeopardising the project.

It is evident from the aforementioned that locating myself in the research did produce certain preconceptions and prejudices but, when weighed against the positive outcomes as well as attempts to circumscribe these biases, it cannot be regarded as a limitation in the study.

4.9.   Summary of the Chapter

This chapter described the development of the WTPQ, the administration of the questionnaire to the sample, and the statistical procedures utilised to evaluate the data. The findings of the study will be presented in the next two chapters: Chapter Five: Results - Phase one and two; and Chapter Six: Results - Phase three.

CHAPTER FIVE

RESULTS: PHASE ONE AND TWO

"You never change things by fighting the existing reality.

To change something, build a new model that makes the existing model obsolete."

~R. Buckminster Fuller, n.d.

5.1. Introduction

The preceding chapter delineated the methodological underpinnings that framed the development of the *Willingness to Participate Questionnaire* (WTPQ). In this chapter the study findings of Phases One and Two, will be reported. Firstly, the results are presented from Phase One, that is, Development of the *willingness to participate* in interventions constructs. More specifically, study findings in this phase will be discussed in terms of the individual interviews, the modified NGT, and round one and two of the Delphi Panel Review. Thereafter, the construction of the *willingness to participate* in interventions' items (Phase Two) will be elucidated. The study findings in Phase Two will be discussed with reference to item generation, the results of the third round of the Delphi Panel Review, and results from the pre-pilot of the draft version of the questionnaire. Table 5.1 below provides an overview of the different steps to be covered in this chapter.

Table 5.1

Overview of Results of Phase One and Two

RESULTS OF PHASE 1: The development of the WTP in interventions constructs

Objective 1: *Explore the perceptions and understandings of individuals' willingness to participate with regards to safety interventions*

| Step 1 Individual Interviews N=11 | Step 2 Nominal Group Technique (NGT) N=23 | Step 3 Consultation with Experts [Delphi Survey] N=16 |

RESULTS OF PHASE 2: Construction of the WTP items and compiling the WTPQ

Objective 2: *Pre-test the experimental version of the Willingness to Participate Questionnaire*

| Step 1 Item Generation [64 items] | Step 2 Delphi Survey N=13 | Step 3 Experimental version of the Questionnaire N=8 |

5.2. Phase One: The Development of the Willingness to Participate in Interventions Constructs

The study findings from Phase One was examined and analysed to achieve the first research objective.

Research Objective 1: To explore the perceptions and understandings of individuals' willingness to participate in safety interventions towards the development of a willingness to participate measure.

The results of Phase One of this study, as well as the literature review (see Chapter Two) were utilised to inform the content for the Delphi Panel Review with the aim of developing and deriving consensus on the items of a draft version of the WTPQ in Phase Two. It was intended that the individual interviews and modified NGTs would build on the literature review results by providing insights from various perspectives, (namely the stakeholders, the community members, the service providers, the fieldworkers, etc.) into factors that motivate community members to participate in interventions, as well as factors that facilitate or impede the willingness of community members to participate in interventions. This formed the foundation for the extrapolation of indicators, which in turn informed the item development stage. In addition, the meanings individual research participants attach to *willingness to participate* were utilised in refining the understanding of *willingness to participate* in subsequent stages of the current study.

5.2.1. Step 1: Individual interviews

The thematic analysis process that was applied to the transcripts revealed key concepts that were evident in the data. These extrapolated key concepts are considered as essential in providing insight into participants' perceptions and understandings with regard to the construct of *willingness to participate* in interventions. These key concepts have been labelled as lack of basic social infrastructure, alienation and community connectedness and a sense of belonging (see Table 5.2.: Data Structure of the Individual Interviews). There are aspects of participants' understandings of *willingness to participate* in interventions that overlap across the dimensions which are evident in the emerging themes. Themes, dimensions and concepts that emerged from the analysis should thus not be viewed as isolated perceptions but rather as interrelated, and related to each other.

The process of coding and theme development in the analysis of interview data was described in section 4.3.7. The key dimensions, which emerged from the individual interviews, were lack of basic social infrastructure, alienation and community connectedness and sense of belonging (see Table 5.2 below for 1st order concepts, 2nd order themes and aggregated dimensions).

Table 5.2

Thematic Data Structure of the Individual Interviews

1st Order Concepts	2nd Order Themes	Aggregated Dimensions
Priorities: Employment & Income; Social & Domestic Issues	The burden of competing priorities	Lack of Basic Social Infrastructure
Burdens: Unequal Power Relations; Lack of Child-Care Facilities; Physical Limitations	Inaccessibility of the environment	
Sense of hopelessness; Scepticism Drug & Alcohol Abuse; Continuous struggle to be partners, workers, home providers, and caregivers	Lack of agency and feelings of hopelessness	Alienation
Communities didn't stand together; People keep to themselves	Lack of connectedness and responsibility	
Concern and care for children in community	Empathy and concern for safety of children of others	Community Connectedness and Sense of Belonging
Strong connections in pockets of the community; Rely on neighbours	Neighbours as a resource of safety	

These narratives portray the lived challenges community members encounter on a daily basis that limits their ability to engage in campaigns and interventions held in their community. These lived realities also constrains their capacity to engage with those outside of the community, such as service providers.

A note of interest was that even though I guided the narratives towards factors that would act as barriers to participation in child-centred violence and injury prevention and safety promotion initiatives, at least one third of factors identified were related to enablers of participation. The

decision to focus on the factors that would act as barriers to participation was based on intervention research conducted in the community in 2010, which indicated an aversion of community members to participate in interventions (Eksteen et al., 2012).

The results of the study findings will be reported in terms of the three dimensions, and include each dimension's themes. Lack of basic social infrastructure (physical and individual) is the first dimension to be reported on and includes the themes of *the burden of competing priorities* and *inaccessibility of the environment.*

5.2.1.1. Lack of basic social infrastructure (physical and individual)

Many related social problems are associated with a lack of social infrastructure, including isolation, fear of crime, and issues regarding community cohesion. A number of these social problems pertaining to social infrastructure came to the fore during the individual interviews with participants and were categorised into the following themes: The *burden of competing priorities* and *inaccessibility of the environment.* The theme *burden of competing priorities* included issues of employment or lack thereof, as well as social and domestic issues. The theme *inaccessibility of the environment* encompasses issues of unequal power relations, lack of child-care facilities, poverty, and physical limitations.

Participants identified these barriers at the individual level, family level and societal level. At the individual level, participants raised concerns about employment as well as social and domestic issues that took precedence over interventions or initiatives in their community. At the family level, concerns were raised about the impact of unequal power relations in the home, and the lack of child care facilities affecting levels of participation. At a community level, participants argued that physical limitations also acted as a barrier to participation.

The burden of competing priorities. The first theme affecting *willingness to participate* in interventions focused on *competing priorities* (i.e. work, household chores, caring for children etc.) and occurs at the individual level. Participants reported that many individuals in the community, whether male or female, are affected by precarious employment. Participants felt that individuals in their community do not always have the luxury to attend interventions. For example,

Dawn stated: "*sometimes then they have various events here and so and then parents don't come that much because sometimes then most of them work particularly on a Saturday and on Sundays*". Participants indicated that the precarious nature of their work for example "*nightshift (sic), afternoon shift, and dayshift*", community members cannot guarantee their attendance, whether it is at an important school meeting or an intervention. Lizzie observed:

> "*some people's work is very demanding and sometimes they are also only one or two days off in the week, and if you are perhaps off in the week then you maybe want to clean your house or do the washing*".

Another participant Marcella, indicated that sometimes the women have no choice but to "*go out and work*" because they are employed while their partners are not. "*The husband will stay at home to look after the children*" because he does not have work. Participants admitted that they would not abandon the opportunity for employment just to attend an intervention, since employment is a means of providing for their families. It is evident that financial survival is a priority in under- resourced settings.

Participants also spoke about social and domestic issues that prevented them from attending child-centred violence and injury prevention and safety promotion interventions. Marcella reported that "*most of parents are (sic) drug addicts*". Participants expressed their concern for married couples in the community, and stated that family and marital problems are an everyday occurrence in the community. This sentiment was captured by the following statement: "*I see a lot how sometimes especially on a Friday evening they fighting a lot on the corner by the young people or the married couples fight a lot*". Participants reported that this behaviour affects women negatively in terms of their ability to decide on attending interventions "*husbands keep them [wives] back a lot…that the women must not go*".

Inaccessibility of the environment. This theme is interrelated with the previous theme and how it relates to *willingness to participate.* With regard to the behaviour of men, participants highlighted the unequal power dynamic between men and women in the community: "*men don't worry here… [he] don't care she [wife] must just go work and that's it*". Bonita reported that the men controlled the mobility of women by preventing women from attending community interventions, for example, chastising their wives: "*you again want to be there the whole day*". Karmen

echoed this sentiment and reported: "*the men keep them [the wives] back that the women must not go… I do not know what is going on with the men*". This directly intersects with the previous theme relating to domestic issues.

The research participants also cited parents' lack of childcare options as a barrier to participation in campaigns, meetings or interventions. For example, Shamiela stated: "*if you as the parent is not going to take care of your child, who is going to take care of them*". In an already under-resourced community with high levels of poverty and unemployment, having to pay for childcare facilities is often not possible as indicated in the following quote: "*Everyone does not possess the money to put them [their children] into crèche*". When parents cannot afford to pay for childcare facilities then the best option is for them to attend to their children at home, resulting in these individuals not being able to engage or participate in interventions. Karmen also mentioned: "*I could not keep up with the school fees*".

Participants also raised their concerns about the aged in the community, as revealed by the following quotations: "*many of the aged feel they are thrown by the way side, children don't care about them",* and "[*there are*] *two pensioners… we have to care for them…their legs are perhaps sore, they cannot come to our events. Then we are under the impression they are not interested, but they wanted to be there*". Marlene, a grandparent, stated: "*I have this leg so I cannot really walk that fast …if my leg was okay…then I would have taken them [the children to the community campaign] myself*".

The above dimension alludes to infrastructural barriers to *willingness to participate.* Thus addressing and improving basic social infrastructure within low-income communities can potentially alleviate the burden of priorities such as poverty and unemployment, and could contribute to community members having more structured opportunities for active and meaningful participation in child-centred initiatives. However, in severely impoverished communities, consideration needs to be given to how practical it would be to address these issues as a precursor to improving participation in interventions.

The second dimension, reported on is Alienation, which includes the themes of *lack of agency and feelings of hopelessness* and *lack of community connectedness and responsibility*. These barriers were identified by participants on both the individual and community level.

5.2.1.2. Alienation

The narratives related to this dimension highlighted participants' scepticism and beliefs regarding interventions implemented in their community. This dimension was categorised into the following themes: *Lack of agency and feelings of hopelessness* and *lack of connectedness and responsibility*. The first theme *lack of agency and feelings of hopelessness,* include issues of hopelessness and helplessness, scepticism, drug and alcohol abuse, and daily struggles. The second theme *lack of connectedness and responsibility* encompassed issues of isolation, lack of cohesion and gossiping.

Lack of agency and feelings of hopelessness. Participants' narratives in this study exhibits an overwhelming sense of hopelessness, lack of agency and cynicism: "*we as parents don't worry because we are constantly faced with stress*". Dawn stated: "*I think this is where it comes in. In many parents' homes ... there might be a divorce or there is a small problem ... then it comes to a point where parents don't care anymore*". Bonita reported: "*they don't worry, it is an I don't care thing*".

Participants appeared to be resigned to the fact that this was their path in life (fate), but they did not want the same future for their children, as Shamiela expressed: "[*Mothers*] *are disheartened but they just continue on… [they] do not want [their] child to grow up in such an environment*". Despite desiring a better future for their children, participants still tended to shy away from engaging in activities or events in the community. As parents and caregivers they appeared to not have an inclination or desire to engage in interventions as they believed that their lot in life was set and could not be changed: "*Parents don't want to participate. It's seldom when parents will go. I am also one of the parents*".

Feelings of mistrust, lack of agency and hopelessness are overwhelming, which circumvents participation in interventions: "*… look [sic] here, everyone is… for themselves. That is why I don't care*". Jackson articulated his lack of agency and feelings of hopelessness indicating that:

"*It's nothing to take on the drug merchants, but we will never get them out of here…we … will not be able to get it [drug merchants] out of here*". While Dawn observed: "*[Mothers] have to struggle alone. This is where [they] wanted to take [their] own life … they become very disheartened*".

In addition, participants indicated that the alcohol and drug abuse added to community members' lack of agency and involvement in child-centred initiatives: "*Drugs and alcohol… that is all young people think about*", whilst Marcella stated: "*It makes you feel saddened to think that parents do it [drugs use]*".

Lack of connectedness and responsibility. The overall impression from the participants' narratives is a general sense of a lack of connectedness between community members. Participants felt that: "*here everyone just lives in their own world. I am for myself, that one is for himself, and so it just continues*", while Shamiela stated: *"Here is no one, no one stands with no one"*. Participants felt helpless, feeling that they are by themselves in their struggle to make their community a safer place. As Marcella noted: "*I by myself can do nothing about this [situation in the community] because I stand alone*". Participants also stated how they kept to themselves in a bid to be safe and stay out of trouble: *"people always insult you terribly that is why I say I don't want to bother".* Bonita felt that *"people are not interested…I think they are just in their own routine and there they want to stay".*

Participants were not ashamed to admit that they "*don't walk around [in the community]"* and *"don't know a lot of people [in the community]".* Karin indicated that it will be "*seldom that parents will go"* to interventions because "*everyone is busy with their own thing".* Karin felt that even "*leaders from Broadlands Park don't get involved… no one cares…everyone is for himself*". Participants were of the belief that people in the community have a lot to say, but don't attempt to remedy the situation: "*I don't know what is wrong with the people here, because one person does something good, then the next person will criticise it, and that's how it goes … a lot of talk and no one does nothing*". Karin went on further to explain that "*no one wants to be told … the people here appreciate nothing that people do for them*".

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The above dimension conveys that *a lack of agency* and *feelings of hopelessness*, and a *lack of connectedness and responsibility* are regarded as barriers to *willingness to participate*. Thus the lack of connectedness within the community needs to be addressed, as it acts as a barrier preventing community members from experiencing a sense of belonging in Broadlands Park. Fostering feelings of community connectedness and responsibility within the community may contribute to the encouragement of agency and feelings of optimism amongst community members. This domino effect may encourage community members to become involved in the community as well as participate in child-centred initiatives.

The final dimension reported on is community connectedness and sense of belonging, which includes the themes *empathy and concern for the safety of children in the community* and *neighbours as a resource of safety*. While the previous two dimensions were related to barriers to *willingness to participate,* this dimension, even though overlapping with the theme *lack of connectedness and responsibility* in the previous dimension, was regarded as a primary dimension relating to enablers of *willingness to participate.*

5.2.1.3. *Community connectedness and sense of belonging*

This dimension of community connectedness and sense of belonging traverses the previous two dimensions. Belonging emanates from individuals feeling valued, accepted, respected and cared for by others. Many, if not all, of the aforementioned feelings came to the fore during the individual interviews and were categorised into the following themes: e*mpathy and concern for the safety of children in the community* and *neighbours as a resource of safety.* The theme of e*mpathy and concern for the safety of children in the community* encompassed issues of concern and care for children in the community. The theme of *neighbours as a resource of safety* encompassed issues of strong connections in the community and sources of safety in the community. These enablers, identified by participants, were both at the individual and community level.

Empathy and concern for the safety of children in the community. Even though people in Broadlands Park experience a lack of connectedness as indicated in the previous theme, there were groups in the community that were close knit and contributed in their small way to their

community, especially with regards to children: "*If a child walks in here by me, and asks for a piece of bread I give because I am a mother regardless who the child's mother is*".

Participants further demonstrated feelings of empathy towards other parents' children who were not being taken care of: "*They walk around and there is practically no one who is looking after them. I mean a person must also look after other people's children*". Lizzie felt that if she "*received a lot of money, then [she] would build a big place to adopt a few children [of the community]*". This social obligation felt by many participants where they act for the benefit of their community fosters participation: "*we look after each other... we have to look after each other*".

Neighbours as a resource for safety. In those micro-communities of Broadlands Park where cohesion and connectedness were evident, strong neighbourly ties were reported. Participants viewed neighbours as a source of support and safety as "*some of [their] neighbours looks after their children*". Another example is where neighbours would also keep an eye on each other's houses when one of them would work night shift perhaps, or be away from their homes: "*Even during the night we [neighbours] look after each other...we have to look after each other...*"

These findings suggest that community connectedness and sense of belonging amongst community members facilitates and promotes active and meaningful participation. Nurturing feelings of social obligation and fostering a cohesive community improves relationships of care on an individual as well as social level. In addition, having resources available (such as caring neighbours) in an under-resourced community can provide opportunities and space for members to participate in interventions hosted in their community.

5.2.2.   Step 2: Nominal Group Technique

The NGT groups followed a process where participants were given a statement or question, thereafter each participant had to generate ideas about the statement, and thereafter these generated ideas were discussed and ranked by the participants in each group (see Table 4.4 in Chapter Four for an outline of the Nominal group process steps). The groups were controlled, with discussion occurring only in the later stages of the group process (Gallagher, Hares, Spencer, Bradshaw, &

Webb, 1993). As a result, the group outcomes constitute the pooled summary of individual efforts. The NGTs was designed to enable a group of individuals to attain consensus or to make decisions on a defined issue. The NGTs followed a defined format which was adhered to throughout the process. This is in contrast to a focus group discussion which elicits a full range of experiences, thoughts, and opinions held by a group of respondents on a defined issue (Jeffreys, Lampkin, Zanoli, & Vairo, 2008).

The three NGTs convened with stakeholders, community members and service providers were held in October 2015. These NGTs were introduced with a short presentation (see Appendix C: NGT PowerPoint Presentation). A challenge experienced in all three NGTs was to keep the group focused on the aim of the discussion. Certain individuals came with a predetermined agenda to raise issues pertaining to interpersonal challenges with individuals and social problems in the community. It was agreed by all members that this was not the forum for discussing issues not pertaining to the aims of the current study.

The NGTs generated 68 ideas from the three groups: 37 ideas in the group interventionists, stakeholders and service providers, 17 ideas in the group of community members and fieldworkers, and 14 ideas in the group of community members. The voting process as enumerated in Chapter Four resulted in 7 priority areas for group 2 and 3, and 6 priority areas for group 1 (see Table 5.3: Top 5 Ranked Ideas of the Nominal Group Technique).

Table 5.3

Top 5 Ranked Ideas of the Nominal Group Technique

Sample	Ranking Order	Code	Total	Theme
Fieldworkers/Community Members	1	Empower themselves with knowledge	12	Personal gain/help-seeking
	2	**Respect from the leaders	11	Social/Community approval and trust
	3	Child safety comes first	10	Expectation and Motivation towards change
	4	Change mindsets	9	Intervention Overload
	4	There must be interest in the intervention	9	Intervention Overload
	5	**Provide food	8	Incentive
Interventionists/Stakeholders/ Service Providers	1	organisational networking	16	Networks and Communication
	2	Workshops aimed at skills development via: social/media/flyers	13	Personal Gain/help-seeking
	3	Needs assessment of the community	12	Motivation
	4	Time	11	Convenience
	4	More informal workshops re: language	11	Networks and Communication
	5	**Available counsellor	10	Lack of Social Support Systems
	5	**Food	10	Incentive
Community Members	1	Proper arrangement -let know if cancelled in time	19	Social/cCommunity approval and trust
	2	**Gain trust / Earn respect	17	Social/Community approval and trust
	3	Looking for platform where idea are heard and used	12	Personal Gain/help-seeking
	4	**Lack of counsellors in the community	8	Lack of Social Support Systems
	5	Promote before function, awareness about the day (gain attention to get involved)	4	Social/Community approval and trust
	5	Music attracts crowds	4	Entertainment
	5	Punctuality of the organisation	4	Social/Community approval and trust
		**appears across samples		

As can be seen from the results tables (Tables 5.4, 5.5 and 5.6), opinions were refined between the different rounds. Participants were asked to focus their discussions on the reasoning behind their decisions, and with particular reference to *willingness to participate* in interventions. In NGT Sample B for example, participants were conflicted on prioritising and ranking *conducting needs assessments in communities prior to implementing interventions* or *there must be interest in the intervention* as one of the top five ranked ideas. The issue of conducting a needs assessment was resolved in the following way, and allowed the final consensus to be agreed at the level of more than two thirds or by the majority of participants that is: 1) a discussion ensued on the importance and relevance of conducting a needs assessment prior to intervention implementation versus the importance of community members displaying interest in the intervention; 2) the feasibility of

keeping both ideas ranked in the top five; and 3) re-iterating the rules of the NGT that is to develop indicators that would illustrate *willingness to participate* in interventions. The group decided that *needs assessment* would make the top five list of indicators of *willingness to participate* whilst *members displaying interest* would be retained as an indicator.

NGT sample B went on to articulate and discuss specific skills that parents would require to better parent their children, such as conflict management, communication skills and self-help skills, as indicators of *willingness to participate* and whether or not this indicator would make the top 5 ranking listing. They expressed the need in the community for parenting skills workshops so that parents are able to care effectively for their children and families, and thus in their opinion had a direct link to participation. Participants were of the opinion that the more education focused interventions are, parents will display more *willingness to participate*. Alongside developing the expertise of parents, which was described as important to the safety and health of children in the community, and parents' *willingness to participate* in interventions, the ability of interventions to develop and maintain community cohesion, networks and communication, and also be efficient at communicating that care for others was also required. Fostering community cohesion, networks and care for others creates avenues for positive relationships and nexuses that form the foundation for opportunities for participation.

Participants suggested that in the future, there needs to be a closer working relationship with organisations, community leaders and community members when interventions are earmarked to be implemented in communities. This would aid in the community members perception and awareness of intervention goals and objectives as well as improve community members' *willingness to participate* in interventions.

Across the three NGT groups similar ideas were highlighted, and which participants thought was also linked to community members' *willingness to participate* in intervention. Many thoughts centered on incentivisation to increase individuals' *willingness to participate* across the three groups, especially the provision of refreshments at interventions. However, when it came to the ranking list, NGT Sample C did not rank incentives as a top priority (see Table 5.6). Other priorities that emerged across groups were respect for leaders and lack of counsellors in the

community, however, these priorities were not linked to *willingness to participate*. Though some of these priorities emerged from the group it was reiterated that the aim of the NGTs was to develop indicators that would illustrate *willingness to participate* in interventions. It became challenging at times to have participants deliberate and reflect in terms of indicators of the construct. This was evident across the three different groups, that is, stakeholders, interventionists, fieldworkers, community members and service providers.

At the end, agreement on the core indicators was reached in stage five of the NGT process. As an illustration, in NGT Sample A, part of the group felt strongly that changing the mindset of community members (for example, having community members think more positively about changing their circumstances) was of sufficient importance to be included as a top ranking indicator of *willingness to participate*. Other participants raised concerns as to how changing the mindset of community members related to *willingness to participate* as an indicator. The ensuing discussion clarified the point and ultimately this priority was not included in the top ranking list of ideas. Other indicators that made the top five ranking list were also discussed, with the groups examining why one indicator (for example, *child's safety comes first*) would take precedence over another indicator (for example *providing food*) on the ranking list. If the entire group were not in full agreement on an indicator, then a 70% majority across groups would be adhered to in order to include indicators on the ranking list. Thus, discussions had to continue until either all agreed to having the indicator on the ranking list or 70% of the group agreed. Without a 70% consensus on the indicator, it was not added to the ranking list. The final round of discussions at stages seven and eight focused on implications of the results and concluding reflections. The eight stages of the NGT was implemented and followed (see Table 4.4 Chapter Four).

The final core indicators as verified by the three NGT panels comprised 51 overall ranked indicators and 20 top ranked indicators with regard to illustrating the construct of *willingness to participate* in interventions. Items not included in the top ranking are un-highlighted in the tables below. While these items have been excluded from the indicators for the development of the WTPQ, they may well have significance with the roll-out and implementation activities of an intervention. Discussion around these statements or ideas, reflected the specialised skill required to appropriately understand each input, outcome, or activity related to the implementation of an

intervention. Table 5.4 contains data captured from sample A of the nominal group discussion. In this group one answer sheet contained two weights of 4 and no weight of 1 and was calculated as is (see Chapter 4, section 4.4.4.2 for rankings used in the NGTs).

Table 5.4

Results of NGT Sample A

Serial No.	Ideas	Weight	Total
1	Change mindsets	1; 4; 3; 1	9
2	Child safety comes first	5; 5	10
3	Providing parenting/skills workshops	5	5
6	Certification to all training	4	4
8	Provide food	4; 1; 3	8
9	Incentivize volunteerism	3; 2	5
11	Want to make a difference with interventions	3	3
12	There must be interest in the intervention	4; 5	9
13	Change must be visiable	3; 2	5
14	When people see how they will benefit	4	4
15	Contextualised	3	3
16	Raising awareness about the benefits of the intervention prior to implementation	2	2
18	Passion & emotion	3; 4	7
23	Word of mouth encouragement (vicarious learing)	2	2
26	Suitable/close location	1	1
27	Respect from the leaders	2; 4; 5	11
28	Communication with community (humility)	1; 3	4
30	Need as impetus	1	1
31	Empower themselves with knowledge	4; 5; 2; 1	12
33	Interventions connected to people's circle of belonging	4; 1	5
34	Youth-focussed activities	5	5
35	Involve stakeholders - prior to intervention (e.g. church leaders & community leaders)	5	5
37	Follow through on promises	1; 5	6
18 & 36	Have both a passion for the work and how the community will benefit in mind	2; 2	4
20 & 21	Scare tactics (show negatives and positives)	3; 4	7

Table 5.5 contains data captured from sample B. In this group, one answer sheet's items were weighted from 7-10. Since items had to be weighted using weightings ranging from 1 to 5, the items were interpreted as follows: (10 = 5; 9 = 4; 8 = 3; & 7 = 2). One answer sheet weighted the first item as 5, and provided no weight indications on the rest of the items, with the result the items following the initial weight of 5 were given scores in descending order. Another answer sheet had no weight indications at all, as with the previous score sheet, and so the items were given scores in descending order on the assumption that the first item was the most important. One answer sheet had provided a weighted score of 5 for two items (simultaneously) and a weighted score of 3 for two subsequent items (simultaneously), with no weighted scores of 1 or 2. The last answer sheet only had 4 items, with a weighted score ranging from 2-5. These diversions from the original instruction on the part of participants might be due to participants misunderstanding what was required of them, or the instructions on the information sheet and PowerPoint were not clear. Even though the NGTs were conducted in both English and Afrikaans, and with group members being multilingual, some participants might have understood the instructions more clearly than their fellow group member because they were more articulate and proficient in both languages.

Table 5.5

Results of NGT sample B

Serial No.	Ideas	Weight	Total
1	Food	5; 5	10
2	Workshops aimed at skills development via: social/media/flyers	2; 3; 5; 3	13
3	Organisations working together	3; 1	4
4	Needs assessment of the community	4; 3; 5	12
5	Highlight negatives, inform benefits of workshops	5; 4	9
7	Street leaders	3; 2; 1	6
8	Role models	2	2
9	Time	4; 4; 3	11
10	Follow-ups	3; 2; 2	7
11	Addressing ignorance	3; 4	7
12	Organisational stereotyping	5; 4	9
13	organisational networking	4; 5; 3; 4	16
14	More informal workshops re: language	1; 5; 2; 1; 2	11
16	Available counsellor	5;5	10
17	Venues - Always a problem	1	1

The following table contains data captured from sample C. In this group, all answer sheets were scored and weighted as instructed and were calculated accordingly.

Table 5.6

Results of NGT Sample C

Serial No.	Ideas	Weight	Total
1	Promote before function, awareness about the day (gain attention to get involved	4	4
2	Don't want to attend, don't see the benefit	2	2
4 & 5	Looking for platform where idea are heard and used	5; 1; 4; 2	12
6	Music attracts crowds	4	4
8	Proper arrangement -let know if cancelled in time	3; 4; 5; 3; 4	19
9	Gain trust / Earn respect	1; 5; 3; 5; 3	17
10	Punctuality of the organisation	3; 1	4
11	Workshops & recommendations of help services	2	2
12	Communication on level of participants	1	1
13	Lack of counsellors in the community	2; 1; 5	8
14	Evening classes - Matric	2	2

The study findings from the individual interviews and NGTs revealed a broad range of indicators related to *willingness to participate.* A total number of twenty indicators were extrapolated from the individual interviews, and sixteen indicators from the NGTs respectively. While the individual interviews focused on barriers and enablers within the individual's environment and the broader community (such as lack of agency, inaccessibility of the environment etc.), regarding *willingness to participate*, the NGTs focused more on process related activities (such as how interventions are advertised, language level of interventions, etc.), to encourage *willingness to participate* in child-centred initiatives.

5.2.3. Step 3: Delphi Panel Review

The aim of the Delphi Panel Review (including 12 academic experts and 4 community experts) was to achieve consensus on the indicators of the construct *willingness to participate* in interventions in round one and two. Round three of the Delphi Panel Review required agreement on the items developed for the WTPQ utilising the panel of experts (see Chapter Four, section 4.4.5). It is postulated that the utilisation of experts in the content domain of a measure increases the content validity of an instrument (DeVellis, 2012). The three rounds of review were held in,

December 2016, January/February 2017 and March 2017. In the first round the panellists were provided with a questionnaire to assess the indicators extrapolated from the literature, individual interviews and NGTs for content validity. Round two was a summary of the indicator rankings from the various panellists as well as the assessment of recommended changes, modifications or deletions by panellists. The third and final round was assessing the draft version of the questionnaire focusing on item appropriateness and relatedness to the indicators.

Group opinion and an aggregation of informed judgements from a group of community psychology and community engagement experts were utilised in round one and two of the Delphi Panel Review. As a method used to refine indicators about *willingness to participate* in interventions, the Delphi review contributed findings about the indicator's relevance and appropriateness to the construct. The Round 1 questionnaire is included in Appendix D. Indicators developed from the NGT discussions were listed under the following sub-headings:

- Indicators extrapolated from the data
- Indicators extrapolated from the literature

5.2.3.1. *Round one results of the Delphi Panel Review.* Each indicator was scored and items that obtained the lowest mean score based on the ratings allocated by the Delphi Panel Review after the second round of the Delphi Panel Review were eliminated. In round two a summary of the merged results of this round was sent to each panellist to review and indicate whether they agreed or disagreed with the results. Each response option was scored on a 5-point Likert scale, from most important to least important. The indicators with the lowest combined mean scores were regarded as most relevant to the construct *willingness to participate* than indicators containing higher scores. The minimum score, maximum score, range, mean and standard deviation for each indicator was calculated. Indicators were eligible to receive mean scores ranging from 0 to 5 (refer to Table 5.7 for results). Items with a mean of below 3.00 and a standard deviation below 1 were retained. Large standard deviations indicate a lack of consensus regarding the relevance of indicators. In contrast, indicators with a standard deviation below 1 indicated good consensus among reviewers regarding relevancy. Similarly, mean scores below 3.00 would indicate relevance, while scores above 3.00 would indicate a lack of relevance.

Table 5.7

Summary of Round One Reviewer Scores

Item Description	Range	Min	Max	Mean	Standard Deviation
Indicators extrapolated from the data					
Opportunity for personal growth	3	1	4	1.66	.81
Social community approval and trust	2	1	3	1.93	.59
Expectation and motivation towards change	2	1	3	1.53	.74
Intervention overload perceptions	3	1	4	2.00	.92
Cash and Gift Incentives	3	1	4	2.26	1.22
Lack of social support systems	3	1	4	2.28	1.06
Entertainment	4	1	5	2.93	1.22
Networks and communication	4	1	5	2.00	1.13
Competing priorities	2	1	3	1.33	.61
Isolation from partners and family	3	1	4	2.06	.96
A lack of childcare	4	1	5	2.13	1.24
Frailty and disability	3	1	4	2.46	1.06
Negativity	3	1	4	1.86	1.24
Disinterest	3	1	4	1.60	.82
Hopelessness	3	1	4	1.73	1.09
Community connectedness and cohesion	2	1	3	1.80	.67
Empathy and responsibility for safety of children	4	1	5	2.21	1.25
Neighbours as a source of safety	4	1	5	2.35	1.15
Cater to the communities needs	4	1	5	1.53	1.06
Youth focused activities	4	1	5	1.80	1.20
Indicators extrapolated from the literature					
Lack of community awareness	3	1	4	2.14	1.02
Practical logistical factors	3	1	4	1.86	.83
Language and cultural factors	3	1	4	2.06	.96

Item Description	Range	Min	Max	Mean	Standard Deviation
Personal factors	3	1	4	2.13	.91
Stigma attached to participation	4	1	5	2.46	1.30
Lack of confidence	4	1	5	2.28	1.20
Stressful life events	2	1	3	1.86	.83
Lack of trust	3	1	4	1.86	1.12
Participant-interventionist relationship	3	1	4	1.73	1.03
Lack of time and energy to participate	2	1	3	1.93	.88
Caregivers recognized a need for help	2	1	3	1.73	.59
Recognition of self-worth as caregivers	2	1	3	2.20	.77
Support of research staff	3	1	4	2.20	.94
Caregivers recognized the benefits of participation	2	1	3	1.53	.63
Lack of expectation and motivation toward change	3	1	4	1.85	1.02
Timeliness of recruitment strategies	4	1	5	2.20	1.20
Inaccessibility to the research site	4	1	5	2.60	1.18
Issues of expectations and unmet service needs	3	1	4	1.86	.99
Researchers' lack of familiarity	2	1	3	1.66	.81
Stringent inclusion criteria for participants	3	1	4	2.66	1.11

Indicators extrapolated from the data. All 20 indicators received a mean score of below 3, indicating their relevancy regarding the construct *willingness to participate*. From the indicators extrapolated from the data, one indicator received a mean score of 1.33 with a standard deviation of 0.61, and a minimum attainable score of 1 indicating the highest relevance to the construct. One indicator per mean score received 1.66, 1.93, 2.26, 2.28, 2.93, 2.13, 2.46, 1.86, 1.60, 1.73, 2.21, and 2.35, respectively (refer to Table 5.7). Two indicators received a mean score of 1.80, with one indicator receiving a standard deviation of 0.67 and the other 1.2. Mean scores of 1.53, 2, and 2.06 were attained by two items individually. While the criteria for a standard deviation was set at

below 1, and though only 8 indicators received a standard deviation below 1, final decisions about whether or not to remove such items were only made after the round two feedback of the Delphi Panel Review.

Indicators extrapolated from the literature. A similar pattern emerged with the results of the indicators extrapolated from the literature. All 20 indicators extrapolated from the literature received a mean score of below 3, thus indicating their relevancy regarding the construct *willingness to participate*. Four indicators received a mean score of 1.86, with three of these indicators meeting the criteria of having a standard deviation below 1 (i.e. 0.99 & two indicators receiving 0.83). Two indicators received a mean score of 1.73 and a standard deviation of 1.03 and 0.59. One indicator per mean score received 1.66, 1.93, 1.53, 2.28, 2.13, 2.46, 2.14, 1.85, 2.60, and 2.66 respectively. Also, 11 indicators received a standard deviation below 1 (refer to Table 5.7). As stated above, final decisions about whether or not to remove such items were only made after the second round of the Delphi Panel Review. Thus, the criteria for a standard deviation set at below 1 only came into effect in the next round. This meant that a total of 40 indicators were included in the next round of analysis.

5.2.3.2. *Round two results of the Delphi Panel Review.* In this round of the review, the panellists indicated whether they agreed or disagreed with the collective results obtained in round one. There after I grouped similar indicators together to form overarching indicators in order to retain a set of combined indicators from which items were generated (Table 5.9). Groupings of indicators were based on their practical application in the field, literature and data collected from participants. In this round there was an attrition of 3 panellists, two males and one female.

In round two of the Delphi Panel Review, panellists were in agreement with the collective results obtained in round one of the Delphi Panel Review (see section 5.2.3.1). However, in this round panellists also identified the gaps they were concerned about, and provided their recommendations (see Table 5.8 below). For example, a recommendation was made for community participation to be viewed as a range of resources. These resources (to foster community participation) could be deployed differently within the overall project. Consideration could be given to recruitment of facilitators or fieldworkers, for example, as some individuals may be excellent trainees, while

others may be more astute in positions of organisation, information technology support etc. Further suggestions included: having the presence of socially engaged community gatekeepers and leaders; clear and realistic short term benefits of the intervention; on-going engagement with community social actors; opportunities for community actors to participate in public fora outside the community setting, and so on. Whilst the recommended suggestions of the Delphi Panel Review may be valid and play a key role in engaging people to participate in interventions, some of these recommendations fall outside the purview of an assessment questionnaire but can be incorporated in the instruction manual of the questionnaire.

Discussion with my supervisor resulted in an agreement that some of the recommendations, for example, socio-economic status, gender and age, could be included in the demographic section of the questionnaire. It was also agreed that other recommendations such as the presence of socially engaged community gatekeepers and leaders or on-going engagement with community social actors, needs to be written up as part of the process of implementation and would not be included in the questionnaire. All decisions taken were based on practical expertise and application in the field as well as readings in the literature and other case studies. See Table 5.8: Delphi Panel Review Round Two Recommendations, below for a comprehensive list of recommendations for improvement of the items of the WTPQ.

Table 5.8

Delphi Panel Review Round 2 Recommendations

DELPHI PANEL REVIEW RECOMMENDATIONS

1.	Community participation should rather be viewed as a range of resources that can be deployed/employed differently within the overall project purview. (E.g. recruiting for facilitators, we may find some members who are excellent trainees, and others who may be used as workshop organizers, IT support staff etc.
2.	The presence of socially engaged community gatekeepers and leaders should be considered
3.	The short term benefits of interventions should be clear and realistic
4.	There should be on-going engagement with community social actors
5.	Create opportunities for community actors to participate in public fora outside community setting
6.	Take into consideration the political climate in the community
7.	Take into consideration how the intervention relates to the social realities
8.	The intervention should be linked to children's cognitive development - it should be made more visible
9.	Perhaps add something on socio-economic status and poverty
10.	Consider age and gender as a criterion of importance in willingness to participate
11.	Consider unemployment as a factor mitigating against participation
12.	There should be transparency regarding resources in the project. (Often matters such as budget, funding, travel, publications are not made accessible to the community members)
13.	Set up joint structure of decision-making between external and internal stakeholders
14.	Create democratic enabling processes (ensuring participatory processes and accountability) during the entire intervention process
15.	Create social and educational opportunities for participants in addition to the project goals (best when these goals are integrated into the project processes).

Once all the reviews from panellists were received, the next step was to group similar indicators together to form a set of overarching indicators from the literature and empirical data. This involved engaging with the data sets and literature until a single set of indicators emerged. During consultation with my supervisor, we first discussed all the suggestions made by the Delphi Panel Review in round one and two, and changed, added or removed indicators where necessary. This generated a further discussion on our part before a consensus on the indictors were reached. Thereafter, the study supervisor examined the set of overarching indicators extrapolated from the literature and empirical data sets. In doing so, I ensured that the indicators extracted from the literature and the empirical data reflected the comprehensive data set (i.e. the literature, individual interviews and NGTs) accurately, as well as its meaningful fit under each indicator. This process resulted in indicators being reduced from forty (see Table 5.7: Summary of Round One Reviewer Scores) to fifteen (see Table 5.9: Collapsed Dimensions after Round Two Reviewer Ratings).

Table 5.9 provides an overview of the combined indicators which have been reduced from forty indicators to fifteen indicators respectively.

Table 5.9

Collapsed Dimensions after Round Two Reviewer Ratings

	Collapsed Dimensions of the Construct *Willingness to Participate*
1.	Opportunity for personal growth
2.	Cater to the Community's Needs
3.	Research Approach
4.	Community Perceptions
5.	Expectation and Motivation
6.	Incentives
7.	Competing Priorities
8.	Awareness
9.	Political Climate
10.	Participant-Interventionist Relationship
11.	Entertainment
12.	Personal Factors (i.e. negativity, disinterest, hopelessness…)
13.	Community Cohesion, Networks & Communication
14.	Empathy and feelings of responsibility for safety of children of others
15.	Social Support Systems

Phase One produced and concluded with a number of dimensions which formed the foundation for the items developed. The end product was a pool of items that was developed tapping each of the 16 dimensions.

5.3. Phase Two: Constructing the Willingness to Participate in Interventions Items and Compiling the Questionnaire

The study findings from Phase Two was examined and analysed to achieve the second research objective.

Research Objective 2: To pre-test the draft version of the Willingness to Participate measure

The findings of the preceding phase served as the basis of the current phase and underpins the construction of items for the WTPQ. During Phase One, indicators were extrapolated from the

literature, individual interviews and NGTs, and utilised for the development of an item pool. This item pool directly reflected the indicators of the construct *willingness to participate*. The primary aim of generating a pool of items was to elicit as many potentially relevant questionnaire items necessary in order to attain saturation of all the facets of the target construct (Foxcroft, 2009). After an iterative process of refinement, the final scale consisted of 45 items and was named the *Willingness to Participate Questionnaire*. This phase comprised the following steps: Item generation and review of the draft version of the WTPQ by the Delphi panellists.

5.3.1.   Step 1: Item generation

The construction of the WTPQ was developed by compiling a set of potential items for inclusion in the questionnaire. The method of item generation included direct solicitation from individuals, NGTs, as well as from other sources in the literature. However, constructing items requires following certain protocols, namely selecting a response format, developing an item pool, reviewing of these items, and selecting a final pool for administration.

5.3.1.1. *Selecting a response format.* Deciding on a response format is a task that requires several issues to be considered. While open-ended questions permit an unlimited number of possible responses and participants can respond in rich detail as well as qualify and clarify responses, the disadvantage is that responses may be irrelevant to the subject matter, questions may be too general, and a greater amount of time, thought and effort is required (Kline, 2005). The questionnaire being developed was intended to be a self-report measure, that is, a method of data collection that depends on the participant to report his or her own feelings, attitudes, or beliefs with or without the assistance of the investigator (Paulhus & Vazire, 2007), and with closed-ended responses. The disadvantage is that the participants' report may not be accurate or reliable, and the participant does not have the opportunity to give a different response to those suggested, as well as include responses that they may not have considered previously (Kline, 2005). However, the advantage of this method is that the researcher can obtain information that is not easily observable, it is easier and quicker for participants to answer, and participants who are less articulate or less literate are not disadvantaged by these questions (Kline, 2005).

I decided to develop the questionnaire utilising both a Likert scale and Frequency Likert-type scale response formats (Kline, 2005), which contained a stem, and five response options. The response options were graded according to the extent to which participants were willing to participate in interventions; agreed with statements or not; and experienced circumstances from often to never.

Since the questionnaire comprised general statements, determining the response period had to be taken into consideration. Response period measures the time it takes participants to answer a question. Draisma and Dijkstra (2004) found that longer response periods were related to more incorrect answers, although Bassili and Scott (1996) reported mixed results.

Deciding on appropriate item stems was important, and since there were three different sections with three different response formats as well as sentence completion items, I had to select appropriate stems that grounded all statements in the questionnaire for all the various sections and items. In section 1, an example of a stem was "participation in an intervention …", another stem was "If the intervention…". After consultation with community members and community engagement experts about the manner in which the questions should be phrased, the first version of the measure consisted of only the one Likert scale, namely Very willing, Somewhat willing, Would not affect my decision either way, Somewhat unwilling and Very unwilling. However, this response format restricted the way statements had to be phrased and would ultimately be answered. The experts suggested including alternate response formats. The final questionnaire had three response formats (see Table 5.10 below).

Table 5.10

The Three Response Formats in the Willingness to Participate Questionnaire

Response Format 1 - Likert Scale				
Very Willing	Somewhat willing	Would not affect my decision either way	Somewhat Unwilling	Very Unwilling
Response Format 2 - Likert Scale				
Strongly Disagree	Disagree	Do not Agree or Disagree	Agree	Strongly Agree
Response Format 3 - Frequency Likert-Type Scale				
Never	Rarely	Sometimes	Often	Always

5.3.1.2. *Developing a pool of items.* The codes, themes and indicators developed in phase one of the study were used to develop the items for the measure. Items were phrased in the form of a statement and required participants to select a response from the available options. For example, the indicator "empower themselves with knowledge" became the item "Participation in an intervention would add to my skills which would make me …". The initial pool of items comprised of 64 items, each representing codes produced from analysis of the literature review, qualitative individual interviews and NGT.

5.3.1.3. *Reviewing the questionnaire format and item pool.* Prior to sending the draft version of the questionnaire to the Delphi Panel Review, the item pool was reduced from 64 to 45 items following a review with the study supervisor. The original pool consisted of a number of items that were redundant, ambiguous and unclear. When conceptualising the content of the questionnaire, various dimensions or components of the construct *willingness to participate* emerged. Thus, a decision had to be made about the dimensions, and which items best characterise these dimensions and the construct of *willingness to participate* in a questionnaire. For example, how would the dimension of *frailty and disability* be representative and illustrated in a questionnaire on the construct *willingness to participate* in interventions? We had to interrogate every dimension and each item, and assess their contribution to the construct *willingness to participate*. Unclear, ambiguous or redundant items were dropped but certain items were retained for feedback from the Delphi Panel Reviews to provide their insight on these problematic items.

While reviewing the item pool for unclear, ambiguous or redundant items was a necessary step in instrument development, it was also important to honour and respect the co-created knowledge through contributions of community members, stakeholders, service providers and the expert review panel on the construct *willingness to participate*. Thus, if indicators extrapolated from the individual interviews and NGTs were not converted into items in the questionnaire, it was noted to be incorporated as general guidelines into the instruction manual, implementation process and evaluations of the overall study.

In order to review the questionnaire format and item pool, I sent a preliminary version of the questionnaire to the experts, i.e. the Delphi Review Panel, for the third round of feedback. The

panel consisted of community psychologists, one educational psychologist, three clinical psychologists and two research psychologists all with a background in community engagement and working in communities. Two of the panelists had expertise in psychometry and scale development.

As mentioned in Chapter Four, the Delphi Panel Review group consisted of 9 males and 7 females in round one and because of attrition, for this round we ended up with 7 males and 6 females. Panellists were once again sent an email with the information sheet of what was required of them and the draft questionnaire for their review. Panellists were asked to evaluate each item on the questionnaire for its relevance, the response format applicability, clarity, item wording and ambiguity (DeVellis, 2012). Panellists were also required to identify any redundant items, and if identified, panellists had to indicate whether these items should be removed or retained. The Delphi Review Panel were also asked to insert any items they felt had been inadvertently omitted from the previous rounds. The panellists also provided input on the tense of items and instructions for completing the questionnaire. DeVellis (2012), posits that the use of experts in a particular field enhances the content validity of the instrument.

5.3.2.   Step 2: Results of the third round of the Delphi Panel Review

In this round of the review, panellists had to review items in terms of relevance of items; whether the response format was applicable or not, and whether the item should be kept or be removed in terms of the dimensions that measured the overall construct of *willingness to participate*. Each response option in the three areas in which the items were being reviewed were dichotomous in nature and thus had only two possible answers, that is, relevant or not; applicable or not; and retain or not. The item scores were aggregated for each option and decisions on item relevancy, response format applicability and retaining an item were based on these scores (see Table 5.11, 5.12, and 5.13 below).

I decided to score each item dichotomously and remove items that received a high mean score based on the ratings allocated by the Delphi Panel Review after the second round of review. Scores were calculated in terms of minimum score, maximum score, mean and standard deviation for each

item in the three areas under review. Due to the dichotomous nature of the review, items were eligible to receive scores ranging from 1-2 (see Table 5.11, 5.12, and 5.13 below).

I retained items with a mean of above 1.50 and a standard deviation below 1. Large standard deviations indicated a lack of consensus regarding the relevancy, appropriateness of response format and retention of items. In contrast, indicators with a standard deviation below 1 indicated good consensus among reviewers regarding relevancy of items, the appropriateness of the response format and the likelihood of retaining items. Similarly, mean scores below 1.50 indicated lack of relevance and appropriateness of response format and point to removal of the item, while scores above 1.50 indicated relevance and appropriateness of the response format and retaining items. Thus, items with a 75 percent majority agreement (a mean of 1.5 and above) across the three areas of review were deemed to be included in the final draft of the questionnaire.

Table 5.11 below provides a summary of the results of the descriptive statistics of items and whether the items are related to the indicator or not.

Table 5.11

Summary of Round Three Reviewer Scores on Item Relatedness to the Indicator

	N	Mean	Std. Deviation
Q1	13	2.0000	.00000
Q2	13	2.0000	.00000
Q3	13	2.0000	.00000
Q4	13	2.0000	.00000
Q5	11	1.7273	.46710
Q6	13	1.9231	.27735
Q7	13	1.8462	.37553
Q8	13	1.8462	.37553
Q9	12	1.9167	.28868
Q10	12	1.7500	.45227

	N	Mean	Std. Deviation
Q11	12	1.8333	.38925
Q12	12	1.8333	.38925
Q13	12	2.0000	.00000
Q14	12	2.0000	.00000
Q15	12	2.0000	.00000
Q16	12	1.9167	.28868
Q17	12	1.7500	.45227
Q18	12	1.8333	.38925
Q19	12	1.9167	.28868
Q20	12	1.7500	.45227
Q21	11	1.9091	.30151
Q22	12	2.0000	.00000
Q23	12	2.0000	.00000
Q24	12	1.9167	.28868
Q25	12	2.0000	.00000
Q26	13	1.8462	.37553
Q27	12	2.0000	.00000
Q28	12	1.8333	.38925
Q29	12	1.8333	.38925
Q30	12	1.9167	.28868
Q31	12	1.6667	.49237
Q32	12	2.0000	.00000
Q33	12	1.9167	.28868
Q34	12	1.9167	.28868
Q35	12	1.9167	.28868
Q36	11	1.8182	.40452
Q37	12	1.8333	.38925
Q38	11	1.9091	.30151
Q39	12	2.0000	.00000

	N	Mean	Std. Deviation
Q40	12	1.9167	.28868
Q41	11	1.8182	.40452
Q42	11	1.9091	.30151
Q43	12	1.8333	.38925
Q44	12	1.8333	.38925
Q45	12	1.8333	.38925
Valid N (listwise)	8		

As is evident in Table 5.11 above, thirteen items received a mean score of 2 (maximum attainable score) with standard deviations of zero indicating complete agreement amongst the reviewers on these items being related to the construct *willingness to participate*. Nine items received mean scores of 1.83, all with standard deviations of 0.389. Three items received mean scores of 1.84; one item received a mean score of 1.72; three items received mean scores of 1.90; one item received a mean score of 1.92; nine items received mean score of 1.91; one item received a mean score of 1.66; three items received mean scores of 1.75; and two items received mean scores of 1.81. Therefore, a total of 45 items met the inclusion criteria for item relatedness. Refer to Table 5.11 above for the results. Table 5.12 below provides a summary of the results of the descriptive statistics of items and whether the items' response format is applicable or not.

Table 5.12

Summary of Round Three Reviewer Scores on Response Format Applicability

	N	Mean	Std. Deviation
Q1	11	2.0000	.00000
Q2	12	2.0000	.00000
Q3	11	2.0000	.00000
Q4	11	2.0000	.00000
Q5	11	1.7273	.46710
Q6	12	2.0000	.00000

	N	Mean	Std. Deviation
Q7	12	1.8333	.38925
Q8	11	1.9091	.30151
Q9	11	2.0000	.00000
Q10	10	1.8000	.42164
Q11	11	1.7273	.46710
Q12	12	1.8333	.38925
Q13	13	1.9231	.27735
Q14	12	2.0000	.00000
Q15	11	2.0000	.00000
Q16	12	1.9167	.28868
Q17	11	1.8182	.40452
Q18	12	1.8333	.38925
Q19	12	1.9167	.28868
Q20	12	1.8333	.38925
Q21	12	1.7500	.45227
Q22	12	2.0000	.00000
Q23	12	2.0000	.00000
Q24	11	2.0000	.00000
Q25	11	2.0000	.00000
Q26	11	1.8182	.40452
Q27	12	2.0000	.00000
Q28	12	1.8333	.38925
Q29	12	1.7500	.45227
Q30	12	1.9167	.28868
Q31	11	1.8182	.40452
Q32	11	1.9091	.30151
Q33	11	1.8182	.40452
Q34	9	2.0000	.00000
Q35	11	1.9091	.30151

	N	Mean	Std. Deviation
Q36	12	1.7500	.45227
Q37	10	1.9000	.31623
Q38	11	2.0000	.00000
Q39	10	1.9000	.31623
Q40	10	1.8000	.42164
Q41	10	1.8000	.42164
Q42	12	1.8333	.38925
Q43	12	1.7500	.45227
Q44	10	1.9000	.31623
Q45	10	1.9000	.31623
Valid N (listwise)	8		

In table 5.12, fifteen items received a mean score of 2 (maximum attainable score) with standard deviations of zero, indicating complete agreement amongst the reviewers on these items. Six items received mean scores of 1.83, all with standard deviations of 0.389 (see Table 5.12 above). Three items received mean scores of 1.80; two items received mean scores of 1.72; four items received mean scores of 1.90; three items received mean scores of 1.909; three items received mean scores of 1.91; one item received a mean score of 1.92; four items received mean scores of 1.75; and four items received mean scores of 1.81. Therefore, a total of 45 items met the inclusion criteria for response format applicability. Table 5.13 below provides a summary of the Delphi Panel Review results (descriptive statistics of items) indicating whether the items should be retained or removed.

Table 5.13

Summary of Round Three Reviewer Scores on Whether an Item Should be Retained or Not

	N	Mean	Std. Deviation
Q1	13	2.0000	.00000
Q2	12	2.0000	.00000
Q3	13	2.0000	.00000

	N	Mean	Std. Deviation
Q4	12	2.0000	.00000
Q5	12	1.7500	.45227
Q6	12	1.9167	.28868
Q7	12	1.9167	.28868
Q8	12	1.8333	.38925
Q9	12	1.9167	.28868
Q10	13	1.6923	.48038
Q11	13	1.8462	.37553
Q12	12	1.8333	.38925
Q13	12	1.9167	.28868
Q14	12	2.0000	.00000
Q15	13	1.9231	.27735
Q16	12	1.9167	.28868
Q17	4	1.0000	.00000
Q18	12	1.7500	.45227
Q19	12	1.9167	.28868
Q20	12	1.8333	.38925
Q21	12	1.9167	.28868
Q22	12	2.0000	.00000
Q23	12	2.0000	.00000
Q24	13	1.9231	.27735
Q25	13	2.0000	.00000
Q26	12	1.8333	.38925
Q27	12	2.0000	.00000
Q28	12	1.8333	.38925
Q29	12	1.8333	.38925
Q30	12	1.9167	.28868
Q31	13	1.6154	.50637
Q32	12	2.0000	.00000

	N	Mean	Std. Deviation
Q33	11	1.9091	.30151
Q34	13	1.9231	.27735
Q35	12	1.9167	.28868
Q36	12	1.8333	.38925
Q37	12	1.8333	.38925
Q38	12	1.8333	.38925
Q39	13	2.0000	.00000
Q40	12	1.9167	.28868
Q41	11	1.9091	.30151
Q42	12	1.7500	.45227
Q43	11	1.8182	.40452
Q44	12	1.9167	.28868
Q45	12	1.9167	.28868
Valid N (listwise)	2		

In the above table it can be seen that eleven items received a mean score of 2 (maximum attainable score) with standard deviations of zero, indicating complete agreement amongst the reviewers on these items. Nine items received mean scores of 1.83, all with standard deviations of 0.389. One item received a mean score of 1; three items received mean scores of 1.80; one item received a mean score of 1.84; one item received a mean score of 1.69; one item received a mean score of 1.61; twelve items received mean scores of 1.91; three items received mean scores of 1.92; three items received mean scores of 1.75; and one item received a mean score of 1.81. A total of 44 items met the inclusion criteria for retaining items in the questionnaire and one item did not meet the inclusion criteria and was recommended to be removed from the questionnaire (highlighted in Table 5.13 above).

Even though only one item was identified for removal from the questionnaire, panellists also completed a qualitative component where general comments and recommendations were made with regards to items. Table 5.14 contains the summary of the general comments made by the

Delphi Panel Review. While the vast majority of panellists stated that they were generally satisfied with the items in the questionnaire, a few participants reported issues relating to question difficulty (n=2); phrasing of items (n=3) and inclusion of additional items (n=1). The general comments on the items and overall questionnaire indicated that panellists were satisfied with the questionnaire. Table 5.14 below provides a summary of the general comments made by the Delphi Panel Review on the draft version of the WTPQ.

Table 5.14

Summary of the general comments of the Delphi Panel Review

Verbatim Comments of the Delphi Panel Review
1. **Question 2** - This could also be in the form of a skill - as in 1 above. What do you mean by personal benefit? May be useful to clarify.
2. Provide descriptions of terms like interventionists, etc.?
3. **Question 3** - I am not sure how central the need to be a role model is, but if you have found this to be important, then retain.
4. **Question 8** - Is it not already assumed that this is for interventions in respondent's own community?
5. **Question 10** - Why not family as well? Why not community, as in 11 below?
6. **Question 14** - The issue of 'meeting community needs' is also raised above - is this repetitive, and if so, does it matter?
7. **Question 26** - This can mean very different things across a single community. I recommend a re-wording to make clearer and more specific what is meant by this.
8. **Question 33** - Maybe stated differently: I feel sceptic about the success of interventions conducted in my community
9. **Question 36 -** What is meant by this? I suggest that you re-write This item needs more clarity
10. **Question 41 -** offensive/self-deprecatory I would remove this word (limited). It is judgemental

Based on the ratings and feedback by panellists (see Tables 5.11, 5.12, 5.13 & 5.14) in the three areas of review as well as recommendations made by the Delphi Panel Review, items were grammatically corrected, rephrased or reworded, replaced removed or added.

A few recommendations were made by the Delphi Panel Review that did not result in changes. The recommendations were discussed with an expert in the field of instrument development as well as with my supervisor who concurred that these recommendations should not result in changes. Two panellists suggested that certain items were repetitive or similar in nature and could be removed. I consulted on this matter with my supervisor and indicated that items were there to allow for the testing response bias. It was agreed that the items remain in the questionnaire for further analysis. Two panellists also stated that they found some questions contradictory, and these items were also retained in the questionnaire for further analysis.

Once the final analysis on the feedback of the Delphi Panel Review had been finalised the draft version of the questionnaire was compiled, and consisted of 46 items (44 items met inclusion criteria, 1 item was recommended to be removed but was retained for the validation phase, and 1 item was added on recommendation by the Delphi Panel Review). The draft version of the questionnaire can be seen in Appendix N: Draft Version of the *Willingness to Participate Questionnaire*.

5.3.3. Step 3: Results from the pre-pilot of the draft version of the questionnaire

The draft version of the questionnaire was administered to a group of 8 community members in a pre-pilot to ascertain qualitative information regarding the face validity, and comprehensibility of the items in terms of literacy, language, and clarity of the instructions. The draft version of the WTPQ was administered in English in the pre-pilot as community members demonstrated fluency in both the English and Afrikaans languages. Even though, Afrikaans was the first-language of the majority of community members in Broadlands Park, this community had received many assessment measures, interventions and workshops presented in English.

Table 5.15 below includes points mentioned by community members in the pre-pilot of the questionnaire, assessment of these recommendations and the rationale for decisions made. Three

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changes were made to the questionnaire based on the feedback received from the pre-pilot. The first modification was reformatting of the demographic information to be more user-friendly by organising the information in table format on one page (see Appendix N: Draft Version of the Questionnaire). Prior to this, the demographic information were presented in a linear fashion, sentence by sentence, spanning over two pages. The second change was that certain sections of the instructions were made in bold format for emphasis, and the time required to complete the questionnaire was added to the preamble of the questionnaire. The third and final amendment was that the response heading options were added to the top of each page, instead of only been provided on the first page in section one.

As with the Delphi Panel Review, a few recommendations were made by the community members. Once again, all the recommendations were discussed with an expert in the field of instrument development as well as with my supervisor who concurred that these recommendations should not result in changes or amendments to the WTPQ. Certain items were identified as repetitive or similar in nature and were recommended by the Delphi Panel Review to be removed. However these items were not removed, but retained for the initial validation phase. Community members also found some questions contradictory, but, as previously stated in section 5.3.2, will be retained in the questionnaire for further analysis.

Table 5.15

Points mentioned during the pre-pilot and responses

Commentary	Assessment	Decision/Verdict
1. Reconsider the front end formatting	The demographic information format was changed	I consulted with experts in measurement construction who agreed that changing the format would make it more user-friendly
2. Instructions should be bolded for emphasis and user-friendliness	Specific areas in the instructions were bolded	The recommendation was valid
3. Place response heading options on all pages	Response heading options added to all pages	The recommendation was valid
4. State upfront the time taken to complete the questionnaire	Approximate time needed to complete the questionnaire was added	The recommendation was valid
5. Some of the questions appear repetitive	No changes were made to items	Certain items were deliberately inserted to test response bias

Even though very few changes were made to items based on the feedback obtained from the pre-pilot study, the study was helpful as community members were positive and enthusiastic about the questionnaire and conveyed very few concerns. This enthusiasm and positive attitude towards the questionnaire was encouraging as I continued onto the next phase of the study, namely the initial validation of the newly constructed questionnaire.

5.4. Summary of the Chapter

This chapter outlined the process of item construction utilised to develop a WTPQ for community members exposed to child-centred violence and injury prevention and safety promotion interventions being implemented in their communities. The process consisted of two phases that took place in consultation with experts in community psychology and community engagement,

experts in psychometry, and community members, service providers and stakeholders as well as the supervisor of the study at various intervals in the course of the study. The process led to the development of a *Willingness to Participate* Questionnaire containing 46 items. The WTPQ used both a Likert scale and a frequency scale response format ranging from 1-5. Higher scores indicated greater *willingness to participate*.

The next chapter reports on the study findings from the exploratory factor analysis to evaluate the factor structure of the draft version of the assessment tool as well as reliability, that is, the item-by-item descriptive analyses, Cronbach alpha (α) internal consistency reliability coefficients, and item-total correlation coefficients, which is the initial validation of this measure.

CHAPTER SIX

RESULTS: PHASE THREE

"The road of life twists and turns and no directions are ever the same.

Yet our lessons come from the journey, not the destination"

~Don Williams Jr., 2010

6.1. Introduction

The preceding chapter reported on the study findings in Phase Two of the development of the *Willingness to Participate* Questionnaire (WTPQ), which focused on the construction of items as well as assembling and pre-testing the draft version of the questionnaire. Phase Three of the study focused on determining the factor structure of the questionnaire, finalising the items and establishing the preliminary psychometric properties. In this chapter, the study findings of Phase Three (as described in Chapter Four) will be reported on. Study findings in Phase Three will be discussed in terms of findings from the exploratory factor analysis to evaluate the factor structure of the draft version of the assessment tool as well as reliability, that is, item characteristics and internal consistency of the items of the draft version of the assessment tool. Table 6.1 below provides an overview of how the study findings of Phase Three will be reported in this chapter.

Table 6.1

Overview of Results of Phase Three

6.2. Phase Three: Initial Validation of the Willingness to Participate in Interventions Questionnaire

The study findings from Phase Three will be examined and analysed quantitatively to achieve the final research objective.

Research Objective 3: Evaluate the factor structure and the internal reliability of the draft version of the Willingness to Participate Questionnaire

The results of Phase Two of this study (see Chapter Five, section 5.3) was employed to construct the draft version of the WTPQ aimed at community members exposed to child-centred violence and injury prevention and safety promotion interventions. The process of item construction, expert panel review, and pre-piloting of the draft version of the questionnaire to a group of community members, were processes put in place in order to ensure the face and content validity of the questionnaire. Since validation occurs throughout the questionnaire development process, this phase formed part of a battery of processes and activities employed in the validation of the draft version of the questionnaire.

Phase Three provides the next juncture in validation, which commences with the administration of the draft version of the questionnaire in a community. The completed questionnaires procured from this pilot provided the data for the initial validation analysis, that is, the exploratory factor analysis, Cronbach alpha (α) internal consistency reliability coefficients, and item-total correlation coefficients. Hooper (2012) recommended that a factor analysis be conducted first to establish whether a scale is unidimensional (one dimension) or not. Thereafter alpha can be utilised as a measure of the strength of each scale or confirmation of the unidimensionality of the questionnaire.

The analysis derived from this phase of the study provided a clearer picture of each item in terms of sub-scales in the questionnaire, whether the item discriminates well in the questionnaire, items correlates with other items, and if items tap into the content under investigation. All the aforementioned concerns are important to take into consideration in order to produce a valid measure.

6.2.1. Step 1: WTPQ pilot

Step 1 in this phase of the study required the administration of the draft version of the WTPQ to 349 households (see Chapter Four, section 4.6.1). The 349 questionnaires were administered to the households by five skilled data collectors, and occurred over a period of two months. Once the questionnaires were completed the data were captured, cleaned and analysed.

6.2.2. Step 2: Initial validation analysis: Exploratory factor analysis

The newly developed WTPQ consisted of 58 items. Twelve of these items were used to obtain demographic information from participants relating to their age, relationship status, living situation, education, employment and income. The remaining 46 items measured *willingness to participate*. The twelve demographic items were standard demographic questions in assessment tools and were thus not subjected to the same validation process as the 46 items measuring *willingness to participate*. The response format of the items was previously outlined in Chapter Five, section 5.3.1.1. See Table 6.2 for the scoring of the items.

Table 6.2

The Scoring of the Three Response Formats in the Willingness to Participate Questionnaire

Response Format 1				
Very Willing	Somewhat willing	Would not affect my decision either way	Somewhat Unwilling	Very Unwilling
= 5	= 4	= 3	= 2	= 1
Response Format 2				
Strongly Agree	Agree	Do not Agree or Disagree	Disagree	Strongly Disagree
= 5	= 4	= 3	= 2	= 1
Response Format 3				
Always	Often	Sometimes	Rarely	Never
= 5	= 4	= 3	= 2	=1

The data collected were analysed utilising a number of statistical methods. First, I conducted an exploratory factor analysis to determine the factor structure of the 46-item scale by measuring item contributions to the proposed factors (scales). I conducted a second and third factor analysis after removing items based on the results of the first factor analysis. When the measure was finalised I assessed the overall measure as well as each subscale's internal consistency reliability utilising

Cronbach's alpha. Internal consistency reliability is the consistency between items in a scale (that is, the extent to which items are consistently measuring the same underlying dimension).

6.2.2.1. Screening for missing values

Prior to conducting the factor analysis, it was important to conduct frequency checks on the data. These frequency tabulations clustered data into mutually exclusive categories, provided an overview of each variable's data, provided a spread of the data at a glance, indicated how many individuals (or cases) fell into each category of the variables, and delineated any missing data. In addition, the frequency tables (see Appendix H) also allowed me to check for inconsistencies in the information entered into each variable. The frequency tabulations indicated that the amount of missing data were negligible at 0.03% overall. Field (2009) suggests that it is safest to exclude cases listwise if it does not result in a massive loss of data. Since the missing data was negligible at 0.03% I decided to exclude cases listwise. The variable-to-participant ratio (1:7) was sufficient and would not affect the number of cases processed during factor analysis.

6.2.2.2. Analysis of compliance with specific assumptions

In order for data to be regarded as suitable for factor analysis, the data has to fulfill three prerequisites, namely sample size, correlations between variables and distribution of data. I assessed the data utilising standard criteria to determine if it was suitable to conduct an EFA.

a. Factor analysis requires a normal distribution of the data. I plotted a histogram (see Figure 6.3.) and a P-P (probability) plot (see Figure 6.4.) to assess the distribution of the data. The normal distribution curve as presented in Figure 6.3 and Figure 6.4 indicate that the data sampled is slightly skewed to the right, but still falls within a normal distribution curve. This assessment of a skewed distribution was confirmed with a significant Kolmogorov-Smirnov (K-S) test (D = .105, p < 0.05). Fields (2009) asserts that in large samples the K-S test and the Shapiro-Wilk tests can be significant even when the scores are only slightly different from a normal distribution. Also, as the sample size increases, normality parameters become more restrictive and it becomes harder to declare that the data are normally distributed. So for very large data sets, normality testing becomes less important. Hu, Bentler and Kano (1992) postulate that the violation of the assumption of normality

is only problematic when the other assumptions such as sample size, correlation between variables and factorability of the data are also violated.

Figure 6.1. Histogram indicating the distribution of the total scores

Figure 6.2. P-P Plot indicating the plotted data against a theoretical normal distribution

b. Conducting a reliable factor analysis requires that the sample size be large enough (Costello & Osborne, 2005; Field, 2009). (The issue of sample size has been addressed in Chapter Four, section 3.3.2.6.). In this study, the sample size of 349 was considered adequate for factor analysis. In addition, the subject-to-variable ratio of 1:7 fall within the recommended criteria for conducting exploratory factor analysis (Kass & Tinsley, 1979; Tabachnick & Fidell, 2007).

c. Factorability of the data was assessed by means of the Kaiser-Meyer Olkin (KMO) measure of sampling adequacy. A KMO at a minimum of 0.50 is acceptable; 0.50 - 0.70 is mediocre; 0.70 - 0.80 is good; 0.80 - 0.90 is outstanding, and higher than .90 is superb (Hair et al., 2010). Fields (2009) is of the opinion that to conduct a factor analysis, the variables should correlate with one another. However, the correlations should not be too high as this would be an indication of multicollinearity. When a variable correlates too highly with another variable it becomes almost impossible to determine the contribution that variable makes on a specific factor (Field, 2009).

The KMO measure was 0.79, indicating good sampling adequacy. In addition, I assessed the diagonal elements of the anti-image correlation matrix (see Appendix I). The anti-image correlation matrix indicated that items were above the bare minimum of 0.5 for all variables (Field, 2009). For a good factor analysis, the correlation between the off-diagonal elements should be very small. All of the off-diagonal values of this data were relatively small (see Appendix I). Bartlett's test of sphericity x^2 (1035) = 4536.969, p < .00 was significant which indicated significantly large correlation between items. Thus, the KMO statistic, the anti-image diagonal and the Bartlett's test of sphericity provided evidence that there is sufficient inter-correlations and common variance between variables, and that the current data set met this assumption and that it was appropriate to conduct a factor analysis on this data.

6.2.2.3. *Results of the exploratory factor analysis*
The ensuing section will illustrate the study findings of the exploratory factor analysis. This section, will in particular, explore the retention of factors and goodness of fit, as well as the emergent factor structure.

i.   *Retaining factors.*   The exploratory factor analysis (EFA) follows a linear process structure. Since the current study utilised an exploratory factor analysis approach I selected the maximum likelihood method of extraction in order to determine how many factors underlie the data set, with an oblique rotation. Maximum likelihood with direct oblimin attempts to extract the smallest number of correlated factors that account for the largest amount of variance (Hair et al., 2010).

To determine the number of factors to retain, I examined the scree-plot and looked at eigenvalues with a score of one and greater. The results from the eigenvalues and scree-plot did not produce a clear and unambiguous interpretation, with 9 factors displaying eigenvalues greater than 1 (see Table 6.1), and the point of inflection on the scree-plot occurring at either Factor 2, indicating a 1 factor solution or Factor 8, indicating a 7 factor solution (see Figure 6.3). Thus, more information is needed on the factor solution to make a decision as to the number of factors to retain. I chose to inspect the items and their loadings on each factor in order to select the number of stable factors to retain. Table 6.3 below provides an overview of the common variance explained for the factors extracted during the first round of factor analysis.

Table 6.3

Total Variance Explained for the First 20 Factors

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.184	15.618	15.618	3.193	6.942	6.942	2.781
2	3.107	6.755	22.373	1.533	3.332	10.274	1.584
3	2.583	5.616	27.989	1.226	2.665	12.940	2.656
4	2.088	4.538	32.527	3.070	6.673	19.613	2.782
5	1.770	3.848	36.376	1.562	3.395	23.008	2.381
6	1.607	3.493	39.868	3.031	6.589	29.597	3.610
7	1.499	3.258	43.127	1.719	3.737	33.333	3.816
8	1.362	2.960	46.087	1.514	3.290	36.624	1.943
9	1.262	2.743	48.830	1.045	2.272	38.896	2.389
10	1.191	2.589	51.419	.777	1.689	40.585	1.222
11	1.145	2.489	53.908	.756	1.644	42.229	2.264
12	1.111	2.415	56.323	.685	1.488	43.717	1.113
13	1.058	2.300	58.623	.649	1.410	45.127	1.340
14	1.010	2.195	60.818	.491	1.068	46.195	3.039
15	.951	2.067	62.885				
16	.945	2.054	64.939				
17	.908	1.973	66.913				
18	.868	1.888	68.800				
19	.834	1.813	70.613				
20	.814	1.769	72.382				

Figure 6.3. Scree-plot of the *willingness to participate* factor analysis

The EFA was an iterative process to select and achieve an acceptable pattern of loadings and factor structure solution. Factor loadings that were .30 and above were considered significant (Hair et al., 2010). A factor also required a minimum of three significant loadings to be considered a stable factor.

The initial factor analysis yielded a 7-factor solution. Based on the aforementioned criteria seven factors were extracted, each having a minimum of three items loading on a factor. The subsequent EFA was conducted on all 46 items based on the 7-factor solution that emerged from the initial EFA. This round of EFA identified twelve items that failed to significantly load on any factor (items 13, 15, 28, 30, 32, 33, 34, 37, 40, 41, 42 and 43). These items were removed before conducting a final round of EFA (see table 6.4 below).

Table 6.4

Factor Loadings for the EFA with Direct Oblimin Rotation Pattern Matrix with a Stipulated Seven-Factor Solution

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Q.1.	.310						
Q.2.						.635	
Q.3.						.519	
Q.4.					-.323		
Q.5.			.400				
Q.6.						.474	
Q.7.			.355			.301	
Q.8.						.513	
Q.9.						.359	
Q.10.	.712					.320	
Q.11.	.659						
Q.16.		-.877					
Q.17.		-.887					
Q.18.			.735				
Q.19.			.771				
Q.20.			.763				
Q.21.			.432				
Q.22.			.479				
Q.23.					-.825		
Q.24.					-.672		
Q.25.					-.324		
Q.26.					-.479		
Q.27.			.414				
Q.28.							
Q.29.		-.353					
Q.30.							
Q.31.							-.306

Item			
Q.32.			
Q.33.			
Q.34.			
Q.35.		.350	.425
Q.36.			.580
Q.38.			.456
Q.39.			.586
Q.40.			
Q.41.			
Q.44.		-.407	
Q.45.		-.575	
Q.46.		-.529	
Q.12.	.417		
Q.13.			
Q.14.	.428		
Q.15.			
Q.37.			
Q.42.			
Q.43.			

Note. Factor loadings < .30 are not displayed.

In this round of the iterative EFA process the same parameters were specified and only 1 item failed to significantly load on any factor (item 1). Item one was removed for the final 33 item scale (see table 6.5). As is evident, this round of factor analysis produced the same factor structure as the previous round of factor analysis. The model explains 39.9 percent of the common variance between items.

Table 6.5

Factor Loadings for the EFA with Direct Oblimin Rotation Pattern Matrix of the Third Round after all seven none loading items have been removed.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Q.1.							
Q.5.			.397				
Q.7.			.350				
Q.10.					.717		
Q.11.					.686		
Q.12.			.396				
Q.14.			.419				
Q.16.		-.912					
Q.17.		-.873					
Q.18.			.713				
Q.19.			.748				
Q.20.			.760				
Q.21.			.427				
Q.22.			.475				
Q.27.			.398				
Q.29.		-.332					
Q.44.				-.475			
Q.45.				-.678			
Q.46.				-.485			
Q.4.	.350						
Q.23.	.822						
Q.24.	.668						
Q.25.	.321						
Q.26.	.475						
Q.31.							-.326
Q.35.							.457
Q.36.							.546

Q.38.			.508
Q.39.			.659
Q.2.		.604	
Q.3.		.459	
Q.6.		.494	
Q.8.		.524	
Q.9.		.357	

Note. Factor loadings < .30 are not displayed.

Thus, a seven-factor solution was extracted, each having a minimum of three items except factor 5. Factor 1 consisted of five items (item 4, 23, 24, 25 and 26), Factor 2 consisted of three items (item 16, 17 and 29), Factor 3 consisted of ten items (item 5, 7, 12, 14, 18, 19, 20, 21, 22 and 27), Factor 4 consisted of three items (item 44, 45 and 46), Factor 5 consisted of two items (item 10 and 11), Factor 6 consisted of five items (items 2, 3, 6, 8, and 9) and Factor 7 consisted of five items (item 31, 35, 36, 38 and 39). These items were considered the final items in the overall scale and the extracted factors represented the subscales.

Factor structure and labelling the factors of the willingness to participate questionnaire. The final questionnaire after the factor analysis consisted of 33 items and 7 subscales. Table 6.6 contains the factor number and the label assigned, the item number in the questionnaire and a brief description of the question. Items that loaded significantly on Factor 1 were related to perceived benefits and this factor is therefore named accordingly. Factor 2 is labelled incentives as the items that loaded on this subscale all related to attributes of incentives for participation in interventions such as food and cash vouchers. Factor 3 is labelled priorities and community needs as the items that loaded on this subscale referred to, either priorities faced by community members both in their personal capacity and as an active community member, or to participants concern over their community and how interventions needed to be contextually relevant. Items that loaded significantly on Factor 4 were all related to community connectedness, and as a result, I labelled the factor lack of community cohesion. The two items that loaded on Factor 5 dealt with approval sought from peer relationships so this factor is labelled peer approval. Even though the criteria for selecting stable factors were three or more items loading on a factor, I decided to retain the two-item factor. A single factor can have two items loading, if there are conceptual and or practical

motivation supporting the retention of these two items. I labelled Factor 6 accessibility and value as the items related to convenience, user-friendliness, availability and value participants attach to child-centred interventions. Finally, the items on the last factor referred to the unselfishness and generosity of individual community members and their sense of belonging, and as a result, I labelled the factor altruistic capital.

Table 6.6

Description of items and factors

Factor and label	Item/question number	Item description
Factor 1: Perceived Benefits	4	Addresses community's needs
	23	Create a safer environment
	24	Participating would benefit children
	25	Intervention information
	26	Knowing possible benefits
Factor 2: Incentives	16	Receiving food vouchers
	17	Receiving a cash voucher
	29	Know the interventionist personally
Factor 3: Priorities and Community Needs	5	Intervention usefulness
	7	Transportation
	12	Community react negatively
	14	Not expect any change
	18	Trouble with my work
	19	Have time constraints
	20	Not fit into daily routine
	21	Experiencing a stressful situation
	22	No time or energy to attend
	27	Not considering community's practices, values and beliefs

Factor and label	Item/question number	Item description
Factor 4: Lack of Community Cohesion	44	Stakeholders always inform each other
	45	Community members work together
	46	Feel welcomed and accepted by community
Factor 5: Social Approval	10	My friends would approve
	11	My family would approve
Factor 6: Accessibility and Values	2	Personal benefit
	3	Serve as a role model
	6	Recruit at a suitable time
	8	Intervention run in the neighbourhood
	9	Not conducted in home language
Factor 7: Altruistic Capital	31	Entertainment (removed after conducting item analysis).
	35	Feelings of belonging
	36	Helping other people
	38	Support community projects
	39	Help those in need

The seven factors or subscales represent salient dimensions of the construct *willingness to participate* of community members exposed to child-centred violence and injury prevention and safety promotion interventions being implemented in their communities. The questionnaire has thus been named the *Willingness to Participate Questionnaire* (WTPQ).

6.2.3. Step 3: Assessing the internal consistency reliability of the willingness to participate questionnaire

The internal consistency reliability of the entire measure, namely the WTPQ, as well as the internal consistency of each subscale, was evaluated. This allowed for the assessment of the consistency of responses of all items in the measure. The internal consistency of each of the subscales were assessed by means of calculating the Cronbach Alphas. Cronbach's alpha were calculated for the final subscales as well as for the entire measure as an indication of their psychometric

properties. Based on this information, a decision was made to select the final items and scales for the WTPQ.

The Cronbach's alpha of the entire questionnaire (32 items) and for each of the seven subscales were calculated. The results can be found in Table 6.7 below. The entire questionnaire displayed good reliability, Cronbach's α = .76. The subscales however, displayed mixed results, with Cronbach's α ranging from 0.55 to 0.80. Subscales 1, 2, 3 and 5 displayed good reliability with Cronbach's alpha ranging between 0.70 and 0.80. Subscales 6 and 7 displayed adequate reliability with Cronbach's alphas of 0.61 and 0.65 respectively. Subscale 4 displayed very poor reliability with a Cronbach's alpha of 0.55. Whilst Anastasi and Urbina (1997) believe that a Cronbach's alpha ranging between 0.80 and 0.90 is satisfactory, Nunnally (1978) asserts that a Cronbach's alpha of 0.70 or more indicates good internal consistency.

Table 6.7

Reliability statistics of the WTPQ and subscales

Scale/subscale	Cronbach's alpha
Entire questionnaire	0.76
Subscale 1 (Perceived Benefits)	0.70
Subscale 2 (Incentives)	0.71
Subscale 3 (Priorities and Community Needs)	0.80
Subscale 4 (Lack of Community Cohesion)	0.55
Subscale 5 (Social Approval)	0.72
Subscale 6 (Accessibility)	0.65
Subscale 7 (Altruistic Capital)	0.61

The item analysis was conducted on each subscale of the WTPQ. The item analysis was conducted on the seven subscales in order to assess whether individual items correlated with the score of each subscale respectively. The results of the item analysis can be found in Table 6.8 below.

Table 6.8

Inter-item analysis of the WTPQ subscales

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Subscale 1		
Q.4	.434	.692
Q.23	.596	.628
Q.24	.534	.635
Q.25	.435	.677
Q.26	.454	.670
Subscale 2		
Q.16	.694	.426
Q.17	.649	.468
Q.29	.303	.890
Subscale 3		
Q.5	.412	.790
Q.7	.414	.790
Q.12	.426	.787
Q.14	.458	.784
Q.18	.596	.769
Q.19	.565	.772
Q.20	.554	.773
Q.21	.479	.781
Q.22	.489	.780
Q.27	.370	.794
Subscale 4		
Q.44	.369	.459
Q.45	.459	.297
Q.46	.304	.554

Subscale 5

Q.10	.567	
Q.11	.567	

Subscale 6

Q.2	.536	.559
Q.3	.408	.602
Q.6	.450	.585
Q.8	.463	.599
Q.9	.343	.673

Subscale 7 before the removal of item 31

Q.31	-.292	.610
Q.35	.301	.141
Q.36	.331	.166
Q.38	.295	.161
Q.39	.353	.174

Subscale 7

Q.35	.381	.561
Q.36	.376	.552
Q.38	.388	.544
Q.39	.472	.506

Note: if item-total correlations are <.30 they are in red

In each subscale, no items displayed corrected item-total correlations below .30 except item 31 in subscale 7, indicating that with the exception of item 31 all other items on each subscale correlated with the score for each subscale. No subscales' α value increased significantly if any item on a specific scale was removed, except item 29 in subscale 2. The alpha value increased from .71 to .89. However if this item was removed then this subscale would only consist of two items. Thus, I decided to retain this item as the overall measure did display good reliability with a Cronbach's alpha of 0.76.

6.3.   Summary of the Chapter

This chapter described the study findings in phase three, namely the initial validation of the WTPQ. The WTPQ (developed in the Western Cape), is a 32-item measure to assess the willingness of community members to participate in interventions. This phase of the study included the evaluation of the factor structure of the draft version of the WTPQ (research objective 5) through exploratory factor analysis and the establishment of the internal consistency reliability of the WTPQ and its subscales (research objective 6).

Once the compliance with specific assumptions had been ascertained three rounds of iterative EFA were conducted on the 46 items, assessing *willingness to participate*. The factor analysis revealed seven subscales that represent the multidimensional concept of *willingness to participate*. These subscales are (1) Incentives, (2) Priorities and community needs, (3) Social approval, (4) Perceived benefits, (5) Altruistic capital, (6) Accessibility and values, and (7) Lack of Community cohesion. The subscales were derived from community members, stakeholders and service providers and therefore represent the domains that are pertinent to their *willingness to participate*.

These 7 latent factors accounted for 39.9 percent of the variance between items of the WTPQ. Furthermore, the overall measure demonstrated good internal consistency reliability (a Cronbach's alpha of $\alpha = .76$) and initial validity (7 latent factors) in the current sample. The subscales displayed mixed results on the internal reliability, with Cronbach's alpha ranging from 0.55 to 0.80. With the exception of item 31, the remaining 32 items were retained in the final version of the WTPQ as the inter-item analysis indicated that the internal consistency would not improve as a result of deleting specific items.

The WTPQ is a comprehensive, useful and creative modality that provides interventionists with the opportunity to assess the willingness of potential participants or communities to participate prior to the implementation of interventions.

Chapter Seven discusses the results reported in this chapter as well as in Chapter Five.

DISCUSSION

"The secret of change is to focus all of your energy, not on fighting the old,

but on building the new."

~Socrates, n.d.

7.1. Introduction

The current study sought to develop and conduct the initial validation (that is, establish content and construct validity and internal reliability) of a locally developed questionnaire (WTPQ) to assess the willingness of community members to participate in safety promotion interventions. The WTPQ, a 46-item measure, was developed through an interactive, participatory process comprising of multiple phases, which included individual interviews, NGTs and Delphi Panel Reviews in the construction of the items and draft questionnaire. The developed items were validated by a Delphi review panel, as well as through administering the scale to a randomised sample of community members (n=349) in order to establish the internal consistency reliability and factor structure of the measure. It is anticipated that the development of a new instrument will assist in overcoming three shortcomings of current *willingness to participate* measures: (a) the questionnaire will be the first known generic instrument developed that can be utilised across multiple safety domains (including violence and the prevention of injuries due to traffic, burns, poisoning and falls); (b) the addition of a formalised general definition will provide a foundation from which to work in future research studies; and (c) the resulting questionnaire will assist researchers and intervention developers to identify not only overall levels of *willingness to participate*, but also specific psychosocial barriers and enablers that can be targeted to improve intervention outcomes.

This chapter discusses the results highlighted in the two preceding chapters. Chapter Five reported on the findings from the Individual Interviews, NGTs, and round one, two and three of the Delphi Panel Review, as well as the results of the pre-pilot of the draft version of the questionnaire. Chapter Six reported on the results of the exploratory factor analysis and the internal consistency reliability analysis. In this chapter, I will critically examine and discuss the findings of the preceding two chapters, taking into account the literature, and putting forth lessons learnt and

new knowledge acquired on the process and development of the WTPQ.

This chapter references the overall aims of the study and the three research objectives. Research objective one addressed the conceptualisation and the operationalisation of the construct *willingness to participate*, while research objective two focused on item development and establishing face validity of the draft version of the measure. The last objective focused on determining the construct validity and internal consistency reliability of the WTPQ.

Increasing the *willingness to participate* of community members in violence prevention and safety promotion interventions does not necessarily indicate an increase in participation rates, neither does it assure sustainable participation. However, willingness precedes actual participation, and thus it is postulated that insight into factors that relate to *willingness to participate* provides an avenue for motivating actual participation in a positive manner. If an intervention was implemented despite a community's lack of *willingness to participate*, the intervention would likely be ineffective and unsuccessful. Assessing *willingness to participate* in interventions in order to prevent wasting time, effort and resources in already resource-strained environments becomes imperative. To this end, measuring *willingness to participate* prior to implementing interventions is critical to the success of interventions.

7.2. Research Objective 1: Perceptions and Understandings of Willingness to Participate

The first research objective explored the local perceptions and understandings of community members, stakeholders, service providers and interventionists regarding *willingness to participate* in child-centred safety promotion interventions. This is an important step in instrument development (see Anastasi & Urbina, 1997; Foxcroft & Roodt, 2009), that is, to conceptualise, develop, define and operationalise the construct of *willingness to participate.* The model of participation underpinning the WTPQ assumes that participation is multidimensional, and that *willingness to participate* can be defined, conceptualised and operationalised as a combination of individual and environmental dimensions or domains of participation (see Chapter Two). A mixed-methods, bottom-up approach was employed where eleven individual interviews, three NGTs and three rounds of Delphi Panel Reviews were conducted to gain insight into participants'

perceptions and understandings of the construct *willingness to participate* (see Chapter Five). This section provides a discussion on the conceptualisation and operationalisation of the construct *willingness to participate* by highlighting the participatory and community-engaged strategy utilised in this study, as well as the key findings of the individual interviews, NGTs and Delphi Panel Review.

The emphasis and growing interest in participatory research has gained substantial momentum across disciplines. NGT is a participatory technique rooted in empowerment approaches of individuals and designed with social justice in mind (Balcazar et al., 1998). The significance of employing a mixed-method design utilising the participatory community-engaged framework of NGTs in this study is that it allowed participants the space to delineate their interpretations and understanding of the construct *willingness to participate,* allowing for a bottom-up conceptualisation and operationalisation of the construct within the instrument development process. In addition, qualitative methods of inquiry deepen insight beyond expert opinion and literature reviews, and are therefore regarded useful in instrument development (Williams et al., 2013). Using a qualitative method in conjunction with traditional instrument development methods can be regarded as an added dimension to tool development, which is contrary to the conventional top-down approach. Test developers have traditionally drawn upon theory-based top-down methods to guide the development of instruments (Murphy & Davidshofer, 1998). The advantage of a theoretically grounded test is that assessment practitioners can draw on the theory to make predictions about behaviour. Furthermore, there is often a close link between test results and suggestions for intervention (Foxcroft, 2004). However, Murphy and Davidshofer (1998) are of the opinion that assessment measures based in theory have severe limitations. According to them, the validity of the test is closely linked to validity of the theory on which it is based.

When conducting community-engaged research, practitioners are often faced with challenges when negotiating cultural norms, languages and diverse environments (Hult, 2014). Data-acquiring methods and practices within a community-engaged framework can be significantly prejudiced due to incongruences between the environment within which the research is conducted, and the mismatch between the researcher and participants. These incongruities could include instances where the environment in which the intervention is being implemented is not conducive

to the intervention, or the research agenda of the researcher does not match the needs of the participants and their community in which the intervention is being implemented. These disparities can lead to misinterpretations of data and misguided assumptions on the part of the researcher about the research in question (Turgo, 2012; 2013). Denzin and Lincoln (2011) highlight that these incongruities can compromise the quality of study findings. Thus, the current study utilised a mixed-methods framework comprising a participatory community-engaged research approach to develop the questionnaire, as well as to provide a means of triangulation to improve the veracity of the study process and the study findings.

The key findings to be discussed in this section will focus on the core dimensions and themes that emerged from the individual interviews and NGTs. While the individual interviews focused on the barriers and enablers faced by individuals in their environment and the broader community (such as lack of agency, and inaccessibility of the environment), the NGTs focused more on process related activities (such as how interventions are advertised, and language level of interventions) to improve *willingness to participate* in child-centred safety initiatives.

The individual interviews revealed several key experiences or perceived barriers and enablers to *willingness to participate* in child-centred safety promotion interventions in a 'coloured' low-income community in South Africa. These experiences or perceived barriers and enablers to *willingness to participate* spanned across three core emerging dimensions, 1) namely lack of basic social infrastructure; 2) alienation; and 3) community connectedness and sense of belonging (see Chapter Five). The nine key themes that emerged from the NGTs were: 1) personal gain/help-seeking; 2) social/community approval and trust; 3) expectations and motivations towards change; 4) intervention overload; 5) incentives; 6) networks and communication; 7) convenience; 8) lack of social support systems; and 9) entertainment.

An important first step in instrument development is conceptualisation and operationalisation of the construct. This involves defining the construct to be measured and providing operational definitions for the construct (that is, specifying how the construct is to be measured). In this regard, it is important to take into account the suggestion by Foxcroft (2004). She highlights that when developing a measure for utilisation in a multicultural and multilingual context, it is of vital

importance that the construct under investigation is explored in terms of its cultural and linguistic relevance as this too can lead to compromised study findings.

In the context of the above imperatives, it was essential to define *willingness to participate* prior to developing the questionnaire. The literature review revealed that there was considerable variation in how the concept participation is defined and viewed. In addition, this concept can also be categorised into different genres of participation: political participation; research participation; community participation; public participation; indigenous participation, citizen participation; and so on (see Chapter Two for definitions and framings of *willingness to participate*). There is consensus in the literature that participation is a multi-dimensional phenomenon, which can occur in a variety of different forms, contexts and disciplines, resulting in a myriad of interpretations of the construct. Thus, how participation is defined and which dimensions it comprises is often specific to a particular domain or discipline, and not universally applied (Kelty et al., 2015). It has been argued that even though a number of measures have been identified in the literature to assess participation, due to the anomaly of defining participation and its dimensions, and procuring standardised universal definitions, there remains a lack of consensus on the range of dimensions to be measured (Salter et al. 2005). Furthermore, the extent to which measurements of participation are equivalent cannot be taken for granted in cross-cultural studies. Assessment measures would thus vary in terms of life situations, social roles, and dimensions being assessed (Yorkston et al., 2008). Despite this, there is consensus in the literature that participation entails a number of dimensions that is regarded as important to consider when developing a full understanding of the construct (Yorkston et al., 2008). In this study, w*illingness to participate* is defined as the predisposition or readiness to act or engage voluntarily in intervention programmes or organised scientific inquiry (research) (Shaughnessy, 2013). It was therefore necessary for the questionnaire to conform to this definition of *willingness to participate*. I presented this definition to participants, as well as explored their understandings and perceptions of the construct *willingness to participate*.

Based on the findings from the literature, and the definition formulated for this study, I explored participants' understandings and perceptions of the construct *willingness to participate* in interventions through individual interviews and NGTs. Consistent with Ajzen's (2006)

methodological formulations, the individual interviews and NGTs assisted in identifying salient beliefs that should be quantifiably measured in the questionnaire. In addition, the study regarded participants (community members) as key agents and valid co-constructors of knowledge, with valuable contributions to make about their perceptions of *willingness to participate*, thus enabling the operationalisation of the construct *willingness to participate* to be grounded in the particularities of the South African context.

The study findings from the individual interviews and NGTs revealed a broad range of indicators related to *willingness to participate.* A total number of fifteen indicators were extrapolated from the individual interviews, and twenty indicators from the NGTs respectively. With respect to the former, the narratives of participants centred around three core and interdependent dimensions associated with *willingness to participate* in interventions, with each in turn comprising of a number of sub-themes. These over-arching dimensions illustrated that *willingness to participate* in interventions is associated with: 1) participant's psychological stance, where participants reflected on utilising alienation as a coping mechanism or survival technique; 2) community connectedness and belonging as a means of survival; and 3) instrumental limitations specific to adverse settings, namely the lack of systems of care. The dimensions that emerged from this study were consistent with other studies that revealed similar findings (Kafaar, 2015; Lesch et al., 2006; Van Niekerk & Ismail, 2013).

The most prominent dimension to emerge was that of community connectedness and sense of belonging, which traversed the other two dimensions, appearing to be inclusive of the other two dimensions. Participants viewed community support and connectedness as a catalyst or impetus for participation in interventions. Research corroborates this finding, recognising the instrumental role connectedness plays in facilitating an individual's access to opportunities, as well as nurturing his or her participatory abilities (Zavaleta, Samuels, & Mills, 2016). Participation in a range of activities, at different levels, whether it be household, community, or broader social and political structures, is regarded as crucial for a sense of belonging, and for building trust and reciprocity in communities (Samuel & Uwizeyimana, 2017).

Interview participants recognised the vulnerability of children in their community, and highlighted the multiple and co-existing barriers to participation in local child safety interventions. Their experiences stress the far-reaching impact of adverse community circumstances on their individual and family well-being, with psychological and social responses that have been constructed to deal with everyday challenges. Within this context, participants expressed the importance of community support and connectedness in their ability to prioritise daily family and safety decisions, and to individually and collectively manage, if not overcome, their social and daily living challenges.

However, participants felt that there was a general lack of connectedness and cohesion in their community, which seems to contribute to the vulnerability of children in their community and, in turn, leads to a lack of *willingness to participate* in child-centred safety promotion interventions. It has been indicated that communities and their members are at an increased risk of social exclusion and marginalisation when faced with poverty (Swartz, Harding & De LAnnoy, 2012). Even though studies conducted in various contexts have identified safety as a ubiquitous concern for children across South Africa (see Adams & Savahl, 2015; Isaacs & Savahl, 2014; Parkes, 2007; Savahl et al., 2015; Swart-Kruger & Chawla, 2002), participants reported that on the whole their community failed to stand together, whether it be in the interest of children's safety and well-being or not. This holds true especially for some community members from low socio-economic contexts who socially isolate themselves, for example, as a defense mechanism against crime occurring in their community (Emmet, 2003).

Some participants contended that they do in fact, simultaneously, experience cohesion and connectedness in their immediate environment. This apparent contradiction, which emerged between connectedness and lack of connectedness, may be attributed to community members' aspirations to achieve cohesion in the community. Feeling connected to one's community represents an extension of the basic human desire for interpersonal relationships with others and the need to belong (Baumeister & Leary, 1995). It is postulated that if communities intentionally build social networks and foster social connectedness, the likelihood is higher that these individuals will develop a sense of shared responsibility for each other and for their community.

In other words, by encouraging pro-social, altruistic behaviour, individuals can be motivated to act in collective, supportive ways.

In this study, the small pockets within the community that manifested networks and notable relationships can be viewed as indicative of resiliency in a community plagued with adversity and violence (Henández, 2002). Resiliency is regarded as a positive, adaptive response of community members living in adverse environments (Tchombe et al., 2012). These networks and relationships reinforce positive social behaviour, which in turn increases community connectedness (Durlauf & Fafchamps, 2005). Informal support networks, which include neighbours and close friends in the community, have been associated with resiliency (Ahmed, Seedat, Van Niekerk, & Bulbulia, 2004). What is important for this study is that the importance of the aforementioned informal networks was recognised, and thought to play a vital role in the planning and implementation of interventions.

What I found noteworthy was that participants' own personal safety was never raised as a barrier or enabler to participation. Yet, the literature indicates that safety (both in the context of taking part in the intervention, as well as in the context of travelling to the intervention), particularly for women and the aged, is regarded as a barrier to participation (see NI Assembly, 2010). Participants shared their concerns about their children's safety and recognised the overall impact of gangsterism, drugs, alcohol and violence on the children, which have been on the increase in Broadlands Park, yet personal safety as a barrier to attending interventions was never raised. This may be due to the desensitisation of community members in Broadlands Park who are faced with drug peddlers, taverns, gang shoot outs and gang-related threats on a daily basis.

The individual interviews laid the foundation for the NGTs, which sought to further unpack community members' perceptions and experiences of the construct *willingness to participate* in interventions. The central findings which emerged from the three NGTs centred around nine key themes: 1) personal gain/help-seeking; 2) social/community approval and trust; 3) expectations and motivations towards change; 4) intervention overload; 5) incentives; 6) networks and communication; 7) convenience; 8) lack of social support systems; and 9) entertainment. Analogous to the findings of the preceding individual interviews, community cohesion and lack of

support structures proved to be determining factors moulding participants' representations and understandings of the construct *willingness to participate* in interventions across the two groups (that is the individual interview participants and the NGT participants). The participants from the individual interviews most often portrayed the lack or existence of community cohesion in terms of their immediate surroundings, or at an individual and micro level, while NGT participants talked more about localities and organisational levels of connections and cohesion. This was to be expected since the individual interview participants were community members only, while the NGTs consisted of diverse groups, including community members, stakeholders, fieldworkers and service providers within the community.

As we consider community cohesion in the context of *willingness to participate* within a specific community context, local knowledge provides important insights. Within a South African context, local knowledge in this study include an appreciation of social relationships and community connectedness as closely linked to *willingness to participate* in interventions and essential for an individual's well-being.

In summary, the main objective of the study was to produce an assessment tool, utilising the indicators identified as most relevant through the literature review, individual interviews, NGTs and the Delphi Review Panel. Research objective one provided a comprehensive understanding of community members' perceptions and understandings of the construct *willingness to participate* in child-centred safety promotion interventions. The participatory approach created opportunities for in-depth exploration of this phase of the development process. Engaging communities in this process allowed access to local knowledge, providing deeper insight into the construct *willingness to participate* and what psycho-social determinants impact *willingness to participate* in interventions. Engaging the community served as a means to explore expert knowledge, enable a degree of power-sharing amongst community members and the researcher, as well as stimulate the co-construction of knowledge from different sources (McDowell, Moore, & Holland, 2014; Negev, 2012; Negev, Davidovitch, Garb, & Tal, 2013).

With evidence accruing from the literature (see Della Queva, 2017; Gellman & Turner, 2013), individual interviews and NGTs, the central point being made here is that participation, and by

extension *willingness to participate*, are multidimensional constructs, which cannot be globally defined due to their complexity, and context specific nature.

7.3. Research Objective 2: Item Development and Face Validity of the Draft Version of the Questionnaire

The second research objective was to pre-pilot the draft version of the WTPQ. This objective was achieved by: generating a pool of items based on the findings related to research objective one; reviewing of items and the draft version of the WTPQ by the Delphi panellists (namely academic experts and community experts), as described in Chapter Five; and pre-testing the WTPQ for qualitative information regarding the face validity and comprehensibility of the items, as well as the clarity of the instructions. The process led to the development of the draft version of the WTPQ, which consisted of 46 items. This section of the discussion focuses on the recommendations made by the Delphi Review Panel, key steps in the item development process, and feedback from the pre-pilot.

A key consideration at this juncture of the study was to consider recommendations that were directly relevant to constructing items for the questionnaire, as well as recommendations related to the management, process and implementation of interventions.

Since the inception of this study, it has been important to build in methods to enhance different forms of validity and reliability. I included questions in each category that were similar, only slightly reworded or inverted to the negative form in order to help test for consistency, or reliability, of participant responses, and to address response bias. The questions were designed not only to assess opinions and attitudes but also specific actions. The diversity of questions was intended to help increase the content validity of the survey.

Certain recommendations made by the Delphi Review Panel were noted for inclusion in an instruction manual that I aim to develop once the instrument has been fully validated (Foxcroft & Roodt, 2005). The instruction manual to the questionnaire will contain vital information for assessment practitioners, for example, information on the recruitment of participants, such as fieldworkers and data collectors, at various levels of the intervention. This information in the

instruction manual will detail the rigorous methodology followed in developing the questionnaire and will indicate, amongst others: the purpose of the measure; to whom it should be applied; what the limitations are; how to administer the measure, score and interpret the measure; its cultural appropriateness; and the measure's validity and reliability (Foxcroft, 2009).

The pre-pilot of the draft version of the questionnaire was the first step of the practical application of the WTPQ and was administered to a small group of eight community members. These community members were as similar as possible to the target population, in order to ascertain qualitative information regarding the face validity, comprehensibility of the items, and the clarity of the instructions (Foxcroft & Roodt, 2009). In this way, the study elicited community voice, participation and action, which is consistent with the participatory paradigm (Taylor, Sherman, Kim, Jarcho, Takagi, & Dunagan, 2004). The co-construction of knowledge developed in conjunction with the local community members, in contrast to scientific knowledge that is generally developed externally, not only enhances the validity of the WTPQ but ensures cultural and contextual relevance of the measure. The information gained through the pilot study centered mainly on practical considerations when administering the questionnaire.

The community members provided valuable feedback on improving the WTPQ, making it more reader-friendly. The addition of sign-posts throughout the questionnaire was an invaluable add-on to the questionnaire as it will assist and guide both the individual administering the questionnaire, as well as the community member completing the questionnaire. Even though I was meticulous in trying to make everything as clear and unambiguous as possible in the questionnaire, only a pre-pilot or pilot can provide opportunity to ultimately assess each section of the questionnaire and ascertain how the sections fit together. Thus, only once the pre-pilot group started working through and answering the questions could they actually identify what would assist them in understanding the questions better; whether the language used in the questionnaire was at a level they could understand; and what would assist in making things more simple and clear.

The pre-pilot was administered in group-format whereas the pilot was administered individually to community members in their home. Individual testing in the pre-pilot was not possible because of the time limits of the eight community members. At this stage of the development process it

was important for me to be working in unison with the community members and, at the same time, be attentive to how the administration of the questionnaire was received by them. It was necessary for me to ascertain whether: the proposed time limit would be sufficient; the questions were not biased towards a certain group of people; the questions were presented in a way that participants understood what was being asked of them; the participants were comfortable enough to refuse to answer questions; and whether any questions might offend participants from different cultural groups. This process augmented the internal validity of the questionnaire, which would indicate that the WTPQ is indeed measuring *willingness to participate*.

The pre-pilot of the questionnaire had contributed to the completion of the final version of the WTPQ, and its possibilities for further research. Participants reported that the time it would take to complete the questionnaire needed to be made clear at the outset as potential participants have other important priorities, which would impact on their availability to complete the questionnaire. Disadvantaged communities with inadequate resources have less control over work schedules or may have more than one job (Mendez et al., 2009; Ratele, 2012), constraining their free time. Employment and income in under-resourced communities are prioritised above all else (Islam, 2005). What free time community members might have will be allocated to household chores, shopping or other priorities that need their attention. The importance of orienting the participant about what would be required of them if they agreed to participate in answering the questionnaire was highlighted by the pre-pilot participants.

In conclusion, the community members were engaged to provide feedback on the draft version of the questionnaire towards the final version. This allowed for a participatory approach to the development of the questionnaire, which allowed community members to provide insight into how the questionnaire functioned. Empowering the community through its members to become active participants in the research process and allowing their voices to be heard within their communities prevents what has often been a Eurocentric approach to instrument development (Taylor et al, 2004). It has been argued that methodologies that integrate collaborative work with communities and its members in ascertaining, managing and acting on locally identified concerns provide opportunities for positive and efficacious outcomes (Minkler, Glover-Blackwell, Thompson, & Tamir, 2003). In this way, integrating collaborative work with communities during the instrument

development process engenders the co-construction of new knowledge and constructive change in communities and the ecosystems within which they are rooted. The participatory community engagement strategy addresses community issues and concerns from a positive approach and is established within an ecological framework (Israel, Schulz, Parker & Becker, 1998). This framework requires the researcher to gain knowledge about the community of interest, as this would be the foundation on which to base decisions about the type of actions that would best serve the community's objectives and interests (Trickett, 2009).

7.4. Research Objective 3: Establishing the Construct Validity and Internal Reliability

The third research objective evaluated the factor structure and the internal consistency reliability of the draft version of the WTPQ. Exploratory factor analysis was employed to evaluate the factor structure of the draft version of the WTPQ, and item characteristics and internal consistency of the items of the questionnaire to assess internal reliability. The factor analysis revealed seven latent subscales that represented the multidimensional concept of *willingness to participate*. These subscales are 1) Incentives, 2) Priorities and community needs, 3) Social approval, 4) Perceived benefits, 5) Altruistic capital, 6) Accessibility and values, and 7) Lack of community cohesion. The measure also demonstrated good internal consistency reliability (α = 0.72).

The next section of discussion will highlight the establishment of validity (content and construct) of the WTPQ through an examination of the language in which the WTPQ is developed, the significance of training of data collectors, and the emergence of the seven-factor solution. Additionally, a brief discussion on the internal consistency of the measure will also be provided.

7.4.1. Validity

Since content validity was addressed at multiple stages of the development process, and since content validity is an integral part of the WTPQ development process, I report on and discuss both the representativeness and relevance of the domain being assessed occurs throughout the thesis. Thus, processes of demonstrating content validity is once again discussed here.

Initially, the assertion was made that the WTPQ can be used to draw the same conclusions with regard to *willingness to participate* of both English and Afrikaans participants (community members). In other words, this questionnaire can be used as an English single language measure to assess not only English participants but also bilingual participants who are proficient in both the English and Afrikaans languages. Walsh and Betz (2001) assert that measures developed need to be administered to a sample that is representative of the target population for whom the questionnaire is intended. Thus, one cannot develop an English questionnaire and administer the English version to a group of Afrikaans participants and expect that it would not be biased against the Afrikaans group.

During the pre-pilot, I expected this very issue of language to surface since the questionnaire was in English. Many of the community members living in Broadlands Park understand English; however, Afrikaans is their mother tongue. Surprisingly though, language was not raised as an issue during the pre-pilot. The pre-pilot group of community members managed to answer the English version of the questionnaire without much difficulty as I kept the language as easy and straightforward as possible. Participants did not feel that answering the questionnaire in English impacted on their understanding and answering of questions even though their first language was Afrikaans. In South Africa, English and Afrikaans were the co-official languages for over three decades. Post 1994, South Africa gave official recognition to eleven languages (Kamwangamalu, 2002). Therefore, most South Africans are likely to have been exposed to English and/or Afrikaans at some point in their life through contexts such as the school, friendships, work, and the home. Individuals are also exposed to English on a daily basis through the television, radio stations, newspapers, movies, internet and other media. English has therefore become the predominant language and is the language of choice in public communication, academia, business and technology in South Africa (Ismail, 2010). However, I had to consider the possibility that some of the larger group of 349 community members in the main pilot may not have an adequate level of language proficiency and understanding of both English and Afrikaans languages. I had to consider the possibility and think prospectively that this heterogeneous sample group could have biased results obtained from the pilot since the problem might not lie in the difficulty of items in the questionnaire *per se* but on the level of language proficiency of participants, which would in turn affect their level of understanding and comprehension of the questions.

Huysamen (2002) contends that consideration should be given to language deficiencies and cultural contexts when using a single language questionnaire, as this may account for the poor standing of participants on the construct measured, and not owing to poor performance on their part. Different language groups respond differently to a particular question purporting to measure that construct (de Beer, 2004). Foxcroft (1997) is of the opinion that developing assessment measures in a multicultural and multilingual society is a complex process, and language proficiency can often become a potential source of bias in these measures. Therefore, while the pre-pilot did not allude to any issues with the language in which the questionnaire was developed, I had to keep this in mind for the larger pilot.

During the training of the data collectors, it was suggested that the questionnaire be translated into Afrikaans and administered in Afrikaans in the pilot. Concerns were raised that contamination of the study could occur if data collectors had to read and translate each question on the questionnaire into Afrikaans for participants. Also, if the questionnaire was administered in English, data collectors might have been placed in a situation where they would need to translate the questions into Afrikaans in order for participants to understand the question. As a result, each data collector would translate and explain questions according to his or her own understanding, with the result that questions might vary or be similar but not equal to the original English version. Concerns were also raised that if each data collector was given a translated version of the questionnaire in Afrikaans, contamination might once again occur as the researcher would not be able to ascertain whether data collectors gave the participant the Afrikaans version and had them record their answers on the English version without having looked at the English questions. The data collected would then be from questions on the Afrikaans version of the questionnaire and not the English version of the questionnaire, biasing the results obtained from the analysis. The questionnaire would be inherently biased as it would be dependent on prior exposure to English, which has implications for socialisation, and specific cultural as well as environmental contexts (see Primrose, Fuller, & Littledyke, 2000). The difficulty would then arise whether the same underlying construct was being measured in both the Afrikaans and English questionnaire, bringing the integrity of the data into question. Thus, a final decision was made to have the questionnaire and all accompanying documents translated into Afrikaans and administered in the Afrikaans version to participants. Deciding to translate the questionnaire into Afrikaans was not

only necessary but is of critical importance in a multilingual society such as South Africa, where language can provide numerous difficulties when assessment measures are administered. Assessment measures administered across cultures and languages may not produce the same meaning across the different groups (Ismail & Koch, 2012), and this may lead to adverse implications for accuracy, fairness and credibility of the WTPQ (Huysamen, 2002).

Once all the feedback was taken into consideration and addressed, the WTPQ was ready to be administered to the 349 households selected. During administration, both quantitative and qualitative information regarding the performance on each item should be gathered (Foxcroft, 2009). In other words, those who administer the questionnaire by observing the participants and identifying which items they generally struggled with or did not understand can gather information qualitatively. This exercise can provide valuable information during the process of item refinement and final item selection (Foxcroft, 2009). The data collectors during their training had to role-play a data collection session in which they administered the questionnaire. This particular modality of training, that is, the use of role-plays to demonstrate how a data collection session should be carried out, was regarded as important preparation for data collectors. The data collectors found it particularly helpful as it placed them in a "real-world" setting in which to apply their training. It also provided me with an opportunity to monitor and guide data collectors in how to observe participants and record what they observed.

A key lesson learnt from the training of data collectors was that following a didactic, yet interactive approach in preparing community members as data collectors was vital. Added to this, incorporating role play activities provided critical opportunities for relaying information, and proved to be an important modality for ascertaining how well information was understood.

To summarise this section of the discussion, when developing a new measure, researchers need to have a clear conceptualisation of the construct under investigation (see Chapter Three, section 3.3.2). Without established content validity, researchers, organisations and/or individuals utilising the measure cannot with confidence be sure that variance in the scores obtained is due to the latent construct which, in this study, is community members' *willingness to participate* in interventions (see Chapter Three, section 3.2.1). In this study, a high degree of consensus between experts

regarding the relevance of items is employed as evidence of strong content validity (see Chapter Five, sections 5.2.3 and 5.3.2), which provides future users of the WTPQ with confidence about inferences drawn from the data. Changes in scores obtained on the WTPQ should reflect a change in a community member's level of willingness to participate in interventions. However, as theories and data about *willingness to participate* in interventions progress and evolve, the content validity of the WTPQ can become outdated (Messick, 1995). Thus, in developing a measure, an iterative process involving ongoing conceptual development and psychometric analysis should be built into the construction process (Waltz et al., 2010).

7.4.2. The seven-factor structure

The final instrument consists of 32 items measuring seven domains related to *willingness to participate* in interventions. The factor analysis revealed a seven-factor structure which accounted for 39, 9 percent of the common variance in *willingness to participate* in child-centred initiatives. What this means is that, within the South African context, the construct *willingness to participate* incorporates the latent dimensions of: 1) perceived benefits, 2) incentives, 3) priorities and community needs, 4) peer approval, 5) lack of community cohesion, 6) accessibility and value, and 7) altruistic capital. These findings are analogous to those of another South African study, conducted by Fincham, Kagee and Swartz (2010), where a psychometric scale was developed to measure *willingness to participate* in a HIV vaccine trial. The study findings identified five latent factors that reflected *willingness to participate*, namely personal gains, stigmatisation, safety and convenience, social approval and trust, and personal costs.

The first factor, perceived benefits, refers to an individual's perception of the positive consequences that will accrue by engaging in a specific health-related behaviour (Leung, 2013). Participants reported that the perception of intervention benefits would enhance community members' *willingness to participate* in these interventions. This factor emerged as an enabler to the construct w*illingness to participate.* Murphy and colleagues (2007) assert that perceived benefits should be regarded as relating to gains for the participants, which they believe may enhance the motives of intervention participants. Community members may be more willing to participate in interventions if they also realise that the perceived benefits may have multiple purposes that go beyond personal needs. For example, the perceived benefits of participating in

child-centred safety promotion initiatives include community members' beliefs about improving the safety of their children, and that of their community. The perception of benefits is often employed in explaining an individual's motives for performing a behaviour and adopting an intervention (Leung, 2013). The perception of benefit is theoretically linked to an individual's beliefs about his or her own outcomes and not necessarily those that might occur for others.

The TPB (Ajzen, 1985) suggests that an individual's behaviour is driven by his or her attitude towards the behaviour. Thus, attitude about behaviour encompasses beliefs about the consequences of performing the behaviour multiplied by the individual's evaluation of these consequences. This first factor incorporates three items, which all relate to the perceived benefits by community members.

The second factor, incentives, refers to factors and or conditions within the environment that motivate or encourage participation (Mdluluza, Midzi, Duruza, & Ndebele, 2013) in child-centred safety promotion initiatives. This dimension reflected the community members' desire for themselves to benefit either personally or financially from participating in child-centred interventions. The dimension included two items encompassing financial incentives (that is, food vouchers and cash vouchers), and one item relating to non-financial incentives (that is, knowing the interventionist on a personal level) (Zurn, Dolea, & Stilwell, 2005). Participant-interventionist relationships have been reported as an enabler of *willingness to participate* (Gomby, 2007).

The International Council of Nurses (Zurn et al., 2005) reports that incentives do influence participation and can be positive or negative, financial or non-financial and tangible or intangible. Providing financial and or non-financial compensation for participation in interventions is a controversial ethical issue. Even though incentives were regarded here as a dimension of *willingness to participate,* ethics committees or research study regulatory bodies may not permit incentives, especially when an incentive is regarded as payment or concession to stimulate increased participation (Mduluza, 2007). Non-monetary gifts and community recognition, on the other hand, are generally considered to reinforce and not undermine efforts in communities and are therefore regarded as acceptable (Heyman & Ariely, 2004). Hongoro and McPake (2004) recognise the complexity in drawing up incentives for community members that are financially

based in that they may potentially undermine the ethos of services provided by research. In economically developing countries such as South Africa, even a small compensation might be a substantial incentive and closer to an inducement for impoverished individuals. As a result, in impoverished communities where there are competing demands, particularly with regard to time and money, providing adequate remuneration or incentives may be an enabler that attracts potential participants. This factor emerged as a barrier to w*illingness to participate.*

The analysis of the third factor of the WTPQ, priorities and community needs, was factorially complex as items measuring two seemingly independent dimensions of *willingness to participate* were loaded onto the same factor. The first dimension of the factor, priorities, reflected the participants' concerns about having to prioritise specific social and domestic responsibilities due to their impoverished conditions and limited resources. Community needs highlighted the participants' concern about their community and how interventions needed to be contextually relevant. Participants indicated that they would be less willing to participate in child-centred interventions if these interventions were not relevant to their context. Priorities can also be characterised as the multiple responsibilities community members are faced with on a daily basis, where each community member may view his or her own direct responsibilities as more important over others. Multiple responsibilities are typical for individuals living in impoverished communities. For these community members, it is often difficult and overwhelming to juggle all these priorities. Van Niekerk and Ismail (2013) postulate that these multiple responsibilities restrict community residents from engaging in safety promotion initiatives. Individuals with marginal resources have less control over their work schedules (Ratele, 2012), which in turn affects other responsibilities. Participants in this study reported that there was insufficient time to fulfil all their responsibilities and still participate in an intervention.

The burden of competing priorities was a common barrier reported from participants. These competing priorities included, especially, time and financial challenges associated with participation in local community initiatives. The participants appeared to be anxious about such issues as maintaining current employment, having to find employment, or holding multiple jobs to meet their financial needs. The salience of monetary concerns is likely to be driven by high rates of poverty in this community as unemployment rates in low-income communities have remained

high over the past decade. Participants also expressed concerns about being responsible for the care of children and other relatives, more so when they were single parents. For such participants, the commitment to participate in child-centred initiatives could be a difficult barrier to overcome even if appropriate retention strategies were implemented.   Similar concerns about priorities relating to time and financial challenges have been consistently cited as a factor affecting *willingness to participate* (Van Niekerk & Ismail, 2013). It is likely that these concerns raised by participants may be driven by participants' innate motivation to survive the harsh realities of their current socio-economic realities. Added to this, the gendered power structures and social norms within the community lock both women and men in positions that limit their independence and, in turn, their *willingness to participate* in community initiatives.

Lack of community cohesion is the fourth factor that loaded significantly, and refers to the degree to which an individual or group is socially close, interrelated, and/or share resources with other individuals or groups (Durkheim, 1997; Yuksel & Turner, 2008). This factor includes one item on an individual level and two items at a broader community and organisational level. Community cohesion relates to encouraging positive relationships, which engender feelings of trust and belonging in communities; in turn this fosters individuals' *willingness to participate* in initiatives (see Communities and Local Government, 2007; Kim & Blieszner, 2017). The UN Social Summit of 1995 regarded a socially cohesive community as one where all groups within a particular setting experience a sense of belonging, inclusion, participation, acknowledgement and legitimacy (Fidzduff, 2007). Within the South African literature, community cohesion is reported to have emerged post 1994 as a means of changing the political and economic landscape, and has been linked to, and many a time treated as synonymous with nation-building in this context (Palmary, 2015).

In this study, participants reported that there was an overwhelming lack of cohesion in their community. Participants were of the opinion that the absence of community cohesion in their community had an impact on community members' *willingness to participate* in interventions. This was evident in the factor analysis where the factor related to community cohesion emerged as a barrier. Kawachi, Kim, Couts and Subramanian (2004) assert that community cohesion and connectedness can be supported if community members participate in community activities which,

in turn fosters community involvement. Strong social bonds are needed for community members to mobilise and act on issues that affect them (Homan, 2010).

The fifth factor, social approval, reflected participants desire to receive social rewards for participating in interventions, such as approval from friends and family. Social approval suggests beliefs about what other individuals do, and what these individuals think we should do, in relation to a reference group (Mackie, Moneti, Shakya, & Denny, 2015). It implies the social influence a peer group or community exerts on its individual members, as each member attempts to conform to the expectations of the group. Social approval guides an individual's behaviour in particular social settings (Mackie et al., 2015). In other words, the social reinforcement received by individuals has key implications for social behaviour in that individuals will by and large consistently behave in a manner to gain approval and avoid criticism (Mackie et al., 2015). It is argued that the cumulative change in social approval towards participation in interventions by community members will result in subsequent behavioural change of the community (see Mackie et al., 2015). However, the results in this study indicated that this dimension was factorially problematic as it comprised only two items that related specifically to seeking approval. Whilst a three item factor criteria was specified prior to the factor analysis, this dimension only rendered two items valid. I decided to retain these two items based on both conceptual justification and for practical reasons. This decision is strengthened by previous literature, which indicates that once the scope of definition is taken into account, even single-item measures may suffice (Bergkvist & Rossiter, 2007; Drolet & Morrison, 2001; Wanous, Reichers, & Hudy, 1997).

Participants stated that they would be more likely to participate in interventions if their families, friends and community reacted positively towards their decision to do so. To this extent, creating awareness around the purpose of the intervention and its benefits to address the identified social problem in the community may be associated with greater positive reactions by family, friends and community members in general (see Minch, Kincaid, Tremaine, Thomas, 2017). Broader community awareness of the intervention is regarded as an essential enabling factor (Brown & Topcu, 2003). Knowledgeable community members may contribute by disseminating knowledge to other community members. Thus, creating awareness about the intervention can be associated

with behavioural beliefs and attitudes about the intervention as a precursor to *willingness to participate* in safety promotion interventions (see Chu, Kim, Jeong, & Park, 2015).

The sixth factor that loaded significantly, accessibility and value, was also found to be factorially complex as items measuring two seemingly independent dimensions of *willingness to participate* loaded on the same factor. Accessibility, the first dimension of this factor, refers to 'the opportunity that an individual at a given location possesses to take part in a particular activity or set of activities' (Hansen, 1959, p. 74) or as the measure of the average number of opportunities community members possess to participate in specific activities (Wachs & Kumagai, 1973). Accessibility highlights participants' participation in child-centred interventions to be convenient and easily reached. Accessibility can be categorised as either active or passive accessibility (Cascetta, Carteni, & Montanino, 2013). Active (or person) accessibility concerns the ease in engaging in community activities (e.g., workshops) for individuals located in a particular community (Cascetta et al., 2013). Conversely, passive (or place) accessibility relates to the ease of being reached by potential users (e.g., researchers, interventionists) for an intervention or initiative located in a particular community (Cascetta et al., 2013). This dimension includes four items that range across active and passive accessibility. The second dimension, value, connotes the worth participants attach to child-centred interventions and how positive perceptions of value will increase *willingness to participate* in these interventions. Value refers to the relative worth, utility, usefulness or importance of something such as a quality, attitude, or method (Collins English Dictionary, 1994). In other words, if a particular value is placed on something, it indicates the importance or usefulness that this holds.

Participants reported that they would be likely or willing to participate in child-centred initiatives if these initiatives were convenient and practical. The importance of accessibility of interventions to potential participants was similarly identified by previous studies (see Mills et al., 2004). Participants stated that if interventions were to be implemented in their community, community members would participate more willingly. Understandably, then, participants stated that transportation costs would not be a relevant factor, which was similarly found in other studies (see Mills et al., 2004).

Altruistic capital, the final factor, is defined as 'an asset that enables individuals to internalise the effect of their actions on others' (Ashraf & Bandiera, 2017, p. 70). In other words, altruistic capital refers to the notion that every individual has within himself or herself an inherent aspiration to serve others. Ashraf and Bandiera (2017) argue that altruistic capital can increase or decrease depending on the individual's intrinsic proclivity and the degree to which he or she functions in an environment that encourages the accumulation of altruistic behaviour. This dimension integrates four items, which relate to altruistic endeavours.

Some participants reported a strong desire to act for the benefit of the community's children by assisting in child-centred safety promotion efforts, thus endeavoring to improve safety for children in the community. This finding is consistent with other research results that suggest that the need for an individual to act for the greater social good as opposed to individual benefit is one of the most frequently cited motivators for participation (George, Mehra, Scott, & Sriram, 2015; Kafaar, 2015; Sahay et al., 2005). Although altruism emerged in this study as an enabler to participants' own involvement, it may also be viewed as an enabler at the community level, where supportive and cohesive communities might act for the greater good. It appears that participants' altruism may be driven by concerns about the high rates of child injury and violence in their community, and the related consequences, as experienced and witnessed by participants. A possible means of understanding altruism within the South African context is in terms of the concept of Ubuntu. Ubuntu is an African philosophy where the common good of society is placed before the good of any one individual (Venter, 2004). In such a case, an appeal to Ubuntu may result in an increased level of *willingness to participate* among potential South African participants (Moodley, 2005). However, the examination of the influence of Ubuntu on *willingness to participate* goes beyond the data of this study.

The items under each dimension or subscale measure an essentially unidimensional trait. One can thus conclude that these factors largely accord with their corresponding theoretical constructs. Thus, it becomes possible to specify exactly which dimension of the construct the WTPQ is measuring. It is argued that specifying the different dimensions of a construct often paves the way for a more sophisticated understanding of what is to be tested (Babbie & Mouton, 2001). The latent dimensions of the construct identified are utilised as a basis for operationalising the construct

more concretely (Foxcroft, 2009). Babbie and Mouton (2001) define a dimension as a specifiable aspect or facet of a construct. Since many concepts comprise of a number of dimensions, it is advantageous to spell them out as this assists in further refining the definition of the construct.

Following the factor analysis, an internal consistency reliability analysis was conducted. The aim of the item analysis was to determine which items best measured the content or construct of the questionnaire. In essence, a good item constantly measures the same characteristic as the questionnaire as a whole. Thus, through the process of item discrimination, the test developer is able to examine the ability of an item to differentiate correctly among participants on the basis of the content or behaviours that the test was designed to measure (Anastasi & Urbina, 1997). This item discrimination power can be calculated by the item discrimination index, as well as the item total correlation (Foxcroft, 2009).

The internal consistency of the WTPQ was good ($\alpha = .72$) in this sample of community members. Cronbach's alpha reflects the proportion of common variance accounted for by the measure. Thus, the WTPQ accounts for 72 percent of common variance. A general rule of thumb suggests that a good scale requires an alpha of .70, or higher (Nunnally 1978). The WTPQ exceeded this requirement, which means its internal consistency reliability is good, supporting future use of this measure. Furthermore, the SEM (standard error of the mean) for the WTPQ was 10.8, meaning that an individual's total score on the WTPQ should vary by 10.8 points with repeated measure. Thus, if an individual receives a total score of 100/145, if repeated that individual's score would fall between 90 and 110. Questions were formatted in such a way that the aggregate results from each category can create a score for ranking the willingness of people or communities to participate in interventions.

7.5. Ecological Analysis of Factors

The PPCT-TPB model in this study provides multiple levels of interaction from which to view reality (see Chapter One, section 1.5). The PPCT model was employed to explore participants' understandings and perceptions of an individual's *willingness to participate* in safety promotion interventions. The main premise of this framework was that four interconnected domains (Process, Person, Context, Time) structure our world, emphasising the interaction between an individual's

biological disposition and his or her environment, and the bi-directional nature of influences. This framework was therefore appropriate to the current study as the participants expressed that barriers and enablers to an individual's *willingness to participate* in interventions take place within and across various systems.

The TPB was employed as an extension of the PPCT model and postulates that an individual's intention to perform a behaviour is influenced by his or her attitude towards adopting the behaviour, an evaluation of the subjective norms or social influence of others who may encourage or discourage such a behaviour, and an individual's perception of the level of control in his or her ability to adopt the behaviour (Ajzen, 1991). This model thus offers a means of understanding the barriers and enablers of *willingness to participate* beyond a superficial level.

Utilising the PPCT-TPB model to frame the data, a primary finding of the study was that both person-related and context-related enablers and barriers impact an individual's *willingness to participate* in interventions. Person-related barriers to *willingness to participate* encompassed incentives and lack of community cohesion. Context-related barriers to *willingness to participate* also included incentives and lack of community cohesion. Person-related enablers to *willingness to participate* encompassed altruistic capital, accessibility and value, social approval, and priorities and community needs. Similarly, context-related enablers to *willingness to participate* comprised altruistic capital, accessibility and value, social approval, and priorities and community needs. Context-related enablers and barriers include factors within Bronfenbrenner's microsystem, mesosystem, macrosystem and exosystem.

Bronfenbrenner's PPCT model (see Chapter Two, section 2.4.4.1) provided a means to understand the seven latent factors that impacted on *willingness to participate* and examine these dimensions at different levels of interaction. The model recognises that various systems of interaction frame our world, and provides a means to locate the seven latent factors, ranging from those that pertain to the person, to those more distal, context related factors. Community members' *willingness to participate* is said to be affected by influences impacting on them, as well as by their surrounding environments (context). Those parts of the environment (context) that relate to the seven latent

dimensions of *willingness to participate* in particular, which emerged from the factor analysis in this study, influence and impact an individual's *willingness to participate*.

As indicated previously, the factors incentives, perceived benefits, social approval, priorities and community needs, lack of community cohesion, accessibility and value, and altruistic capital were found to be dimensions of the construct *willingness to participate* in this study. The seven-factor solution has strong support in the literature, linking it to *willingness to participate* (see Fincham et al., 2010; Kafaar, 2015; Lesch et al., 2006; Mills et al., 2004). The fact that these factors were identified as enablers and barriers to the construct *willingness to participate* concurs with similar findings in low-income contexts locally and abroad (see Fincham et al., 2010; Lesch et al., 2006; Sahay et al., 2005).

The three factors, incentives, priorities and community needs, and lack of community cohesion, were identified as barriers to *willingness to participate* at both an individual (person) and community level (context). Perceived benefits was found to be an enabler to *willingness to participate* at both an individual (person) and community level (context). The two factors, altruistic capital, and accessibility and value, also emerged as dimensions of the construct *willingness to participate*, but were identified as enablers at the individual level (person) only. Social approval was identified as an enabler at the family level (context) and community level (context).

7.6. Summary of the Chapter

The WTPQ is a 32-item measure that has been developed through this research in the Western Cape, South Africa. The measure has demonstrated good overall validity and initial reliability in the current sample. The WTPQ provides a measure to assist researchers and intervention developers to identify levels of *willingness to participate*, as well as psychosocial barriers and enablers to *willingness to participate* that can be targeted to improve intervention outcomes.

The next and final chapter provides a brief summary of the key findings of the study, and its contribution to the field of safety promotion. The chapter highlights the use of the mixed-methods design and participatory approach as a framework for guiding the development of the WTPQ,

underscores its importance and implications, reflexively engages with some of the study's limitations and challenges, and explores possibilities for future research.

CHAPTER EIGHT

SUMMARY AND CONCLUSION

"Never regard study as a duty but as an enviable opportunity to learn to know the liberating influence of beauty in the realm of the spirit for your own personal joy and to the profit of the community to which your later works belong."

~Albert Einstein, n.d.

8.1. Introduction

Safety is a priority in South Africa, a country with amongst the highest recorded rates of violence and injury, with children a particularly vulnerable group. The greatest opportunities for reducing the burden of violence and injury amongst children lies in the prevention of harmful environments and situations. The assurance of safety and health for communities, families and individuals is thus increasingly being pursued. Violence and injury prevention and safety promotion interventions that are established as efficacious can play a critical role in the promotion of safety in communities. However, intervention success and efficacy are contingent upon effective implementation with community partners. The willingness of communities to participate in these interventions are therefore considered essential to the successful implementation and maintenance of safety promotion interventions. There is, however, a paucity of instruments that can be used to assess community *willingness to participate* and the associated mediators. The determination of such locally sourced information is expected to be of considerable benefit to community-centred interventions in South Africa and elsewhere.

Against this backdrop, the primary aim of this doctoral study was to develop a psychosocial assessment tool for determining an individual's *willingness to participate* in safety promotion interventions specifically targeted at individuals residing in under-resourced and marginalised communities. A secondary aim was to determine the factors associated with *willingness to participate* in interventions in low-income communities in a South African context.

The study was framed by Validation Theory, and was guided by a participatory approach and community engagement strategy throughout the instrument development process. The study utilised a mixed-methods research design. With the emphasis of the current study being on

instrument development, the design enabled a bottom-up approach, allowing me to access local knowledge whilst at the same time enabling the co-construction of knowledge from multiple sources. Methods used during the construction of the instrument included individual interviews, NGTs and Delphi Panel Reviews. The analysis of the data from the various phases of the development process was conducted relevant to the particular data collection phase completed and the requirements of both qualitative and quantitative methods of analyses. This included thematic analysis, NGT theme prioritisation, frequencies calculations, descriptive statistics, factor analysis, and internal consistency.

Taking into consideration the aforementioned, this chapter provides a brief summary of the study findings and core arguments presented in relation to the research aims and the research objectives. The chapter also considers the implications and limitations of the study, and offers recommendations for future research.

8.2. Key Research Findings

I provide a brief summary in relation to the following primary areas: 1) the underlying research design that guided the development of the WTPQ, that is, a mixed-methods design; 2) the use of an integrated approach as a guiding framework in the instrument development process; and 3) the initial validity of the newly developed assessment tool.

8.2.1. Mixed-methods design

The study commenced with examining the literature on participation in order to gain a deeper understanding of the construct *willingness to participate*. Examining the literature is also the first step towards developing an assessment tool. This exploration of the literature emphasised that *willingness to participate* is a multi-dimensional construct, and that this multi-dimensionality is context specific (Kelty et al., 2015; Salter et al., 2005; Yorkston et al., 2008). Exploring a construct in terms of its cultural and contextual relevance is paramount when developing an instrument. Cultural and contextual relevance is therefore imperative in order to conceptualise and operationalise the construct to be assessed within a specific context. In this study, the construct w*illingness to participate* was defined as the predisposition or readiness to act or engage voluntarily in intervention programmes or organised scientific inquiry (Shaughnessy, 2013). In

addition, *willingness to participate* was regarded as encompassing two parallel elements, namely barriers to participation and enablers of participation in safety promotion interventions.

One of the important lessons learnt from this study was that employing a mixed-methods bottom-up approach, as opposed to the conventional theory-based top-down method, allowed for greater insight and a more culturally and contextually situated conceptualisation and operationalisation of the construct. It allowed participants the space to delineate their interpretations and understandings (local understandings and associated everyday realities) of the construct *willingness to participate* utilising different techniques of information-gathering. In addition, this mixed-methods bottom-up approach also provided a means of triangulation in order to improve the veracity of the study process, as well as study findings. In this study, this mixed-methods design entailed an exploration of the literature at the outset as a foundation from which to work, followed by individual interviews and NGTs to explore community members' perceptions and understandings of the construct *willingness to participate*.

This mixed-methods bottom-up approach identified various barriers and enablers of the construct *willingness to participate*. These include: burden of competing priorities; inaccessibility of the environment; lack of agency and feelings of hopelessness; lack of connectedness and responsibility; empathy and concern; neighbours as a source of safety; mistrust on the part of participants; personal gain/help-seeking; social/community approval and trust; expectations and motivations towards change; intervention overload; incentives; networks and communication; convenience; lack of social support systems; and entertainment. These findings proved important for this study as they provided the foundation for developing the item pool for the WTPQ. The importance of ensuring that sufficient and quality groundwork is conducted prior to commencing with the development of items for an assessment tool that is culturally and contextually relevant is critical, even more so in under-resourced and marginalised communities. This mixed-methods design also provided evidence that, in this study, combining qualitative and quantitative methods at various phases of the development process produced rich and in-depth knowledge that was culturally and contextually situated.

8.2.2.   An integrated approach to instrument development

The study was guided by a participatory research approach and community engagement strategy, synthesising two theory of change perspectives, namely PPCT model and the TPB. Employing a participatory approach and community engagement strategy to instrument development, and piloting of a culturally sensitive and contextually relevant assessment measure enabled the inclusion of community voices and community-centered cultural articulations in the instrument development process.   Added to this, the participatory approach and community engagement strategy created opportunities for transparency and accountability, access to local knowledge, power-sharing amongst community members and the researcher, as well as stimulating the co-construction of knowledge from different sources.

The synthesis of the PPCT and TPB allowed for the exploration of key psychosocial factors, such as social approval, lack of agency and feelings of hopelessness, and how these factors are associated with community members' *willingness to participate* in interventions. Though safety promotion interventions may correctly be viewed as being implemented in disadvantaged communities for the greater social good, they are likely to be conducted in contexts that are beset with difficult and complex challenges. The PPCT-TPB perspective allowed for the construct of *willingness to participate* to be viewed and explored as a complex and multi-dimensional construct embedded within multi-systems that interact to drive individuals to engage or not engage in safety promotion interventions.

This integrative approach enabled me to explore and identify the psychosocial factors associated with *willingness to participate* at various system levels.   The approach also allowed me to recognise that an individual's behaviour and actions both shapes, and is shaped by multiple levels of influence. Also, the inclusion of community members, stakeholders, service providers and interventionists with experience of safety promotion interventions enhanced the quality of the assessment measure and research, as it provided direct insight into the local social context and existing constraints (e.g., Viswanathan et al., 2004). As a result, the relevance and appropriateness of the assessment measure developed was assured. Most research regarding *willingness to participate*, as well as instruments assessing *willingness to participate* emanate from outside the borders of Africa (see Chapter Two). In South Africa, research and assessment instruments related

to *willingness to participate* focus particularly on clinical trials related to HIV/AIDS (Fincham et al., 2010; Kafaar, 2015; Lesch et al., 2006). This process of including community voices also adds to the veracity and social relevance of the assessment measure developed, data collected and conclusions drawn. (e.g., Babbie & Mouton, 2001; Viswanathan et al., 2004).

As a result, an important finding from this study is that employing an integrative participatory and community-engaged strategy is a feasible and useful means of countering the convenient utilisation of Eurocentric assessment measures, in the absence of tools that have been locally developed to ensure sensitivity to local cultural and contextual understandings.

8.2.3. Initial validity and reliability of the newly developed assessment tool

The primary aim of the study was the development and initial validation of a psychosocial assessment tool for determining an individual's *willingness to participate* in safety promotion interventions. The first criterion against which the WTPQ was evaluated was validity. Two aspects of validity were addressed: content validity (during phase one and phase two of the study); and construct validity (phase three of the study). The second criterion against which the WTPQ was evaluated was reliability. Two aspects of reliability were addressed: internal consistency (Cronbach's alpha), and inter-item reliability (phase three).

The first criterion against which the WTPQ was evaluated, namely validity, is reviewed first.

8.2.3.1. *Content validity.* Content validity is the extent to which the set of items within the assessment measure (WTPQ) represents all the facets of the construct (namely, *willingness to participate*) being measured. The WTPQ's content validity was addressed at multiple stages of the development process. First, a review of the literature was conducted to ascertain descriptions and definitions of participation and *willingness to participate*. Second, community members, stakeholders, service providers and interventionists were consulted on their perceptions and understandings of the construct *willingness to participate*. Third, academic experts and community experts reviewed the descriptions and understandings of the construct *willingness to participate* and the item pool developed for the WTPQ. Fourth, the draft version of the WTPQ was administered in a pre-pilot to a small group of community members to ascertain qualitative

information regarding the face validity and comprehensibility of the items in terms of literacy, language, and clarity of the instructions. Lastly, all stages of the WTPQ item pool revision were completed with content validity as a precondition.

Content validity was an integral part of the WTPQ development process, demonstrating both the representativeness and relevance of the domain being assessed.

8.2.3.2. *Construct validity.* Construct validity is the extent to which the items or subscales within an assessment tool measure the broad construct (that is, *willingness to participate*) they were intended to measure. The WTPQ's construct validity was examined utilising exploratory factor analysis to evaluate the factors underlying the measure's items. The study findings indicated that the WTPQ is a reliable measure of the construct *willingness to participate* among community members in a marginalised community in the Western Cape of South Africa. The WTPQ also displayed initial construct validity, as is evidenced by the presence of seven latent factors that reflected various barrier and enablers of *willingness to participate* that have been identified in the literature. These factors account for 39.9 percent of the common variance in *willingness to participate*, and were 1) Incentives; 2) Priorities and Community Needs; 3) Social Approval; 4) Perceived Benefits; 5) Altruistic Capital; 6) Accessibility and Values; and 7) Community Cohesion.

An important finding from this study is that community cohesion or lack thereof was not found to directly influence or predict the construct *willingness to participate* in the literature but in this study context, it emerged as a latent factor. Community cohesion was viewed as an important aspect relating to participants' *willingness to participate* in intervention programmes.

The experiences of community members from high-income countries may be different from the experiences of community members from economically low- to middle-income countries, such as South Africa. Based on these findings, it is evident that taking into account contextual considerations that may influence participants' *willingness to participate* prior to the implementation of interventions is imperative.

This study therefore adds to the corpus of knowledge relating to the aforementioned differences and provides more insight into the *willingness to participate* of community members living in economically low-income settings. The study illuminates, firstly, the role that context plays in the *willingness to participate* of community members in under-resourced and marginalised communities and, secondly, how the seven factors that emerged from the factor analysis impact an individual's *willingness to participate* within a South African context. Based on these findings, the study corroborates previous research that purports the multi-dimensionality and context specific nature of the construct *willingness to participate*.

8.2.3.3. *Internal reliability.* The second criterion against which the WTPQ was evaluated was reliability. The two aspects of internal consistency and inter-item reliability were addressed. Internal consistency is reliability across items within a scale, or whether items that are purported to measure a single construct yield consistent scores.

Based on the initial study findings, the WTPQ was found to be internally consistent and a reliable measure of *willingness to participate* across time, supporting future use of this measure. However, the WTPQ subscales were found to have mixed results, with only four subscales consisting of good internal consistency.

Thirty two items were found to be correlate with the construct *willingness to participate* and therefore retained in the final version of the WTPQ. The inter-item analysis indicated that with the exception of item 31, the internal consistency would not improve as a result of deleting specific items. Overall, the present study has yielded promising evidence of reliability and validity for the WTPQ. Upon further refinement, this measure could be utilised as an effective tool for the assessment of *willingness to participate* in safety promotion intervention programmes.

8.3. Limitations and Strengths of the Study
The study limitations were evident in both the qualitative and quantitative phases of this study.

The selection of stakeholders, interventionists/fieldworkers, service providers and community members for my NGTs was both constructive and disadvantageous. The selection of NGT

participants was constructive in the sense that these selected participants were well-informed about child-centred initiatives and therefore able to provide rich information on the barriers to, and enablers of *willingness to participate* in child-centred safety promotion interventions. In spite of this, these participants did not necessarily accurately reflect the average community member in Broadlands Park, who may not have had access to the same quantity and quality of information on safety promotion interventions as the participants had. Broadlands Park is a low-economic community that finds itself in the centre of an industrial park on the one side and the more affluent beachfront on the other side. Even though this community is inhabited by predominantly 'coloured' residence, the community is integrated with respect to race and nationalities (that is, foreign nationals). I attempted to mitigate this difference through recruiting stakeholders, interventionists/fieldworkers and service providers from Broadlands Park, as well as members from the community who had been exposed to child-centred interventions, but this may not have been sufficient. Added to this, while I encouraged equal gender distribution in the study samples, due to attrition rates in the samples, a gender balance was not always possible.

While every effort was made to ensure the validity of the translated questionnaire, it is possible that there may have been conceptual incongruence between some items. Nell (2000) is of the opinion that language is the most critical moderator variable, especially in a multilingual society such as South Africa. Language introduces all sorts of complications when tests are administered. If a test is administered in a language in which participants are not proficient, it becomes difficult to unravel whether poor performance on the test is as a result of language or communication difficulties, or due to the fact that participants have a low level of understanding the construct being assessed (Foxcroft, 2004).

In the pilot, the WTPQ that I administered was made available only in Afrikaans, which probably influenced the internal consistency of some of the scales, as is evident in some of the low Cronbach's alphas in Table 6.8 (see Chapter 6 section 6.2.3). The language diversity evident in Broadlands Park, as well as the preference for English as a second language, led me to believe that administering an Afrikaans questionnaire to community members would be appropriate if the data collectors explained concepts or terms with which the participants might struggle. While

interventionists did not receive requests for an English questionnaire, it may well be that some participants were too intimidated to ask.

Since the WTPQ was a newly developed instrument and was subjected to initial validation methods, none of the limitations are regarded as seriously affecting the validity and reliability of the study. Added to this, validation is a continuous process.

The originality of the study lies in the applied combination of the participatory research approach, the inclusion of community members, stakeholders, service providers and academics at different phases of the study, and the application of *willingness to participate* as a theoretically grounded construct of community members' propensity to participate in community-based child-centred safety interventions. The development of the WTPQ comprised a combination of different methods, as well as qualitative and quantitative procedures and tools by which participation in an intervention were assessed. The rigorous compilation of participant voices lays the foundation to guide and inform future studies.

8.4. Recommendations for Further Research

The study findings yield several recommendations for future research on *willingness to participate* in safety promotion interventions. Firstly, further research could include the development of the instruction manual, scoring guidelines, determining cut-off scores, and assessing the responsiveness of the WTPQ, that is, the ability to detect the level of *willingness to participate* of individuals in under-resourced and marginalised communities. Further validation studies are also necessary. The study findings of the newly developed WTPQ and its subscales were not externally validated with another established measure that evaluates the same construct, as this was beyond the scope of this doctoral study; thus; externally validating the WTPQ is recommended.

The factor structure of the WTPQ was challenging to interpret. The latent constructs that the factors represented were somewhat complicated to identify and name, and several items seemed to overlap substantially. It is therefore paramount that future research be undertaken to confirm the factor structure of the WTPQ, through CFA, in a similar sample to test the factor structure of the WTPQ that was developed in the current study. Even though CFA is the next logical step in instrument

development, this too was beyond the scope of the current study. Finally, structural equivalence across the two language versions of the WTPQ should be evaluated.

While the WTPQ requires further testing and validation, it can be utilised as a tool in assessing the *willingness to participate* of community members exposed to safety promotion interventions. It is imperative to conduct further psychosocial research on community members exposed to violence and injury within a South African context. Many studies describe and investigate *willingness to participate* of participants exposed to clinical trial related to HIV/AIDS, TB or cancer, for example, but very few focus on *willingness to participate* of non-clinical trials or non-medical research, such as violence and injury. More research should be conducted to identify psychosocial factors related to *willingness to participate* in community members exposed to safety promotion initiatives. The identification of these factors may provide an indication of where to intervene to improve participation and, in turn, enhance outcomes of interventions in communities exposed to child-related violence and injury. Furthermore, utilising the WTPQ to identify psychosocial factors related to *willingness to participate* prior to the implementation of an intervention may provide opportunities to mediate these factors in order to gain maximum benefit from the intervention once implemented.

8.5. Concluding Remarks

The overarching aim of this doctoral study was to develop a culturally and contextually relevant assessment tool for determining an individual's *willingness to participate* in child-centred safety promotion interventions specifically targeted at individuals residing in under-resourced and marginalised communities. Thus, the setting in which the study occurred was an important aspect of the research. The participants were community members, service providers, stakeholders and fieldworkers from a disadvantaged community in the Western Cape, South Africa. The items on the WTPQ are items based on the perceptions and understandings of the aforementioned participants, thus taking into consideration cultural and contextual milieu.

The study findings indicated that the construct *willingness to participate* in safety promotion interventions incorporated a number of factors: perceived benefits; incentives; priorities and community needs; lack of community cohesion; social approval; accessibility and values; and

altruistic capital. This multi-factored construct has numerous implications. For example, participants considered community cohesion to be an important aspect of *willingness to participate*. The lack of community cohesion in under-resourced and marginalised communities may result in community members not wanting to engage or participate in safety promotion interventions implemented in their communities. The opposite also holds true, where increased cohesion in communities may result in community members being more predisposed to participating in safety promotion interventions implemented in their communities. In addition, when there is a lack of connectedness in communities, which may subsequently affect the willingness of community members to participate in initiatives implemented in their communities, there is a cost to the success and efficaciousness of interventions, as the expected outcomes are compromised. Community members, therefore, may not contribute despite having the necessary skills and knowledge to make valuable contributions. There may also be the costs of exhausting community resources in already under-resourced communities that could have been prevented. In South Africa, where there is extensive poverty and inequality, it is imperative that child-centred safety promotion initiatives be utilised effectively to promote healthy and safe communities. The impact of community members not participating in interventions therefore extends beyond the individual to families, communities and the broader society.

Even though violence and injury is a global public health and social challenge, there remains a dearth of research in Africa on the subject. However, the importance of tackling some of the priority cross-cutting determinants of child violence and injury is increasingly being recognised. The development and successful implementation of prevention responses targeting risk factors specific to violence and injury, particularly those factors related to priority child injuries and violence in South Africa are needed. Successful implementation demands the prioritisation of evidence-based prevention initiatives, monitoring systems, and improved human resources and administrative capacity (Mayosi et al., 2012). Given the aforementioned, and in accordance with this doctoral study, further research is required to investigate the impact of *willingness to participate* in safety promotion interventions beyond the individual. Such research will contribute to setting a new agenda for child safety promotion.

REFERENCES

Adams, S., & Savahl, S. (2015). Children's perceptions of the natural environment: South African perspective. *Children's Geographies, 13*(2), 196-211.

Ahmadi, M., Hashim, H. S., Mohamed, A. F., Moharamnejad, N., & Shamshiry, E. (2013). Quantitative models for participation evaluation in community development: A theoretical review. *World Applied Sciences Journal, 25*(2), 314-322.

Ahmed, R., Seedat, M., Van Niekerk, A., & Bulbulia, S. (2004). Discerning community resilience in disadvantaged communities in the context of violence and injury prevention. *South African Journal of Psychology, 34*, 386-408.

Allen, M. J., & Yen, W. M. (1979). *Introduction to Measurement Theory*. Illinois: Waveland Press.

American Educational Research Association, American Psychological Association, and the National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: AERA. American Educational Research Association.

Anastasi, A., & Urbina, S. (1997). *Psychological testing* (7th ed.). New Jersey: Prentice Hall, Inc.

American Psychological Association, American Educational Research Association, & National Council on Measurement in Education. (1985). *Standards for educational and psychological testing*. Washington, DC: American Psychological Association.

Arasli, H. (2002). Diagnosing whether northern Cyprus hotels are ready for TQM: An empirical analysis. *Total Quality Management*, *13*(3), 347-364.

Armitage, C. J., & Connor, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology, 40*(4), 471-499.

Arnstein, S. (1969). A ladder of citizens' participation. *Journal of the American Institute of Planners, 35*, 216-224.

Ashraf, N., & Bandiera, O. (2017). Altruistic capital. *American Economic Review, 107*(5), 70-75.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior* (pp. 11- 39). Heidelberg: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology, 32*(4), 665-683.

Ajzen, I. (2006). *Constructing a TPB questionnaire: Conceptual and methodological considerations.* Retrieved from http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf

Ajzen, I. (2014). The theory of planned behaviour is alive and well, and not ready to retire: A commentary on Sniehotta, Presseau, and Araújo-Soares. *Health Psychology Review.* Retrieved from http://dx.doi.org/10.1080/17437199.2014.883474

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior.* Englewood Cliff, NJ: Prentice Hall.

Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173-221). Mahwah, NJ: Erlbaum.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal- directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology, 22*, 453-474.

Akins, R. B., Tolson, H., & Cole, B. R. (2005). Stability of response characteristics of a Delphi panel: Application of bootstrap data expansion. *BMC Medical Research Methodology*, *5*(37).

Argaw, D., Fantahum, M., & Berhane, Y. (2007). Sustainability and factors affecting the success of community based reproductive health programs in rural northwest Ethiopia. *African Journal of Reproductive Health, 11*(2), 79-88.

Babbie, E., & Mouton, J. (2001). *The practice of social science research* (9th impression). South Africa: Oxford University Press.

Bailey-Dempsey, C. (1996). Intervention Design and Development: A Case Study. *Research on Social Work Practice, 6*(2), 208-228.

Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behavior, 72*(3), 400-414.

Balcazar, F. E., Keys, C. B., Kaplan, D. L., & Suarez-Balcazar, Y. (1998). Participatory action research and people with disabilities: Principles and challenges. *Canadian Journal of Rehabilitation, 12,* 105-112.

Banks, J. A., & McGee Banks, C. A. (2001). *Handbook of Research on Multicultural Education*. San Francisco, CA: Jossey-Bass.

Bassili, J. N., & Scott, B. S. (1996). Response latency as a signal to question problems in survey research. *Public Opinion Quarterly, 60*, 390-399.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.

Beebe, T.J., Harrison, P.A., Sharma, A., & Hedger, S. (2001). The Community Readiness Survey: Development and initial validation. *Evaluation Review, 25*, 55-71.

Bergkvist, L., & Rossiter, J. R. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research, 44*(2), 175-184.

Biglan, A., & Metzler, C. (1999). A public health perspective for research on family-focused interventions. In R. Ashery, E. Robertson, & K. Kumpfer (Eds.), *Drug abuse prevention through family interventions (National Institute of Drug Abuse Research Monograph on family-focused prevention research)*. Rockville, MD: National Institute on Drug Abuse.

Blom-Hoffman, J., Leff, S. S., Franko, D. L., Weinstein, E., Beakley, K., & Power, T. J. (2009). Using a multi-component, partnership-based approach to improve participation rates in school-based research. *School Mental Health, 1*, 3-15.

Bots, P. W. G., Schlüter, M., & Sendzimir, J. (2015). A framework for analyzing, comparing, and diagnosing social-ecological systems. *Ecology and Society, 20*(4), 18. Retrieved from http://dx.doi.org/10.5751/ES-08051-200418

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3* (2), 77-101.

Brenner, B. L., & Manice, M. P. (2011). Community engagement in children's environmental health research. *Mount Sinai Journal of Medicine, 78*(1), 85-97.

Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner & J. W. Berry (Eds.), *Cross-cultural research and methodology series: field methods in cross-cultural research* (Vol. 8, pp. 137-164). Thousand Oaks, CA: Sage.

Brock, K., & Pettit, J. (2007). *Springs of Participation: Creating and evolving methods for participatory development.* Warwickshire, UK: Practical Action.

Brodie, E., Cowling, E., Nissan, N., Paine, A. E., Jochum, V., & Warburton, D. (2009). *Understanding participation: A literature review*. London: The National Council for Voluntary Organisations.

Bronfenbrenner, U. (1989). Ecological systems theory, In R. Vasta (Ed.), *Annals of child development* (Vol.6, pp. 187-249). Greenwich, CT: JAI Press.

Bronfenbrenner, U., & Morris, P. A. (2006). The bio-ecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Theoretical models of human development. Vol. 1 of the handbook of child psychology* (5th ed*., pp. 793-828). New York: Wiley.

Brooks-Gunn, J., Berlin, L. J., & Fuligni, A. S. (2000). Early childhood intervention programs: What about the family? In J. P. Shonkoff & S. J. Meisels (Eds.), *Handbook on early childhood intervention* (2nd ed., pp. 549-588). New York: Cambridge University Press.

Brown D. R., & Topcu, M. (2003). Willingness to participate in clinical treatment research among older African Americans and Whites. *Gerontologist. 43*(1), 62-72.

Brualdi, A. (1999). Traditional and modern concepts of validity. *ERIC Clearinghouse on Assessment and Evaluation*. Retrieved from http://www.ericdigests.org/2000-3/validity.htm

Bulbulia, A. S., & Van Niekerk, A. (2012). Sustainable safety volunteerism in the Strand, Western Cape: Volunteer identity, motivation and socio-organisational experiences. *African Safety Promotion Journal, 10*(2), 51-63.

Burrows, S., Swart, L., & Laflamme, L. (2009). Adolescent injuries in urban South Africa: A multi-city investigation of intentional and unintentional injuries. *International Journal of Child and Adolescent Health, 2*(1), 117-129.

Burton, P. (2006). Easy prey: Results of the national youth victimisation study. *SA Crime Quarterly, 16,* 1-6.

Butler, M. J. R., & Allen, P. M. (2008). Understanding policy implementation processes as self-organizing systems. *Public Management Review, 10(*3), 421-440.

Butterfield, P. G. (1988). Nominal group process as an instructional method with novice community health nursing students. *Public Health Nursing, 5*, 12-15.

Butterfoss, F. D., Goodman, R. M., & Wandersman, A. (1996). Community coalitions for prevention and health promotion: Factors predicting satisfaction, participation, and planning. *Health Education Quarterly, 23*(1), 65-79.

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Chicago: Rand-McNally.

Campbell, A., Walker, J., & Farrell, G. (2003). Confirmatory factor analysis of the GHQ-12: Can I see that again? *Australian and New Zealand Journal of Psychiatry, 37*, 475-483.

Cascettaa, E., Cartenìa, A., & Montanino, M. (2013). A new measure of accessibility based on *perceived opportunities. Procedia - Social and Behavioral Sciences, 87*, 117-132.

Chu, S. H., Kim, E. J., Jeong, S. H., & Park, G. L. (2015). Factors associated with willingness to participate in clinical trials: A nationwide survey study. *BMC Public Health*, *15*(10). Retrieved from https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-014-1339-0

Cizek, G. J., Rosenberg, S. L., & Koons, H. H. (2008). Sources of Validity Evidence for Educational and Psychological Tests. *Educational and Psychological Measurement, 68*(3), 397-412.

Cizek, G. J., Bowen, D., & Church, K. (2010). Sources of validity evidence for educational and psychological tests: A follow up study. *Educational and Psychological Measurement*, *70*, 732-743.

Clarke, J. S., Ellet, C. D., Bateman, J. M., & Rugutt, J. K. (1997). *Faculty receptivity/resistance to change, personal and organizational efficacy, decision deprivation and effectiveness in research I universities*. Research Monograph 97-6. Houston Texas: Institute for Higher Education Law and Governance, University of Houston Law Centre.

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*, 309-319.

Coatsworth, J. D., Duncan, L. G., Pantin, H., & Szapocznik, J. (2006). Patterns of retention in a preventive intervention. *The Journal of Primary Prevention, 27*, 171-193.

Coday, M., Boutin-Foster, C., Goldman Sher, T., Tennant, J., Greaney, M. L., Saunders, S. D., & Somes, G.W. (2005). Strategies for retaining study participants in behavioral intervention trials: Retention experiences of the NIH behavior change consortium. *Annals of Behavioral Medicine, 29*, 55-65.

Cohen, D. A., & Linton, K. L. P. (1995). Parent participation in an adolescent drug abuse prevent program. *Journal of Drug Education, 25*(2), 159-169.

Cohen, A. S., & Wollack, J. A. (2010). *Handbook on test development: Helpful tips for creating reliable and valid classroom tests*. Madison, WI: Center for Placement Testing, University of Wisconsin. Retrieved from https://testing.wisc.edu/Handbook%20on%20Test%20Construction.pdf

Coie, J. D., Underwood, M., & Lochman, J. E. (1991). Programmatic intervention with aggressive children in the school setting. In D. J. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 389-410). Hillsdale, NJ: Erlbaum.

Conner, M., & Sparks, P. (2005). The theory of planned behaviour and health behaviours. In M. Conner & P. Norman (Eds.), P*redicting health behaviour: Research and practice with social cognition models* (2nd ed., pp. 170-222). Maidenhead: Open University Press.

Comer, E., Meier, A., & Galinsky, M. J. (2004). Development of innovative group work practice using the intervention research paradigm. *Social Work, 49*(2), 259-260.

Communities and Local Government. (2007). 'What works' in community cohesion. Retrieved from http://www.tedcantle.co.uk/publications/025%20What%20works%20in%20community%20cohesion%20Commission%20on%20Integrati.pdf

Conger, R. D., Ge, X., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development, 63*, 526-541.

Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1993). Family economic stress and adjustment of early adolescent girls. *Developmental Psychology, 29*, 206-219.

Cook, D. A., & Beckman, T. J. (2006). Current concepts in validity and reliability for psychometric instruments Theory and application. *The American Journal of Medicine, 119*, 166. e7-166.e16. doi10.1016/j.amjmed.2005.10.036.

Cooke, W., & Kothari, U. (2001). *Participation: The new tyranny?* London: Zed Books.

Cornwall, A. (2006). Historical perspectives on participation in development. *Commonwealth & Comparative Politics, 44*, 62-68.

Cornwall, A. (2008). Unpacking 'participation': Models, meanings and practices. *Community Development Journal, 43*(3), 269-283.

Cornwall, A. (2016). Women's empowerment: What works? *Journal of International Development, 28*(3), 342-359.

Costello, A. B., & Osborne, J. W. (2005). Exploratory Factor Analysis: Four recommendations for getting the most from your analysis. *Practical assessment, Research, and Evaluation, 33*, 401-415.

Coster, W., & Khetani, M. A. (2008). Measuring participation of children with disabilities: Issues and challenges. *Disability and Rehabilitation, 30*(8), 639-648.

Coulson, N. (Ed.). (2000). Health promotion in South Africa. *HST Update*, 53. Retrieved from http://www.hst.org.za/publications/health-promotion-south-africa

Cronbach, L. J. (1971). Test validation. In R. L. Thorndike (Ed.), *Educational measurement* (2nd ed., pp. 443-507). Washington, DC: American Council on Education.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*(4), 281-302.

Creative Commons. (2012). Participation models: Citizens, youth, online. Retrieved from http://www.nonformality.org/wpcontent/uploads/2012/11/Participation_Models_20121118.pdf

Creswell, J. (1999). Mixed-method research: Introduction and application. In G. Cizek (Ed.), *Handbook of educational policy* (pp. 455-472). San Diego: Academic Press.

Creswell, J. (2009). *Research design qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W., Fetters, M. D., & Ivankova, N. V. (2004). Designing a mixed methods study in primary care. *Annals of Family Medicine, 2*(1), 7-12.

Creswell, J., & Plano Clark, V. (2007). *Designing and conducting mixed methods mesearch*. Thousand Oaks, CA: Sage.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.

Cummins J. (2000). *Language, power and pedagogy: Bilingual children in the crossfire*. Clevedon: Multilingual Matters (Ltd).

Cutts, T., Olivier, J., Lazarus, S., Taliep, N., Cochrane, J. R., Seedat, M., … Carelse, H. (2016). Community asset mapping for violence prevention: A comparison of views in Western Cape, South Africa and Memphis, USA. *African Safety Promotion Journal, 14*(1), 1-25.

Dalton, J. H., Elias, M. J., & Wandersman, A. (2007). *Community psychology: Linking individuals and communities* (2ⁿᵈ ed.). USA: Thomson Wadsworth.

De Beer, M. (2004). Use of differential item functioning (DIF) analysis for bias analysis in test construction. *South African Journal of Industrial Psychology*, *30*(4), 52-58.

DeCoster, J. (2005). *Scale construction notes.* Retrieved from http://www.stathelp. com/notes.html

Della Queva S. (2017). Analysis of social participation: A multidimensional approach based on the theory of partial ordering. In F. M., Bruggemann R. (Eds.), *Partial Order Concepts in Applied Sciences* (pp.151-160). Switzerland: Springer.

Denzin, N. K., & Lincoln, Y. S. (2011). *The sage handbook of qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

Department of Health. (2004). *Ethics in Health Research: Principles, Structures and Process.* Retrieved from www.doh.gov.za

Derges, J., Clow, A., Lynch, R., Jain, S., Phillips, G., Petticrew, M., … Draper, A. (2014). 'Well London' and the benefits of participation: results of a qualitative study nested in a cluster randomised trial. BMJ Open. 4:e003596. doi:10.1136/bmjopen-2013- 003596. Retrieved from http://bmjopen.bmj.com/content/bmjopen/4/4/e003596.full.pdf

DeVellis, R. F. (2012). *Scale development: Theory and application.* Applied Social Research Methods Series, Volume 26 (3ʳᵈ ed). London: Sage Publications.

De Vet, H. C. W., Adèr, H. J., Terwee, C. B., & Pouwer, F. (2005). Are factor analytical techniques used appropriately in the validation of health status questionnaires? A systematic review on the quality of factor analysis of the SF-36. *Quality of Life Research, 14*, 1203-1218.

De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. (2005). *Research at Grass roots level: For social sciences and human service professions.* Pretoria: Van Schaik Publishers.

de Vries, H., Dijkstra, M., & Kuhlman, P. (1988). Self-efficacy: The third factor besides attitude and subjective norm as a predictor of behavioural intentions. *Health Education Research, 3*(3), 273-282.

Dimitrov, D. M. (2012). *Statistical methods for validation of assessment scale data in counseling and related fields*. Alexandria, VA: American Counseling Association.

Dishion, T. J., & Kavanagh, K. (2000). A multilevel approach to family-centered prevention in schools: Process and outcome. *Addictive Behaviors, 25*(6), 899-911.

Domino G., & Domino M.L. (2006). *Psychological Testing: An Introduction*. (2nd ed.). Cambridge: Cambridge University Press.

Donnermeyer, J. F., Plested, B. A., Edwards, R. W., Oetting, G., & Littlethunder, L. (1997). Community readiness and prevention programs. *Journal of Community Development Society, 28*, 65-83.

Draisma, S., & Dijkstra, W. (2004). Response latency and (Para) linguistic expressions as indicators of response error. In S. Presser, J. M. Rothgeb, M. P. Couper, J. T. Lessler, E. Martin, & E. Singer (Eds.), *Methods for testing and evaluating survey questions* (pp. 185-210). New York: Wiley.

Drolet, A. L., & Morrison, D. G. (2001). Do we really need multiple-item measures in service research? *Journal of Service Research, 3*(3), 196-204.

Durkheim, E. (1997). *The division of labor in society*. New York: The Free Press.

Durlauf, S. N., & Fafchamps, M. (2005). Social capital [internet]. In P. Aghion & S. Durlauf (Eds.), *Handbook of economic growth* (Vol 1, pp. 1639-1699). Amsterdam: Elsevier.

Durrheim, K., & Painter, D. (2006). Collecting quantitative data: Sampling and measuring. In K. Terre Blanche, K. Durrheim & D. Painter (Eds.), *Research in practice: Applied methods for the social sciences* (pp.131-159). Cape Town: UCT Press.

Eksteen, R., Bulbulia, A., Van Niekerk, A., Ismail, G., & Lekoba, R. (2012). Ukuphepha: A multi-level community engagement model for the promotion of safety, peace and health. *Journal of Psychology in Africa*, *22*, 499-510.

Edwards, R. W., Jumper-Thurman, P., Plested, B. A., Oetting, E. R., & Swanson, L. (2000). Community readiness: Research to practice. *Journal of Community Psychology, 28*, 291-307.

Embretson, S. E. (1983). Construct validity: Construct representation versus nomothetic span? *Psychometrika, 49*, 175-186.

Emmet, T. (2003). Social disorganisation, social capital and violence prevention in South Africa. *African Safety Promotion: A Journal of Injury and Violence Prevention, 1*(2), 4-18.

Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 119-161). New York, NY: Macmillan Publishing Company.

Fidzduff, M. (2007). Measuring social inclusion and cohesion - the challenges. *Expert group meeting on creating and inclusive society: Practical strategies to promote social integration.* Paris, France, 10-13 September.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications.

Fincham, D., Kagee, A., & Swartz, L. (2010). Inhibitors and facilitators of willingness to participate (WTP) in an HIV vaccine trial: Construction and initial validation of the inhibitors and facilitators of willingness to participate scale (WPS) among women at risk for HIV infection. *AIDS Care, 22*(4), 452-61.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fixen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature.* Tampa, FL: University of South Florida, Lois de la Panta Florida Mental Health Institute, The National Implementation Research Network. Retrieved from http://www.fpg.unc.edu/~nim/resources/detail.cfm?resourceID=31

Fontana, C., Fleischman, A., McCarton, C., Meltzer, A., & Ruff, H. (1988). A neonatal preventive intervention study: Issues of recruitment and retention. *Journal of Primary Prevention, 9*, 164-176.

Foxcroft, C. (2009). Developing a psychological measure. In C. D. Foxcroft & G. Roodt (Eds.), *An introduction to psychological assessment in the South African context* (3rd ed., pp. 65-76). South Africa: Oxford University Press.

Foxcroft C. D., & Roodt, G. (2009). *An introduction to psychological assessment in the South African context*. South Africa: Oxford University Press.

Foxcroft, C., & Roodt, G. (2005). An overview of assessment: definition and scope. In C. D. Foxcroft & G. Roodt (Eds.), *An introduction to psychological assessment in the South African context* (2nd ed., pp. 3-8). South Africa: Oxford University Press.

Foxcroft, C. D. (2004). Planning a psychological test in the multicultural South African context. *South African Journal of Industrial Psychology, 30*(4). 8-15.

Foxcroft, C. (1997). Psychological testing in South Africa: Perspectives regarding ethical and fair practice. *European Journal of Psychological Assessment, 13*, 229-235.

Frahm, J., & Brown, K. (2007). First steps: linking change communication to change receptivity, *Journal of Organisational Change Management*, *20*(3), 370-387.

Fraser, M. W., & Galinsky, M. J. (2010). Steps in intervention research: Designing and developing social programs. *Research on Social Work Practice, 20*(5), 459-466.

Freire, P. (1992). *Pedagogy of hope: reliving pedagogy of the oppressed*. New York: Continuum Publishing Company.

Gabriel, M., Doiron, R., Arias de Sanchez, G., & Wartman, C. (2010). The research in early child development framework. In R. Doiron & M. Gabriel (Eds.), *Research in early child development in Prince Edward Island: A research monograph* (pp.11-17). Charlottetown, PE: Centre for Education Research, University of Prince Edward Island.

Gallagher, M., Hares, T., Spencer, J., Bradshaw, C., & Webb, I. (1993). The nominal group technique: A research tool for general practice. *Family Practice, 10*(1) 76-81.

Garvey, C., Julion, W., Fogg, L., Kratovil, A., & Gross, D. (2006). Measuring participation in a prevention trial with parents of young children. *Research in Nursing and Health, 29*(3), 212-222.

Gehlbach, H., & Brinkworth, M. E. (2011). Measure twice, cut down error: A process for enhancing the validity of survey scales. *Review of General Psychology, 15*(4), 380-387.

Gellman, M. D., & Turner, J. R. (2013). *Encyclopedia of Behavioral Medicine*. New York, NY: Springer.

George, A. S., Mehra, V., Scott, K., & Sriram, V. (2015). Community participation in health systems research: A systematic review assessing the state of research, the nature of interventions involved and the features of engagement with communities. *PLoS ONE 10*(10). e0141091. doi:10.1371/journal. pone.0141091

Ginsborg, P. (2005). *The politics of everyday life*. NewHaven Connecticut: Yale University Press.

Gipps, C. V. (1994). *Beyond testing: Towards a theory of educational assessment*. London: Falmer Press.

Giroux, H. A. (2004). Critical pedagogy and the postmodern/modern divide: Towards a pedagogy of democratization. *Teacher Education Quarterly, 1*, 31-47.

Gnade, H., Blaauw, P. F., & Greyling, T. (2017). The impact of basic and social infrastructure investment on South African economic growth and development. *Development Southern Africa, 34*(3), 347-364.

Gregory, R. J. (1996). *Psychological testing: History, principles and applications* (2nd ed.). Boston: Allyn & Bacon.

Gregson, J., Foerster, S.B., Orr, R., Jones, L., Benedict, J., Clarke, B., … Zotz, A.K. (2001). System, Environmental, and Policy Changes: Using the Social-Ecological Model as a Framework for Evaluating Nutrition Education and Social Marketing Programs with Low-Income Audiences. *Journal of Nutrition Education, 33*(1), s4-s15. Retrieved from http://dx.doi.org/10.1016/S1499-4046(06)60065-1

Grieve, K. (2005). Factors affecting assessment results. In C. Foxcroft & G. Roodt (Eds), *An introduction to psychological assessment in the South African context* (2nd ed., pp. 224–241). Cape Town: Oxford University Press.

Godin, G., Conner, M., & Sheeran, P. (2005). Bridging the intention-behaviour 'gap': The role of moral norm. *British Journal of Social Psychology, 44*(4), 497-512.

Gomby, D. S. (2007). The promise and limitations of home visiting: implementing effective programs. *Child Abuse Neglect, 31*(8), 793-9.

Goodman, R. M., Speers, M. A., McLeroy, K., Fawcett, S., Kegler, M. C., Parker, E., … Wallerstein, N. (1998). Identifying and defining the dimensions of community capacity to provide a basis for measurement. *Health Education and Behavior, 25*(3), 258-278.

Goodwin, L. D., & Goodwin, W. L. (1999). Measurement myths and misconceptions. *School Psychology Quarterly, 14*, 408-427.

Goodwin, L. D., & Leech, N. L. (2003). The meaning of validity in the new "Standards for Educational and Psychological Testing": Implications for measurement courses. *Measurement and Evaluation in Counselling and Development, 36,* 181-191.

Gorman-Smith, D., Tolan, P. H., Henry, D. B., Leventhal, A., Schoeny, M., Lutovsky, K., ... Quintana, E. (2002). Predictors of participation in a family-focused preventive intervention for substance use. *Psychology of Addictive Behaviors, 16*(4S), S55-S64

Gottfredson, D. C. (2002). *The strengthening Washington DC families project*. Paper presented at the Society for Prevention Research annual meeting: Effectiveness and dissemination in prevention research, Seattle, WA.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal, 29*(2), 75-91.

Guijt, I., & Kaul Shah, M. (1998). Waking up to power, conflict and process. In I. Guijt & M. Kaul Shah (Eds.), *The Myth Community* (pp. 1-23). London: Intermediate Technology Publications.

Gupta, J., Pouw, N., & Ros-Tonen, M. (2015). Towards an elaborated theory of inclusive development. *European Journal of Development Research, 27*, 541-559.

Hackett, K., Newton, J., Frith J., Elliot, C., Lendrem, D., Foggo, H., … Mitchell, S. (2012). Impaired functional status in primary Sjogren's syndrome. *Arthritis Care Research, 64*(11), 1760-1764.

Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport & Exercise Psychology, 24*(3), 3-32.

Hair, J. F., Anderson, R. E., Babin, B., & Black, B. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson.

Hall, G. E., & Hallford, S. (2011). *Implementing change: Patterns, principles and potholes* (3rd ed.). Boston, MA: Allyn and Bacon.

Hammond, S. (2006). Using psychometric tests. In G. Breakwell, S. M. Hammond & C. Fife-Schaw (Eds.), *Research methods in psychology* (pp. 182-209). London: Sage Publications.

Hancock, L., Sanson-Fisher, R., Redman, S., Burton, R., Burton, L., Butler, J., … Walsh, R. (1997). Community action for health promotion: A review of methods and outcomes 1990-1995. *American Journal of Preventative Medicine, 13*(4), 229-239.

Hansen, W. G. (1959). How accessibility shapes land-use. *Journal of the American Institute of Planners, 25*(2), 73-76.

Harvey, D. (2006). Neo-liberalism as creative destruction. *Geografiska. annaler: Series B human geography*, *88*(2), 145-158.

Harvey, A., Towner, E., Peden, M., Soori, H., & Bartolomeos, K. (2009). Injury prevention and the attainment of child and adolescent health. *Bulletin of the World Health Organisation, 87*, 390-394.

Hawe, P., Shiell, A., Riley, T., & Gold, L. (2004). Methods for exploring implementation variation and local context within a cluster randomised community intervention trial. *Journal of Epidemiology and Community Health, 58*(9), 788-793.

Heinicke, C. M., Fineman, N. R., Ponce, V. A., & Guthrie, D. (2001). Relation-based intervention with at-risk mothers: Outcome in the second year of life. *Infant and Mental Health Journal, 22*, 431-462.

Heinrichs, N., Bertram, H., Kuschel, A., & Hahlweg, K. (2005). Parent recruitment and retention in a universal prevention program for child behavior and emotional problems: Barriers to research and program participation. *Prevention Science, 6*, 275-286.

Henández, P. (2002). Resilience in families and communities: Latin American contribution from the psychology of liberation. *The Family Journal: Counselling and Therapy for Couples and Families*, *10*, 334-343.

Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of social research* (2nd ed.). Los Angeles: Sage.

Heyman, J., & Ariely, D. (2004). A tale of two markets. *Psychology Science, 15*(11), 787-93.

Hobart, J., & Cano, S. (2009). Improving the evaluation of therapeutic interventions in multiple sclerosis: the role of new psychometric methods. *Health Technology Assessment*, *13*(12), 1-177.

Holder, Y., Peden, M., Krug, E., Lund, J., Gururaj, J., & Kobusingye, O. (2001). *Injury surveillance guidelines*. Geneva: WHO.

Holt, D. T., Armenakis, A. A., Harris, S. G., & Field, H. S. (2007). Toward a comprehensive definition of readiness for change: A review of research and instrumentation. *Research in Organizational Change and Development, 16*, 289-336.

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality Risk: A Meta-analytic Review. *PLoS Med*, *7*(7), e1000316. Retrieved from https://doi.org/10.1371/journal.pmed.1000316

Homan, M. S. (2010). *Promoting change: Making it happen in the real world* (5th ed). Belmont, CA: Linda Schreiber-Ganster.

Hongoro, C., & McPake, B. (2004). How to bridge the gap in human resources for health. *Lancet, 364*, 1451-56.

Hooper, D. (2012). Exploratory Factor Analysis. In H. Chen (Ed.), *Approaches to quantitative research – theory and its practical application: A guide to dissertation students* (pp. 1-32). Cork, Ireland: Oak Tree Press.

Hooven, C., Walsh, E., Willgerodt, M., & Salazar, A. (2011). Increasing participation in indicated prevention research: Strategies for youth, parents and schools. *Journal of Child and Adolescent Psychiatric Nursing, 24*(3), 137-149.

Hopp, F. P., Woodbridge, P., Subramanian, U., Copeland, L., Smith, D., & Lowery, J. (2006). Outcomes associated with a home care telehealth intervention. *Telemedicine Journal-Health, 12,* 297-307.

Hsu, C. C., & Sandford, B. A. (2007). The delphi technique: Making sense of consensus. *Practical Assessment, Research & Evaluation, 12*(10), 1-5.

Hu, L., Bentler, P. M., & Kano, Y. (1992). Can test statistics in covariance structure analysis be trusted? *Psychological Bulletin, 112*, 351-362.

Hult, F. M. (2014). Covert bilingualism and symbolic competence: analytical reflections on negotiating insider/outsider positionality in Swedish speech situations. *Applied Linguistics, 35*(1), 63-81.

Huysamen, G. K. (2002). The relevance of new APA standards for educational and psychological testing for employment testing in South Africa. *South African Journal of Psychology*, *32*, 26-33.

Icks, A., Rathmann, W., Haastert, B., Gandjour, A., Holle, R., John, J., … KORA Study Group. (2007). Clinical and cost-effectiveness of primary prevention of Type 2 diabetes in a 'real world' routine healthcare setting: model based on the KORA Survey 2000. *Diabetic Medical Journal, 24*(5), 473-480.

Imenda, S. (2014). Is there a conceptual difference between theoretical and conceptual frameworks? *Journal of Social Science*, 38(2), 185-195.

Ingoldsby, E. (2010). Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child and Family Studies, 19*, 629-645.

Institute of Medicine. (2001). *Health and behaviour: The interplay of biological, behvioral, and societal influences.* Washington DC: National Academy Press.

Isaacs, S. A., & Savahl, S. (2014). A qualitative inquiry investigating adolescents' sense of hope within a context of violence in a disadvantaged community in Cape Town. *Journal of Youth Studies*, *17*(2), 269-278.

Islam, S. A. (2005). Sociology of poverty: Quest for a new horizon. *Bangladesh e-Journal of Sociology, 2,* 1-8.

Ismail, G., Isobell, D., Arendse, N., Suffla, S., & Seedat, M. (2016, May). *Caregivers' perceptions of a child-centred home visitation intervention.* Paper presented at the Sixth International Conference on Community Psychology, Durban, South Africa. Abstract retrieved from https://www.iccp2016.co.za/programme/ICCP2016conferenceprogramme.pdf

Ismail, G., & Koch, E. (2012). Investigating item and construct bias in an English verbal analogies scale. *South African Linguistics and Applied Language Studies, 30*, 325-338.

Israel, B. A., Eng, E., Schulz, J. A., & Parker, E. A. (2005). *Methods in community-based participatory research for health.* San Francisco, CA: Jossey-Bass.

Israel, B. A., Schulz, A. J., Parker, E. A., Becker, A. B., Allen, A. J., & Guzman, R. (2008). Critical issues in developing and following CBPR principles. In M. Minkler & N. Wallerstein (Eds.), *Community based participatory research for health: From process to outcomes* (2nd ed., pp. 47-66). San Francisco, CA: John Wiley & Sons Publishers.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19*, 173-202.

Ivankova, N. V., Creswell, J., & Plano-Clark, V. (2007). Foundations and approaches to mixed methods research. In K. Maree (Ed.), *First steps in research* (pp. 254-278). Pretoria: Van Schaik Publishers.

Izard, J. (2005). Overview of test construction. In K. N. Ross (Ed.), *Quantitative research methods in educational planning.* Retrieved from http://www.unesco.org/iiep.

Jaspan, H. B., Lawn, S. D., Safrit, J. T., & Bekker, L.-G. (2006). The maturing immune system: Implications for development and testing HIV-1 vaccines for children and adolescents. *AIDS, 20*(4), 483-494.

Jeffreys, I., Lampkin, N., Zanoli R., & Vairo, D. (2008). *ORGAPET section C4: Evaluating policy outcomes using stakeholder feedback and expert judgement.* Retrieved from http://orgapet.orgap.org/MainFrameC4.htm

Joffres, C., Langille, D., Rigby, J., & Langille, D. B. (2002). Factors related to community mobilization and continued involvement in a community-based effort to enhance adolescents' sexual behaviour. *The Qualitative Report, 7*(2), 1-20.

Johnston, M., French, D. P., Bonetti, D., & Johnston, D. W. (2004). Assessment and measurement in health psychology. In S. Sutton, A. Baum, & M. Johnston (Eds.), *The Sage Handbook of Health Psychology* (pp. 288-323). London: Sage Publications.

Johnson, R. B., & Onwuegbuzie A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*, 14-26.

Jooste, M. J. L. (2001). *Introduction to psychological testing.* Pretoria: RAU.

Jovchelovitch, S., & Bauer, M. W. (2000). *Narrative interviewing.* London: LSE Research Retrieved from http://eprints.lse.ac.uk/2633

Kass, R. A., & Tinsley, H. E. A. (1979). Factor analysis. *Journal of Leisure Research, 11*, 120-138.

Kafaar, Z. (2015). *Predicting adolescent willingness to participate in HIV vaccine trials: The role of sensation seeking.* Unpublished doctoral dissertation. Stellenbosch University, Cape Town, South Africa.

Kaldine, F. (2007). Crime and violence. In M. Visser, *Contextualising community psychology in South Africa* (pp.229-241)*.* Pretoria: Van Schaik.

Kane, M. (2006). Validation. In R. L. Brennan (Ed.), *Educational measurement* (4th ed., pp. 17-64). Westport, CT: American Council on Education/Praeger.

Kaminer, D., & Eagle, G. (2010). *Traumatic stress in South Africa*. Johannesburg: Wits University Press.

Kamwangamalu, N. M. (2002). The social history of English in South Africa. *World Englishes, 21*(1), 1-8.

Kaplan, S. (1997). The words of risk analysis. *Risk Analysis, 17*, 407-41.

Katz, R. V., Russell, S. L., Kressin, N. R., Green, B. L., Wang, M.Q., James, S.A., & Claudia, C. (2006). The Tuskegee legacy project: Willingness of minorities to participate in biomedical research. *Journal of Health Care Poor Underserved*, *17*(4), 698-715.

Kawachi, I., Kim, D., Coutts, A., & Subramanian, S. V. (2004). Commentary: Reconciling the three accounts of social capital. *International Epidemiological Association, 33*, 682-690.

Kazdin, A. E., Holland, L., & Crowley, M. (1997). Family experience of barriers to treatment and premature termination from child therapy. *Journal of Consulting and Clinical Psychology, 65*, 453-463.

Kazdin, A. E., Mazurick, J. L., & Bass, D. (1993). Risk for attrition in treatment of antisocial children and families. *Journal of Clinical Child Psychology, 22*, 2-16.

Kazdin, A. E., & Wassell, G. (2000). Predictors of barriers to treatment and therapeutic change in outpatient therapy for antisocial children and their families. *Mental Health Services Research, 2*, 27-40.

Kelty, C., Panofsky, A., Currie, M., Crooks, R., Erickson, S., Garcia, P., … Wood, S. (2015). Seven dimensions of contemporary participation disentangled. *Journal of the Association for Information Science and Technology, 66*(3), 474-488.

Kim, S., & Blieszner, R. (2017). Community Cohesion and psychological well-being among elders with and without dementia. *Innovative in Aging, 1*(1), 877-878.

Kitto, R. J. (2006). *Teacher perceptions of the validity of a large-scale mathematics assessment instrument*. Unpublished doctoral dissertation. University of Western Ontario, London, ON, Canada.

Klass, D., Silverman, P. R., & Nickman, S. L. (1996). *Continuing Bonds. New Understandings of Grief*. Philadelphia, USA: Taylor and Francis

Kline, P. (1993). *The handbook of psychological testing*, London: Routledge.

Kline, T. J. B. (2005). *Psychological testing: A practical approach to design and evaluation*. United Kingdom: Sage Publications Inc.

Koné, A., Sullivan, M., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2000). Improving collaboration between researchers and communities. *Public Health Reports, 115*(2-3), 243-248.

Krug, E., Dahlberg, L. L., Mercy, J. A., Zwi, A .B., & Lozano, R. (2002). *World Report on Violence and Health*. Geneva: World Health Organization. Retrieved from http://www.who.int/violence_injury_prevention/violence/world_report/en/

LaRocco, D., & Murdica, P. (2009). *Understanding teachers' concerns about implementing response to intervention (RTI): Practical implications for education leaders*. Paper presented at the 40th Annual Northeast Educational Research Association Conference. Rock Hill, Connecticut.

Lather, P. (1993). Fertile obsession: Validity after poststructuralism. *Sociological Quarterly, 34*, 673-693.

Lather, P. (2001). Postmodernism, post-structuralism and post (critical) ethnography: Of ruins, aporias and angels. In P. Atkinson, A. Coffey, S. Delamont, J. Lofland, & L. Lofland (Eds.), *Handbook of ethnography* (pp. 477-492). London: Sage.

Lazarus, S., Taliep, N., Bulbulia, S., Phillips, S., & Seedat, M. (2012). Community-based participatory research: An illustrative case of community engagement in one low income community. *Journal of Psychology in Africa, 22*(4), 511-519.

Lee, J. C. (2000). Teacher receptivity to curriculum change in the implementation stage: The case of environmental education in Hong Kong. *Journal of Curriculum Studies, 32*(1), 95-115.

Le Grange, L. (2002). Educational research, democracy and praxis. *South African Journal of Education, 22*(1), 36-39.

Lesch, A., Kafaar, Z., Kagee, S., & Swartz, L. (2006). Community members' perceptions of enablers and inhibitors to participation in HIV vaccine trials. *South African Journal of Psychology, 36*(4), 734-761.

Leung, Y. (2013). Perceived Benefits. In M. D. Gellman & J. R. Turner (Ed.), *Encyclopedia of Behavioral Medicine* (pp. 1516-1517). New York, NY: Springer.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Lincoln, Y. S. (1995). Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry*, *3*, 275-289.

Lincoln, Y. S., & Guba, E. G. (2000). Paradigmatic controversies, contra- dictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed., pp. 163-188). Beverly Hills, CA: Sage.

Linn, R. L., & Gronlund N. E. (2000). *Measurement and Assessment in Teaching* (8th ed.). Prentice Hall: New Jersey.

Liska, A. E. (1984). A critical examination of the causal structure of the Fishbein/Ajzen attitude-behavior model. *Social Psychology Quarterly, 47*(1), 61-74.

Lochman, J. E. (2000). Parent and family skills training in targeted prevention programs for at-risk youth. *Journal of Primary Prevention, 21*(2), 253-265.

Lockhat, R., & Van Niekerk, A. (2000). South African Children: A history of adversity, violence and trauma. *Ethnicity & Health, 5*(3/4), 291-302.

Loevinger, J. (1957). Objective tests as instruments of psychological theory. *Psychological Reports, 3*, 635-694.

Longtin Y., Sax, H., Leape, L. L., Sheridan, S. E., Donaldson, L., & Pittet, D. (2010). Patient participation: Current knowledge and applicability to patient safety. *Mayo Clinic Proceedings, 85*(1), 53-62.

Lord, F. M., & Novick, M. R. (1968). *Statistical theories of mental test scores*. Reading, MA: Addison-Wesley.

Lovell, A. (2008). *Racism, poverty and inner city health: current knowledge and practices*. Hamilton Urban Core Community Health Centre. Retrieved from http://www.hucchc.com/pdf/Racism%20Poverty%20and%20Inner%20City%20Health%20 Current%20Knowledge%20and%20Practices.pdf

Lloyd, B. T. N. (2002). A conceptual framework for examining adolescent identity, media influence, and social development. *Review of General Psychology, 6*(1), 73-91.

Mackie, G., Moneti, F., Shakya, H., & Denny, E. (2015). *What are social norms? How are they measured?* California, USA: UNICEF/Centre on Global Justice, University of San Diego.

Mayosi, B. M., Lawn, J. E., Van Niekerk, A., Bradshaw, D., Abdool Karim, S. S., & Coovadia, H. M. (2012). Health in South Africa: changes and challenges since 2009. *Lancet,* 5-19.

McCallum, J. M., Arekere, D. M., Green, B. L, Katz, R.V., & Rivers, B. M. (2006). Awareness and knowledge of the U.S. public health service syphilis study at Tuskegee: Implications for biomedical research. *Journal of Health Care Poor Underserved*, *17*(4), 716-733.

McCloskey, D. J., Aguilar-Gaxiola, S., Michener, J. L., Akintobi, T. H., Bonham, A., Cook, J., … White-Cooper. (2011). *Principles of community engagement* (2nd ed.). Maryland: NIH Publication.

McCrae, R. R., Kurtz, J. E., Yamagata, S., & Terracciano, A. (2011). Internal consistency, retest reliability, and their implications for personality scale validity. *Personality and Social Psychology Review: An Official Journal of the Society for Personality and Social Psychology, Inc., 15*(1), 28-50.

McDowell, T. L., Moore, N., & Holland, J. N. (2014). Working through bound liberation: A community engagement framework for health partnerships. *Progress in Community Health Partnerships, 8*(4), 465-470.

McIntire, S. A., & Miller, L. A. (2000). *Foundations of psychological testing*. Boston: McGraw-Hill Companies, Inc.

McCluskey, M., Alexander, S. B., Larkin, B. D., Murgula, M., & Wakefield, S. (2005). An HIV vaccine: As we build it will they come? *Health Affairs, 24*(3), 643-652.

Mduluza, T. (2007). Towards community engagement. In T. Mduluza, S. C. Chima & S. Nsimba (Eds.), *A Gateway to Biomedical Research in Africa* (pp. 147-172). New York: Nova Science Publishers.

Mduluza, T., Midzi, N., Duruza, D., & Ndebele, P. (2013). Study participants incentives, compensation and reimbursement in resource-constrained settings. *BMC Med Ethics, 14*(1), S4. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3878327/

Mehrens, W. A. (1997). The consequences of consequential validity. Educational measurement. *Issues and Practice, 16*(2), 16-18.

Mellencamp, A. V. (1992). *Making connections through voice: Teacher receptivity towards change*. Burlington, VT: Vermont University.

Melucci, A. (1996). *Challenging Codes: Collective Action in the Information Age*. Cambridge, UK: Cambridge University Press.

Mendez, J. L., Carpenter, J. L., LaForett, D. R., & Cohen, J. S. (2009). Parental engagement and barriers to participation in a community-based preventive intervention. *American Journal of Community Psychology, 44*(1-2), 1-14.

Mertens, D. M. (2003). Mixed methods and the politics of human research: The transformative-emancipatory perspective. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 135-164). Thousand Oaks, CA: Sage.

Messick, S. (1980). Test validity and the ethics of assessment. *American Psychologist, 35*, 1012-1027.

Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational Measurement* (pp. 13-104). New York: Macmillan Publishing Company.

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist, 50*(9), 741-749.

Messick, S. (1998). Test validity: A matter of consequence. *Social Indicators Research, 45*, 35-44.

Miller, R. L., & Shinn, M. (2005). Learning from communities: Overcoming difficulties in dissemination of prevention and promotion efforts *American Journal of Community Psychology, 35*(3-4), 169-183.

Miller, D. C., & Salkind, N. J. (2002). *Handbook of research design and social measurement.* (6th ed.). London: Sage Publication Inc.

Mills, E., Cooper, C., Guyatt, G., Gilchrist, A., Rachlis, B., Sulway, C., … Wilson, K. (2004). Barriers to participating in an HIV vaccine trial: A systematic review. *AIDS, 18*(17), 2235-2242.

Miles, M.B., & Huberman, M. (1994*). Qualitative data analysis: An expanded sourcebook.* Thousand Oaks, California: Sage Publications.

Minch, D., Kincaid, D., Tremaine, V., & Thomas, R. (2017). Translating family engagement strategies to practice in local sites implementing PBIS. In M. D. Weist, S. A Garbacz, K. L. Lane & , D. Kincaid (Eds.), *Aligning and integrating family engagement in Positive Behavioral Interventions and Supports (PBIS): Concepts and strategies for families and schools in key contexts* (pp.43-70). Center for Positive Behavioral Interventions and Supports. Eugene, Oregon: University of Oregon Press.

Minkler, M., Garcia, A. P., Rubin, V., & Wallerstein, N. (2012).*Community-Based participatory research: A strategy for building healthy communities and promoting health through policy change: A report to the California endowment.* Retrieved from http://www.policylink.org

Minkler, M., Glover-Blackwell, A., Thompson, M., & Tamir, H. (2003). Community-based participatory research: Implications for public health funding. *American Journal of Public Health, 93*(8), 1210-1213.

Minkler, M., & Wallerstein, N. (Eds.). (2008). *Community-based participatory research for health: From process to outcomes* (2nded.). San Francisco, CA:Jossey-Bass.

Mohan, G., & Stokke, K. (2000). Participatory development and empowerment: The dangers of localism. *Third World Quarterly, 21*(2), 247-268.

Moodley, K. (2005). HIV vaccine trial participation in South Africa: An ethical assessment. In A. A. van Niekerk & L. M. Kopelman (Eds.), *Ethics and AIDS in Africa: The challenge to our thinking* (pp. 160-178). Cape Town: David Philip Publishers.

Moolman, H., & Blignaut, S. (2008). Get set! e-Ready, … e-Learn! The e-Readiness of warehouse workers. *Educational Technology & Society, 11*(1), 168-182.

Moss, P. A. (1998). The role of consequences in validity theory. *Educational Measurement: Issues and Practice, 17*(2), 6-12.

Moss, P. A. (2003). Reconceptualizing validity for classroom assessment. *Educational Measurement: Issues and Practice, 22*(4), 13-25.

Murphy, K. R., & Davidshofer, C. O. (1998). Psychological testing: Principles and applications (4th ed.). Michigan: Prentice Hall.

Murphy, J. G., Correia, C. J., & Barnett, N. P. (2007) Behavioral economic approaches to reduce college student drinking. *Addictive Behaviors, 32*, 2573–2585.

Nastasi, B., & Hitchcock, J. (2009). Challenges of evaluating multilevel interventions. *American Journal of Community Psychology, 43*, 360-376.

Nation, M., Bess, K., Voight, A., Perkins, D. D., & Juarez, P. (2011). Levels of community engagement in youth violence prevention: The role of power in sustaining successful university-community partnerships. *American Journal of Community Psychology, 48*, 89-96.

Northern Ireland Assembly. (2010). *Barriers to sports and physical activity participation*. Research Paper 18/10. Northern Ireland: Research and Library Services. Retrieved from http://archive.niassembly.gov.uk/researchandlibrary/2010/1810.pdf

Negev, M. (2012). Knowledge, data and interests: Challenges in participation of diverse stakeholders in HIA. *Environmental Impact Assessment Review, 33*(1), 48-54.

Negev, M., Davidovitch, N., Garb, Y., & Tal, A., (2013). Stakeholder participation in health impact assessment: A multicultural approach. *Environmental Impact Assess*ment *Review, 43*, 112-120.

Nell, V. (1994). Interpretation and misinterpretation of the South African Wechsler-Bellevue Adult Intelligence Scale: A history and prospectus. *South African Journal for Psychology*, *27*, 43-49.

Nell, V. (2000). *Cross-cultural neuropsychological assessment: Theory and practice*. London: Lawrence Erlbaum.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

Ogden, J. (2003). Some problems with social cognition models: A pragmatic and conceptual analysis. *Health Psychology, 22*(4), 424-428.

Oke, N., Stanley, J., & Theobald, J. (2007). *The inclusive role of playgroups in greater Dandenong*. Fitzroy, Vic: Brotherhood of St Laurence.

O'Neil, M. J., & Jackson, L. (1983). Nominal group technique: a process for initiating curriculum development in higher education, *Studies in Higher Education*, *8*(2), 129-138.

Onwuegbuzie, A. J., Bustamante, R. M., & Nelson, J. A. (2010). Mixed research as a tool for developing quantitative instruments. *Journal of Mixed Methods Research 4*(1), 56-78.

Onwuegbuzie, A. J., Daniel, L. G., & Collins, K. M. T. (2009). A meta-validation model for assessing the score validity of student teacher evaluations. *Quality & Quantity: International Journal of Methodology, 43*, 197-209.

Orrell-Valente, J. K., Pinderhughes, E. E., Valente Jr., E., Laird, R. D., Bierman, K. L., Coie, J. D., … McMahon, R. J. (1999). If it's offered, will they come? Influences on parents' participation in a community-based conduct problems prevention program. *American Journal of Community Psychology, 27*(6), 753-783.

Pantin, H., Coatsworth, J. D., Feaster, D. J., Newman, F. L., Briones, E., Prado, G. … Szapocznik, J. (2003). Familias Unidas: The efficacy of an intervention to increase parental investment in Hispanic immigrant families. *Prevention Science. 4*, 189-201.

Paquette, D., & Ryan, J. (2001). *Bronfenbrenner's ecological systems theory.* Retrieved from http://pt3.nl.edu/paquetteryanwebquest.pdf#search=%22ecological%20theory%22

Palmary, I. (2015). Reflections on social cohesion in contemporary South Africa *PINS, 49,* 62-69.

Parker, R. N., Alcaraz, R., & Payne, P. R. (2011). Community readiness for change and youth violence prevention: A tale of two cities. *American Journal of Community Psychology, 48*, 97-105.

Parkes, J. (2007). The multiple meanings of violence: Children's talk about life in a South African neighbourhood. *Childhood*, *14*(4), 401-414.

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, R., & F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224-239). New York: The Guilford Press.

Peden, M., Oyegbite, K., Ozanne-Smith, J., Hyder, A A., Branche, C., Fazlur Rahman, A. K. M., … Bartolomeos, K. (2008). *World report on child injury prevention*. Geneva: World Health Organization and United Nations Children's Fund.

Pee, L. G., Woon, I. M. Y., & Kankanhalli, A. (2008). Explaining Non-Work-Related Computing in the Workplace: A Comparison of Alternative Models. *Information & Management 45*(2), 120-130.

Phiri, L. L., Hendricks, N., & Seedat, M. (2012). Community centred learning: A pathway to community engagement. *Journal of Psychology in Africa 22*(4), 577-580.

Polizzi, D. M., & Gottfredson, D. C. (2003). Differentiating completers from non-completers of a family-based prevention program. *Journal of Primary Prevention*, *24*(2), 111-124.

Popay, J. (2006). *Community engagement and community development and health improvement: A background paper for National Institute for Health and Clinical Excellence (NICE)*. Retrieved from antony.morgan@nice.org.uk

Popham, W. J. (1997). Consequential validity: Right concern - wrong concept. *Educational Measurement: Issues and Practice, 16*(2), 9-13.

Prado, G., Pantin, H., Schwartz, S. J., Lupei, N. S., & Szapocznik, J. (2006). Predictors of engagement and retention into a parent-centered, ecodevelopmental HIV preventive intervention for Hispanic adolescents and their families. *Journal of Pediatric Psychology, 31*(9), 874.

Primrose, A. F., Fuller, M., & Littledyke, M. (2000). Verbal reasoning test scores and their stability over time. *Educational Research, 42*(2), 167-174.

Prinz, R. J., & Miller, G. E. (1996). Parental engagement in interventions for children at risk for conduct disorder. In R. D. Peters & R. J. McMahon (Eds.), *Preventing childhood disorders, substance abuse, and delinquency. Banff international behavioral science series* (Vol. 3, pp.161-183). Thousand Oaks, CA: Sage.

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist, 47,* 1102-1114.

Ramey, C. T., Bryant, D. M., Wasik, B. H., Sparling, J. J., Fendt, K. H., & Lavange, L. M. (1992). Infant Health and Development Program for low birth weight, premature infants: Program elements, family participation, and child intelligence. *Pediatrics, 89,* 454-465.

Rappaport, J. (1981). In praise of paradox: A social policy of empowerment over prevention. *American Journal of Community Psychology, 9*(1), 1-25.

Ratele, K. (2012). Poverty. In M. Visser (Ed.), *Contextualising community psychology in South Africa* (pp. 217-228). Pretoria, South Africa: Van Schaik.

Redmond, C., Spoth, R., Shin, C., & Hill, G. J. (2004). Engaging rural parents in family-focused programs to prevent youth substance abuse. *The Journal of Primary Prevention, 24*(3), 223-242.

Rifkin, A. (2007). Randomised controlled trials and psychotherapy research. *American Journal of Psychiatry, 164*(1), 7-8.

Richter L., & Higson-Smith, C. (2004). The many kinds of sexual abuse of young children. In L. Richter, A. Dawes, C. Higson-Smith (eds.) *Sexual abuse of young children in southern Africa* (pp. 21-35). Cape Town: HSRC Press.

Riley, S., Brady, A. E., Goldberg, J., Jacobs, F., & Easterbrooks, M. A. (2008). Once the door closes: Understanding the parent-provider relationship. *Children & Youth Services Review, 30*, 597-612.

Rongen, A., Robroek, S. J. W., van Ginkel, W., Lindeboom, D., Altink, B., & Burdorf, A. (2014). Barriers and facilitators for participation in health promotion programs among employees: A six-month follow-up study. *BMC Public Health, 14*(573). Retrieved from http://biomedcentral.com/147-2458/14/573

Rothman, J., & Thomas, E. J. (1994). *Intervention research: Design and development for human services.* Binghamton, NY: Haworth Press.

Rudner, L., & Schafer, W. (2002). *What teachers need to know about assessment.* Washington, *DC:* National Education Association.

Runyan, D., Wattam, C., Ikeda, R., Hassan, F., & Ramiro, L. (2002). Child abuse and neglect by parents and other caregivers. In E. G. Krug, L. L. Dahlberg, C. A. Mercy, (Eds.), *World report on violence and health* (pp. 57-86). Geneva: World Health Organization.

Rust, J., & Golombok, S. (2009). *Modern psychometrics: The science of psychological assessment* (3rd ed.). London: Routledge.

Rychetnik, L., Frommer, M., Hawe, P., & Shiell, A. (2002). Criteria for evaluating evidence on public health interventions. *Journal of Epidemiology and Community Health, 56*, 119-27.

Sahay, S., Mehendale, S., Sane, S., Brahme, R., Brown, A., Charron, K., . . . Paranjape, R. (2005). Correlates of HIV vaccine trial participation: An Indian perspective. *Vaccine, 23*, 1351-1358.

Salter, K., Jutai, J. W., Teasell, R., Foley, N. C., Bitensky, J., & Bayley, M. (2005). Issues for selection of outcome measures in stroke rehabilitation: ICF Participation. *Disability Rehabilitation, 27*(9), 507-528.

Sampson, R. J., & Laub, J. H. (1994). Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. *Child development, 65*(2), 523-540.

Samuel, K., & Uwizeyimana, J. B. (2017). *Social connectedness and poverty eradication: A South African perspective.* Global Challenges, Working Paper Series, No. 2. Norway: University of Bergen.

Savahl, S., Malcolm, C., Slembrouk, S., Adams, S., Willenberg, I., & September, R. (2015). Discourses on well-being. *Child Indicators Research, 8*(4), 747-766.

Savaya, R., & Spiro, S. E. (2012). Predictors of sustainability of social programs. *American Journal of Evaluation, 33*(1), 26-43.

Schaap, P., & Vermeulen, T. (2008). The construct equivalence and item bias of the PIB/SpEEx Conceptualization- Ability Test for members of the five language groups in South Arica. *South African Journal for Industrial Psychology, 34*(3), 29-38.

Schwandt, T. A., Lincoln, Y. S., & Guba, E. G. (2007). Judging interpretations: But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Evaluation*, *114*, 11-25.

Schensul J. J., & Trickett E. J. (2009). Introduction to multi-level community based culturally situated interventions. *American Journal of Community Psychology, 43*(3-4), 232-240.

Schilling, F. F. (1997). Developing intervention research programs in social work. S*ocial Work Research, 21*(3), 173-180.

Seedat, M., Van Niekerk, A., Jewkes, R., Suffla, S., & Ratele, K. (2009). Violence and injuries in South Africa: Prioritising an agenda for prevention. *Lancet, 374*, 1011-22.

Segal, T., & Labe, D. (1990). Family violence: Wife abuse. In B. W. McKendrick, W. Hoofman (Eds.), *People and violence in South Africa* (pp.251-287). Cape Town: Oxford University Press.

Silverman, R. M. (2005). Caught in the Middle: Community Development Corporations (CDCs) and the Conflict between Grassroots and Instrumental Forms of Citizen Participation. *Journal of the Community Development Society, 36*(2), 35-51.

Simms, L. J., & Watson, D. (2007). The construct validation approach to personality scale construction. In R. Robins, C. Fraley, R. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 240-258). New York: Guilford Press.

Simpson, G. (2000). *Rebuilding fractured societies: Reconstruction, reconciliation and the changing nature of violence - Some self-critical insights from post-apartheid South Africa.* Paper commissioned by the United Nations Development Programme (UNDP). Retrieved from www.csvr.org.za/docs/reconciliation/rebuildingfracturedsocieties.pdf

Sireci, S.G. (2009). Packing and upacking sources of validity evidence: History repeats itself again. In R. Lissitz (Ed.), *The concept of validity: Revisions, new directions and applications* (pp. 19-37). Charlotte, NC: Information Age Publishing Inc.

Sireci, S. G. (1998). The construct of content validity. *Social Indicators Research, 45*, 83-117.

Sireci, S. G. (n.d.). *Developing the test plan: Content specifications and test objectives*. Massachussetts: University of Massachusetts Amherst.

Shaughnessy, M. (2013). Research participation, risks and benefits of. In M. D. Gellman and J. R. Turner (Eds.), *Encyclopedia of behavioral medicine* (pp.1666-1667). New York: Springer.

Shepard, L. A. (1997). The Centrality of Test Use and Consequences for Test Validity. Educational Measurement: Issues and Practice, 16, 5-24.

Slomp, D., Corrigan, J., & Sugimoto, T. (2014). A framework for using consequential validity evidence in evaluating large-scale writing assessments: A Canadian study. *Research in the Teaching of English, 48*(3), 276-302.

Small, S., & Supple, A., (2001). Communities as systems: Is a community more than the sum of its parts? In A. Booth & A. C. Crouter (Eds.), *Does it take a village? Community effects on children, adolescents and families* (pp. 161-174). Mahwah NJ: Lawrence Erlbaum.

Snell-Johns, J., Mendez, J. L., & Smith, B. H. (2004). Evidence-based solutions for overcoming access barriers, decreasing attrition, and promoting chance with underserved families. *Journal of Family Psychology, 18*, 19-35.

Solomon, B. B. (1976). *Black empowerment: Social work in oppressed communities*. New York: Columbia University Press.

Spoth, R., & Redmond, C. (1996). A theory based parent competency model incorporating intervention attendance effects. *Family Relations, 45*, 139-147.

Spoth, R., & Redmond, C. (2000). Research on family engagement in preventive interventions: Toward improved use of scientific findings in primary prevention practice. *Journal of Primary Prevention, 21*(2), 267-284.

Spoth, R., Redmond, C., Hockaday, C., & Shin, C. (1996). Barriers to participation in family skills preventive interventions and their evaluations: A replication and extension. *Family Relations*, 45, 247-254.

Spoth, R., Redmond, C., & Shin, C. (2000). Reducing adolescents' aggressive and hostile behaviors: Randomized trial effects of a brief family intervention four years past baseline. *Archives of Pediatrics and Adolescent Medicine*, *154*, 1248-1257.

Stansfeld, S., & Rasul, F. (2007). Chapter 3. In A. Steptoe (Ed.), *Psychosocial factors, depression and illness in depression and physical illness* (pp.39-40). New York, NW: Cambridge University Press.

Statistics South Africa (StatsSA). (2011). *Census 2011 Statistical Release P0301.4.* Retrieved from www.statssa.gov.za/publications/P03014/P030142011.pdf

Stenner, A. J., Fisher, W. P., Stone, M. H., & Burdick, D. S. (2013). *Causal Rasch models. Frontiers in psychology, 4*, 1-14

Strauss, R., Sengupta, S., Kegeles, S., McLellan, E., Metzger, D., Eyre, S., . . . MacQueen, K. (2001). Willingness to volunteer in future preventive HIV vaccine trials: Issues and perspectives from three U.S. communities. *Journal of Acquired Immune Deficiency Syndromes, 26*, 63-71.

Strauss, M. E., & Smith, G. T. (2009). Construct validity: Advances in theory and methodology. *Annual Review Clinical Psychology, 5*, 1-25.

Streiner, D. L., & Norman, G. R. (2008). *Health measurement scales - A practical guide to their development and use* (4th ed.). Oxford, UK: Oxford University.

Strydom, H. (2005). Ethical aspects of research in social sciences and human services professions In A. S. De Vos, H. Strydom, C. B. Fouché, C. S .L. Delport, (Eds.), *Research at grassroots: For the social sciences and human service professions* (3rd ed., pp. 113-130). Pretoria: Van Schaik Publishers.

Subramanian, U., Hopp, F., Lowery, J., Woodbridge, P., & Smith, D. (2004). Research in home-care telemedicine: Challenges in patient recruitment. *Telemedicine Journal and e-Health, 10*, 155-161.

Sultana, F. (2007). Reflexivity, positionality and participatory ethics; negotiating fieldwork dilemmas in international research. *ACME: An International E-Journal for Critical Geographies, 6*(3), 374-385.

Swart-Kruger, J., & Chawla, L. (2002). We know something someone doesn't know: Children speak out on local conditions in Johannesburg. *Environment and Urbanization, 14*(2), 85-96.

Swart, C., Roodt, G. & Schepers, J. M. (1999). Itemformaat, differensiële itemskeefheid en die faktorstruktuur van 'n selfvoltooingsvraelys. *SA Tydskrif vir Bedryfsielkunde, 25*(1), 33-43.

Swartz, S., Harding, J. H., & De Lannoy, A., (2012). Ikasi style and the quiet violence of dreams: a critique of youth belonging in post-Apartheid South Africa. *Journal Comparative Education, 48*(1), 27-40.

Swartz, L., Kagee, A., Lesch, A., Kafaar, Z., Fincham, D., & Ntlemeza, B. (2006). *Community members' perceptions of enablers and inhibitors to participation in HIV/AIDS vaccine trials.* Stellenbosch, South Africa: Sociobehavioural Group, South African AIDS Vaccine Initiative. (Commissioned by Masikhulisane, the community preparedness programme of the South African AIDS Vaccine Initiative).

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn & Bacon.

Tandon, S. D., Parillo, K., Mercer, C., Keefer, M., & Duggan, A. K. (2008). Engagement in paraprofessional home visitation: Families' reasons for enrollment and program response to identified reasons. *Women's Health Issues, 18*, 118-129.

Tay, L., Tan, K., Diener, E., & Gonzalez, E. (2013). Social relations, health behaviors, and health outcomes: A survey and synthesis. *Applied Psychology: Health and Well-Being, 5*, 28-78.

Taylor, S. E., Sherman, D. K., Kim, H. S., Jarcho, J., Takagi, K., & Dunagan, M. S. (2004). Culture and social support: Who seeks it and why? *Journal of Personality and Social Psychology, 87*, 354–362.

Tchombe, T. M. S., Shumba, A., Lah Lo-oh, J., Gakuba, T. O., Zinkeng, M., & Teku, T. T. (2012). Psychological undertones of family poverty in rural communities in Cameroon: Resilience and coping strategies. *South African Journal of Psychology*, *42*, 232–242.

The Unit for Religion and Development Research. (2001). *Helderberg basin transformation project*. Stellenbosch: University of Stellenbosch in partnership with Transformation Africa and Western Cape Department of Community Safety.

Thompson, B. (2004). *Exploratory and confirmatory analysis: Understanding concepts and applications* (1st ed.). Washington, DC: American Psychological Association.

Thomas, A. J., Carey, D., Prewitt, K. R., Romero, E., Richards, M., & Velsor-Friedrich, B. (2012). African-American youth and exposure to community violence: Supporting change from the inside. *Journal for Social Action in Counselling and Psychology, 4*(1), 54-68.

Tindana, P. O., Singh, J. A., Tracy, C. S., Upshur, R. E. G., Daar, A. S., Singer, P. A.,…Lavery, J. V. (2007). Grand challenges in global health: Community engagement in research in developing countries. *PLoS Medicine, 4*(9), 1451-1455.

Trickett, E. J. (2009). Community psychology: Individuals and interventions in community context. *Annual Review of Psychology, 60*, 395-419.

Trickett, E. J., Kelly, J. G., & Vincent, T. A. (1985). The spirit of ecological inquiry in community research. In E.C. Susskind and D.C. Klein (Eds.), *Community research, methods, paradigms, and application* (pp. 283-333). New York, NY: Praeger Publishers.

Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review, 1,* 198-210.

Turgo, N. (2012). 'I know him so well': Contracting/tual 'insiderness', and maintaining access and rapport in a Philippine fishing community. *Sociological Research Online, 17*(3), 18. Retrieved from http://www.socresonline.org.uk/17/3/18.html

Turgo, N. (2013). 'Here, we don't just trade goods, we also "sell" people's lives': Sari-sari stores as nodes of partial surveillance in a Philippine fishing community. *Singapore Journal of Tropical Geography 34*(3), 373-389.

Value (1994). *Collins English dictionary*. Retrieved from https://www.collinsdictionary.com/dictionary/english/value.

Van de Vijver, F. (1998). Towards a theory of bias and equivalence. *ZUMA Nachrichten Special No.3: Cross-cultural survey equivalence*, 41-65.

Van de Vijver, F. J. R., & Hambleton, R. K. (1996). Translating tests: Some practical guidelines. *European Psychologist, 1*, 89-99.

Van Niekerk, A., & Ismail, G. (2013). Barriers to caregiver involvement in a child safety intervention in South Africa. *South African Journal of Psychology, 43*(4) 470-481.

Venter, E. (2004). The notion of Ubuntu and communalism in African educational discourse. *Studies in Philosophy and Education, 23*, 149-160.

Victora, C. G., Habicht, J. P., & Bryce, J. (2004). Evidence-based public health: moving beyond randomised trials. *American Journal of Public Health, 94*(3), 400-405.

Visser, M. (2007). Systems theory. In M. Visser (Eds.), *Contextualising Community psychology in South Africa* (pp.22-36). Pretoria: Van Schaik Publishers.

Visser, M. (2004). *Citizen reaction to violence and crime in a South African community*. Paper presented at the fifth conference of the European Network for Community Psychology, Berlin.

Viswanathan, M., Ammerman, A., Eng, E., Gartlehner, G., Lohr, K. N., Griffith, D., … Whitener, L. (2004). *Community-Based Participatory Research: Assessing the evidence*. Agency for Healthcare Research and Quality (US). Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK11852/

Vitaro, F., & Tremblay, R. E. (2008). Clarifying and maximizing the usefulness of targeted preventive interventions. In M. Rutter, D. V. M. Bishop, D. S. Pine, S. Scott, J. Stevenson, E. Taylor and A. Thapar (Eds.), *Child and Adolescent Psychiatry* (5th ed., pp. 989-1008). Blackwell Publishing Limited.

Vonk Noordegraaf, A., Huirne, J., Brölmann, H., van Mechelen, W., & Anema, J. (2011). Multidisciplinary convalescence recommendations after gynaecological surgery: A modified Delphi method among experts. *BJOG, 118*, 1557-1567.

Vroom, V. H., & Jago, A. G. (1988) Managing participation: A critical dimension of leadership. *Journal of Management Development, 7*(5), 32-42.

Wachs, M., & Kumagai, T. G. (1973). Physical accessibility as a social indicator. *Socio-Economic Planning Sciences, 7*, 437-456.

Wainer, H., & Braun, H. I. (Eds.). (2013). *Test validity*. London: Routledge.

Wallerstein, N. (1992). Powerlessness, empowerment, and health: implications for health promotion programs. *American Journal of Health Promotion, 6*(3), 197-205.

Walsh, W. B., & Betz, N. E. (2001). *Tests and Assessment.* (4th ed.). New Jersey: Prentice Hall.

Waltz, C. F., Strickland, O. L., & Lenz, E. R. (2010). *Measurement in nursing and health research*. (3rd ed.). New York: Springer.

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology, 82*, 247-252.

Watson, D. (2005). What I think I know and don't know about widening participation in HE, in C. Duke and G. Layer (Eds.), *Widening participation*: *Which way forward for English higher education?* Leicester: NIACE.

Webb, C. (1999). Analysing qualitative data: Computerized and other approaches. *Journal of Advance Nursing, 29*(2), 323-330.

Webster, C. (1995). *Youth crime, victimization and racial harassment: The Keighley Crime Survey*. Bradford: Centre for Applied Research in Community Studies.

Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation Science, 4*(1), 67.

White, S. C. (1996) Depoliticising development: The uses and abuses of participation. *Development in Practice, 6* (1), 6-15.

Williams, L. A., Agarwal, S., Bodurka, D. C., Saleeba, A. K., Sun, C. C., & Cleeland, C. S. (2013). Capturing the patient's experience: Using qualitative methods to develop a measure of patient-reported symptom burden: An example from ovarian cancer. *Journal of Pain and Symptom Management, 46*(6), 837-845.

Wolf, M. (1983). *Participation: the view from above*. Geneva, Switzerland: UN-RISD.

Wolff, N. (2001). Randomised trials of socially complex interventions: promise or peril? *Journal of Health Services Research and Policy, 6*(2), 123-6.

World Bank. (1996). *The World Bank Participation Sourcebook*. Washington, DC: The World Bank, Environmentally Sustainable Development.

World Health Organization. (2001). *The World Health Report: 2001. Mental health: New understanding, new hope.* Geneva: World Health Organization. Retrieved from http://www.who.int/whr01_en.pdf?ua=1

World Health Organization. (2010). *Injuries and violence: The facts*. Geneva: World Health
Organization. Retrieved from
http://apps.who.int/iris/bitstream/10665/44288/1/9789241599375_eng.pdf

World Health Organization. (2014). *Injuries and violence: The facts 2014*. Geneva: World
Health Organization. Retrieved from www.who.int/violence_injury_prevention/en/

Yancey, A. K., Ortega, A. N., & Kumanyika, S. K. (2006). Effective recruitment and retention of
minority research participants. *Annual Review of Public Health, 27*, 1-28.

York, N. L., & Hahn, E. J. (2007). The community readiness model: Evaluating local smoke-free
policy development. *Policy, Politics and Nursing Practice, 8(3)*, 184-200.

Yorkston, K. M., Kuehn, C. M., Johnson, K. L., Ehde, D. M., Jensen, M. P., & Amtmann, D.
(2008). Measuring participation in multiple sclerosis: A comparison of the domains of
frequency, importance, and self-efficacy. *Disability and Rehabilitation, 30*(2), 88-97.

Yuksel, C., & Turner, C. (2008). Building community connectedness in Broadmeadows. *The
Australian Community Psychologist, 20*(1), 8-21.

Zavaleta, D., Samuel, K., & Mills, C. (2016). Measures of Social Isolation. *Social Indicators
Research, 131*(1), 367-391.

Zhao, Z. Q. (2008). Neural mechanism underlying acupuncture analgesia. *Progress in
Neurobiology, 85*(4), 355-375.

Zheng, K., Fear, K., Chaffee, B. W., Zimmerman, C. R., Karls, E. M., Gatwood, J.,
… Pearlman, M. D. (2011). Development and *validation* of a survey instrument for assessing
prescribers' perception of computerized drug-drug interaction alerts. *Journal of American
Medical Informatics Association, 18*(1), 151-161.

Zurn, P., Dolea, C., & Stilwell, B. (2005). *Nurse retention and recruitment: Developing a
motivated workforce*. International Council of Nurses, Geneva: ICN. Retrieved from
http://www.icn.ch/global/Issue4Retention.pdf

Zumbo, B. (2007). Validity: Foundational issues and statistical methodology. In C. R. Rao & S.
Sinharay (Eds.). *Psychometrics: Handbook of statistics* (pp. 45-79). Amsterdam: Elsevier.

APPENDIX A

Ethical Clearance for the Study

Department of Psychology

Ethical Clearance for M/D students: Research on human participants

The Ethics Committee of the Department of Psychology at Unisa have evaluated this research proposal for a Higher Degree in Psychology in light of appropriate ethical requirements, with special reference to the requirements of the Code of Conduct for Psychologists of the HPCSA.

Student Name: Ghouwa Ismail   **Student no.**   3526-5965

Supervisor/promoter: Prof. A. van Niekerk   **Affiliation:** Psychology (MRC)

Title of project:

The development and initial validation of an assessment tool to measure receptivity to engage in health and safety interventions

The application was approved by the departmental Ethics Committee on the understanding that informed consent will be obtained from all the participants in the study, and that issues of confidentiality of the data collected will be clarified with them.

Signed:

Prof H C Janeke
    [For the Ethics Committee   ]
    [Department of Psychology, Unisa]

Date: 7 November 2013

APPENDIX B

Broadlands Park Civic Letter

SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

14 March 2017

Mr J. Frieslaar (Chairperson)
Broadlands Park Civic
Broadlands Park
Strand

Dear Mr Frieslaar

As per our telephonic conversation you are aware that to fulfil my requirements for my doctoral dissertation at the University of South Africa (UNISA), Pretoria, I am developing an assessment instrument to measure psycho-social factors associated with participation in child-centred safety initiatives. For this study I will be conducting research in Broadlands Park in 350 households between the month of March and April 2017.

Should you require any further information, please do not hesitate to contact me or my supervisor. Our contact details are as follows:
- Prof Ashley Van Niekerk – 021 938 0399
- Ms Ghouwa Ismail – 021 9380855

Upon completion of the study, I undertake to provide the civic with all relevant information generated from the PhD study required by the civic on Broadlands Park.

Your assistance in conducting this study is greatly appreciated.

Sincerely

………………………..
Ghouwa Ismail
PhD Candidate: Violence, Injury and Peace Research Unit (VIPRU)
South African Medical Research Council
Tel: +27 21 9380855
Francie van Zijl Drive, Parow Valley | Cape Town| Western Cape

APPENDIX C

Delphi Review Panel Information Sheet

SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

8 December 2016

Professor ......
SAMRC-UNISA VIPRU
SAMRC
Cape Town, 8001

Dear ....

RE: A mixed method approach to the development and validation of an assessment tool to measure psycho-social factors associated with participation in child-centred initiatives

To fulfil my requirements for my doctoral dissertation at the University of South Africa (UNISA), Pretoria, I am developing an assessment instrument to measure psycho-social factors associated with participation in child-centred safety initiatives.

As you are an established expert in the field of community psychology with hands on experience in working with communities, I am keen to gain your views regarding the variables which are important in predicting participation in child-centred safety initiatives. I would like to invite you to participate

as an expert panel member, specifically to review and evaluate the predictive value of a range of indicators and initial item pool developed for the proposed instrument.

In the first round, you will be asked to critique, evaluate and appraise indicators associated with the construct *willingness to participate* which is envisaged to take approximately 40 minutes to complete. Subsequently, in round two a second email will be sent with a reminder of your ratings and comments, a summary of the panel's responses and an initial item pool developed from the indicators, to rate the relevancy and clarity of these indicators to the definition of the construct willingness to participate. The third round, would include once again a reminder of your ratings of the item pool and comments, a summary of the panel's responses of the initial item pool and a revised item pool in order to re-rate the original questionnaire. Expert panel members will also be invited to evaluate the indicators and individual items with open-ended comments. Your participation will include emailed communication. You will receive a copy of the indicators in the first round of the Delphi panel review and in the second and third round you will receive the initial item pool with a rating form. This process would continue until panellist consensus is achieved or 3 Delphi review rounds have been completed. The form can be completed and sent back to me electronically. In order to allow timely conclusion of the study I would respectfully request a response time of 2 weeks for completion of each round.

The information you provide will help to maximise the content validity of my instrument. Your participation in this research project would be highly appreciated.

The proposed study abides by the ethical requirements of the University of South Africa. A copy of the University of South Africa's ethics committee applications and decision letter is available on request.

Thank you for reading this information sheet and for your consideration in participating in this research. Please inform me whether or not you would be able to participate by replying to this email.

If you have any questions, please call me at (021 9380855) or email me at ghouwa.ismail@mrc.ac.za.

THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL
Francie Van Zijl Drive, Parow Valley, Cape Town | Po Box 19070, Tygerberg, 7505, South Africa
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SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

Indicators of Willingness to Participate in Safety Interventions: Delphi survey initial review

Name:

Occupation:

Affiliation:

Thank you for agreeing to participate in this Delphi review on the willingness to participate (WTP) in safety intervention indicators for disadvantaged communities in South Africa. The review forms part of an evaluation and development of WTP indicators that will be utilised in constructing an assessment instrument that measures the psychosocial factors thought to influence WTP in safety interventions. *Willingness to Participate is defined in relation to this study as a predisposition or readiness to act voluntarily in intervention programmes.*

This feedback round is the first of up to three rounds of the review. Please try to answer all questions, even though we do not expect you to have in-depth knowledge of all of them. You will have the opportunity to revise your answers with subsequent rounds of the review. In these reviews, you will be asked to critique, evaluate and appraise WTP indicators. Most of the questions can be answered with only a single selection. Where appropriate, a space is also provided for you to comment on the underlying reasons for your responses.

In formulating your responses, you are not expected to assess the feasibility or cost of data collection for the indicators. Once we have received responses from all panellists, we will collate and summarise the findings and formulate the second questionnaire. You should receive this within a couple of weeks. We assure you that your participation in the Delphi review and your individual responses will be strictly confidential to the research team and will not be divulged to any outside party, including other panellists.

1. Below, are two lists of willingness to participate indicators extrapolated from the literature and through interactive experiences with disadvantaged communities in the Western Cape, South Africa. Please rate each of the indicators in terms of its value in providing information to researchers and interventionists to determine participants' willingness to participate in safety interventions, where 1 indicates it is *most important* and 5 indicates it is *least important* or redundant.

<table>
<tr><td>

Note to panellist: The following questions might be helpful in guiding your assessment of the value of each indicator:

   a. Is the indicator useful for guiding intervention developers in assessing community members' willingness to participate in interventions?

   b. Is the indicators helpful in identifying psychosocial factors that deter willingness to participate?

   c. Is the indicator useful for guiding intervention developers in reducing the barriers that prevent willingness to participate in interventions?

   d. Is the indicator useful for guiding intervention developers in managing how they would implement an intervention successfully in communities?

</td></tr>
</table>

In formulating your response, please keep in mind that the questionnaire is to assess the psychosocial factors that influence willingness to participate in interventions.

	INDICATOR NAME AND DESCRIPTION EXTRAOPOLATED FROM THE DATA	Rating (1=most important-5=least important)				
		1	2	3	4	5
1.	Opportunity for personal growth through development of skills of caregivers and community members in terms of knowledge and experiential competences (Caregivers/Community Members improve themselves through skills workshops)					

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2.	Social/Community approval and trust (respect amongst all stakeholders, community members and researchers for example fostering politeness, respect, and consideration of the next individual)					
3.	Expectation and Motivation towards change (Needs and expectations of the community with regards to the impact of the interventions)					
4.	Intervention Overload/Perceptions (Too many initiatives with no benefits observed)					
5.	Cash and Gift Incentives (Refreshments, cash etc. to attract participation of community members)					
6.	Lack of Social Support Systems in the Community (There is an absence of for example counsellors in community)					
7.	Entertainment (Activities to attract participation of community members)					
8.	Networks and Communication (Interaction between community groups, committees, stakeholders etc.)					
9.	Competing Priorities (Employment and other social and domestic issues give precedence over attending interventions)					
10.	Isolation from partners and family (Isolation due to poverty, divorce, unequal power relations etc. prevents individuals from participating)					
11.	A lack of childcare (An absence of childcare facilities or support services in the community prevents individuals from participating)					
12.	Frailty and disability (Physical limitations of the aged is a barrier to participation)					
13.	Negativity (Members of the community are feeling skeptical and experiencing negative perceptions of interventions and are regarded as a derailer to intervention participation)					
14.	Disinterest (Members of the community are experiencing feelings of apathy and indifference towards interventions and thus do not participate)					
15.	Hopelessness (Members of the community are feeling a sense of hopelessness and learnt helplessness which influences their choice of participation in interventions)					

16.	Community connectedness and cohesion (there is a lack of connectedness and cohesion amongst members of the community which leads to community members not wanting to participate in interventions)						
17.	Empathy and responsibility for safety of children of others (Individuals in the community have a concern over others children and these feelings of empathy and responsibility was regarded as an enabler for participation)						
18.	Neighbours as a source of safety (Certain members in the community developed strong connections with their neighbours)						
19.	Cater to the communities needs (Interventions should be context specific facilitating participation)						
20.	Youth-focused activities (Interventions focused on the youth in the community)						

	INDICATORS EXTRAOPOLATED FROM THE LITERATURE	Rating (1=most important- 5=least important)				
		1	2	3	4	5
1.	Lack of community awareness which results in lack of participation					
2.	Practical/logistical factors such as venue, time of intervention etc. is regarded as both enablers and derailers to participation					
3.	Language and cultural factors as barriers					
4.	Personal factors such as feelings of inadequacy; Perceived sensitive issues etc. may hinder participation					
5.	Stigma attached to participation preventing participation					
6.	Lack of confidence in own abilities acts as a derailer to participation					
7.	Stressful life events					
8.	Lack of trust in the usefulness of the intervention (mistrust)					
9.	Participant-interventionist relationship					
10.	Lack of time and energy to participate					
11.	Caregivers recognized a need for help					
12.	Recognition of self-worth as caregivers					
13.	Support of research staff affects recruitment					

14.	Caregivers recognized the benefits of participation					
15.	Lack of expectation and motivation toward change					
16.	Timeliness of recruitment strategies					
17.	Inaccessibility to the research site					
18.	Issues of expectations and unmet service needs					
19.	Researchers' lack of familiarity with the community norms, values, and cultures					
20.	Stringent inclusion criteria for participants					

2. If we had to limit the number of WTP indicators, which ones, from the previous 2 lists of 20, would you choose to keep? Please rank a minimum of 5 indicators, starting from the most important. You can rank up to 10 indicators that you think are important. A space is provided for you to briefly explain the reason for your ranking if you wish. This additional information is optional, and could help us understand the reasons some indicators are valued over others.

Note to panellist: In making your decisions, please consider the guidelines provided in question 1:

    a. Is the indicator useful for guiding intervention developers in assessing community members' willingness to participate in interventions?

    b. Is the indicators helpful in identifying psychosocial factors that deter willingness to participate?

    c. Is the indicator useful for guiding intervention developers in reducing the barriers that prevent willingness to participate in interventions?

    d. Is the indicator useful for guiding intervention developers in managing how they would implement an intervention successfully in communities?

---

1. Indicator………………………..

Reason: _____

2. Indicator………………………..

Reason: _____

3. Indicator……………………….

Reason: _____

4. Indicator………………………..

Reason: _____

5. Indicator……………………….

Reason: _____

6. Indicator……………………….

Reason: _____

7. Indicator……………………….

Reason: _____

8. Indicator……………………….

Reason: _____

9. Indicator……………………….

Reason: _____

10. Indicator……………………….

Reason: _____

3. Please list up to five indicators from the previous two lists of 20 that you believe could be excluded from the WTP questionnaire.

> *Note to panellist: Once again, in making your decisions, please consider the guidelines provided in question 1:*
> a. Is the indicator useful for guiding intervention developers in assessing community members' willingness to participate in interventions?
> b. Is the indicators helpful in identifying psychosocial factors that deter willingness to participate?
> c. Is the indicator useful for guiding intervention developers in reducing the barriers that prevent willingness to participate in interventions?
> d. Is the indicator useful for guiding intervention developers in managing how they would implement an intervention successfully in communities?

1. Indicator……………………….

Reason: _____

2. Indicator...........................

Reason: _____

3. Indicator...........................

Reason: _____

4. Indicator...........................

Reason: _____

5. Indicator...........................

Reason: _____

4. If you have any further suggestions for indicators that you believe could be important in measuring the psychosocial factors associated with WTP in low-income communities, please list below (optional):

_____

_____

_____

_____

_____

THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL
Francie Van Zijl Drive, Parow Valley, Cape Town | Po Box 19070, Tygerberg, 7505, South Africa
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SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

The Willingness to Participate in Interventions Questionnaire

Data Collector ID	Questionnaire ID	Household ID	Date of Collection	Questionnaire Checked by
				Supervisor Signature

Instructions

Thank you for taking the time to answer these questions.

This questionnaire contains questions about your knowledge, experiences and your willingness to participate in child, safety, peace and health interventions. Please carefully read through each question and answer each to the best of your knowledge. For each question, please choose the answer that BEST represents your experiences of interventions and people's willingness to participate in these interventions. The questionnaire will take approximately 45 minutes to complete.

Please be as straight forward as possible. If you have any questions about the questionnaire, please ask the research assistant who gave you this questionnaire.

Your input is valuable and can contribute to our understanding of people's willingness to participate in interventions conducted in communities.

DEMOGRAPHIC INFORMATION

Please answer the questions below:

1. Name: _____

2. Age: _____

PLEASE INDICATE THE FOLLOWING ANSWERS BY MARKING AN (X) IN THE APPROPRIATE BOX.

Please choose only one option/answer for each number below

3. **Gender**

Male	Female	Other
1	2	3

If Other, please specify:

....

4. **What is your home language?**

English	Afrikaans	isiXhosa	Other
1	2	3	4

If Other, please specify:

....

5. **What is the primary language used in the interview?**

English	Afrikaans	isiXhosa	Other
1	2	3	4

If Other, please specify:

....

6. *Relationship status:*

Single	Widowed	Separated	Divorced	Married / Living together
1	2	3	4	5

7. **What is your current living situation?**

Live alone	Live with children only	Live with other adult(s), no children	Live with other adult(s), and children	Live in an institution or retirement home	Living with spouse/long –term partner
1	2	3	4	5	6

8. **How many children do you have?** _____

9. **Please select the highest level of education that you completed:**

No formal education	Completed primary school	Attended high school but did not complete grade 12	Completed grade 12	Attended university, college or technical college but did not graduate	Graduated from university, college or technical	Other
1	2	3	4	5	6	7

If Other, please specify: ....

10. **What is your current work situation?**

Employed full time	Unemployed	Homemaker	Employed part time	Student
1	2	3	4	5

11. **Where are you born?**

_____

12. **Which of the following best describes your approximate monthly household income?**

Less than R2500	R2 501-R5 000	R5 001-R10 000	R10 001 – R15 000	R15 001 and above	Don't know
1	2	3	4	5	6

Below is a list of statements/reasons that people have given that would make them more or less likely to participate in **child safety, peace and health interventions**. Please indicate for each statement how much this item would relate to your experience of interventions and impact your decision to participate. Please place only one cross "X" per line to indicate your response as it applies to you with regards to the extent to which you would participate or not.

The response options are as follows:

1 = Would make me **very willing** to participate in future child-centered interventions

2 = Would make me **somewhat willing** to participate in future child-centered interventions

3 = Would **not affect my decision** either way

4 = Would make me **somewhat unwilling** to participate in future child-centered interventions

5 = Would make me **very unwilling** to participate in future child-centered interventions

Example

	Very willing	Somewhat willing	Would not affect my decision either way	Somewhat unwilling	Very unwilling
1. Participation in an intervention would add to my knowledge which would make me …(select the most appropriate answer in the circle on the right)	(X)	○	○	○	○

PART 1

	Very willing	Somewhat willing	Would not affect my decision either way	Somewhat unwilling	Very unwilling
1. Participation in an intervention would add to my skills which would make me …	O	O	O	O	O
2. If I were to personally benefit from participation in an intervention I would be…	O	O	O	O	O
3. If participation in an intervention enabled me to serve as a role model I would be…	O	O	O	O	O
4. If the intervention addressed my community's needs I would be…	O	O	O	O	O
5. If I believe the intervention is not useful for my community it would make me…	O	O	O	O	O
6. If interventionists came to inform me of the intervention at a suitable time I would be…	O	O	O	O	O
7. If transportation to and from the intervention site is necessary but not provided I would be…	O	O	O	O	O
8. If the intervention is run in my neighbourhood I would be …	O	O	O	O	O
9. If the intervention was not conducted in my home language I would be…	O	O	O	O	O
10. If I thought my friends would approve of my participation in an intervention I would be…	O	O	O	O	O
11. If I thought my family would approve of my participation in an intervention I would be…	O	O	O	O	O
12. If I thought my community would react negatively to me because of my participation in an intervention I would be…	O	O	O	O	O

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	Very willing	Somewhat willing	Would not affect my decision either way	Somewhat unwilling	Very unwilling
13. If there are already many interventions conducted in my community it would make me...	○	○	○	○	○
14. If I do not expect the intervention to create any change in my community I would be ...	○	○	○	○	○
15. If the intervention meets an unmet service need in my community I will be...	○	○	○	○	○
16. Receiving food vouchers for participating in the intervention would make me ...	○	○	○	○	○
17. Receiving a cash voucher for participating in the intervention would make me ...	○	○	○	○	○
18. If I were to get into trouble with my work because of participating in an intervention I would be...	○	○	○	○	○
19. If I did not have time constraints due to work or other important duties I would be......	○	○	○	○	○
20. If participating in an intervention did not fit into my daily routine, I would be...	○	○	○	○	○
21. If I am experiencing a stressful situation in my life it would make me...	○	○	○	○	○
22. If I did not have the time or energy to attend an intervention, I would be...	○	○	○	○	○
23. Knowing that participating in interventions would help create a safer environment for my child would make me ...	○	○	○	○	○
24. If participation in the intervention were to benefit children in the community, it would make me...	○	○	○	○	○

	Very willing	Somewhat willing	Would not affect my decision either way	Somewhat unwilling	Very unwilling
25. Having more information about how the intervention would help my child would make me...	O	O	O	O	O
26. Knowing more about the possible benefits of an intervention would make me...	O	O	O	O	O
27. If the interventionist does not take into consideration my community's practices, values and beliefs it would make me...	O	O	O	O	O
28. If the interventionist makes me feel comfortable I would be...	O	O	O	O	O
29. If I know the interventionist personally it would make me...	O	O	O	O	O
30. If I feel free to ask questions I would be...	O	O	O	O	O
31. Entertainment provided at an intervention would make me...	O	O	O	O	O

Please check that you have *placed an X at each question* before moving onto the next page.

PART 2:

Below are some statements regarding participating in child-centered interventions. There are no right or wrong answers. Please read each statement carefully and indicate with a cross "X" whether you strongly disagree, disagree, neutral, agree or strongly agree.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
32. Interventions conducted in my community are of no interest to me	O	O	O	O	O
33. Political events in my community influences my participation in interventions	O	O	O	O	O
34. Interventions conducted in my community never work	O	O	O	O	O
35. I feel like I belong to this community	O	O	O	O	O
36. My life is better when I help other people	O	O	O	O	O
37. I will lose out if I worry about other people's problems or needs	O	O	O	O	O
38. I usually support community projects if I can	O	O	O	O	O
39. I try to help those in need	O	O	O	O	O

Please check that you have *placed an X at each question*
before moving onto the next page.

PART 3:

Below are some statements regarding participating in child-centered interventions. There are no right or wrong answers. Please read each statement carefully and indicate with a cross "X" which statement best describes your experiences.

	Never	Rarely	Sometimes	Often	Always
40. I have no one to assist me in taking care of my children when I want to attend an intervention	O	O	O	O	O
41. I never waste my time attending programme/intervention/training because there is no benefit	O	O	O	O	O
42. As a result of my education, I feel shy to attend interventions	O	O	O	O	O
43. I avoid situations where I think I will be uncomfortable	O	O	O	O	O
44. If interventions are held in our community then community members, leaders and/or community organisations always inform each other	O	O	O	O	O
45. If there is a problem in our community, community members come together to find solutions	O	O	O	O	O
46. I feel welcomed and accepted by the larger community	O	O	O	O	O

Please check that you have *placed an X at each question*
before moving onto the next page.

Thank you for taking the time to answer these questions.

If you have any comment or suggestions please write them below:

_____

_____

_____

_____

_____

_____

_____

_____

_____

SAMNR-UNISA GEWELD, BESERING EN VREDE NAVORSING EENHEID

Gewilligheid om Deel Te Neem in Intervensies (programme) Vraelys

Data Versamelaar ID	Vraelys ID	Huishoud ID	Datum van Versameling	Vraelys Gekontroleer deur
				Toesighouer Handtekening

Inleiding

Baie dankie vir u tyd om hierdie vrae te beantwoord.

Die vraelys bevat vrae oor u kennis, ondervinding en bereidheid/bereidwilligheid om deel te neem aan kinder-, vrede- en veiligheid-intervensies (programme). Lees asseblief elke vraag noukeurig deur en beantwoord dan elkeen tot die beste van u vermoë. Kies asseblief, vir elke vraag, die antwoord wat die BESTE pas by u ondervinding van intervensies (programme) en mense se bereidwilligheid om deel te neem aan intervensies (programme). Die vraelys hoort ongeveer 45 minute te neem om te voltooi.

Wees asseblief so direk as moontlik. Rig asseblief u vrae aan die onderhoudvoerder indien u enige vrae het oor die vraelys.

U insette is waardevol en kan bydra tot ons begrip van mense se beriedwilligheid om deel te neem aan intervensies (programme) in gemeenskappe.

DEMOGRAFIESE INLIGTING

Beantwoord asseblief die onderstaande vrae:

1. Naam: _____

2. Ouderdom: _____

DUI ASSEBLIEF DIE VOLGENDE ANTWOORDE AAN DEUR 'N KRUIS (X) IN DIE KORREKTE BLOKKIE TE MAAK.

Kies asseblief slegs een opsie vir elke nommer

3. Geslag

Manlik	Vroulik	Ander
1	2	3

Indien Ander, spesifiseer asseblief:
....

4. Wat is u huistaal?

Engels	Afrikaans	isiXhosa	Ander
1	2	3	4

Indien Ander, spesifiseer asseblief:
....

5. Wat is die hooftaal wat gebruik word in die onderhoud?

Engels	Afrikaans	isiXhosa	Ander
1	2	3	4

Indien Ander, spesifiseer asseblief:
....

6. *Huwelik status:*

Enkel	Weduwee/ Wewenaar	Leef apart	Geskei	Getroud / Woon Saam
1	2	3	4	5

7. Wat is u huidige huislike omstandighede?

Woon alleen	Woon alleen met kinders	Lewe saam met ander volwassene(s), geen kinders	Lewe in 'n inrigting of ouetehuis	Lewe saam met ander volwassesenes en kinders	Lewe saam met eggenoot/lang termyn genoot
1	2	3	4	5	6

8. Hoeveel kinders het u? _____

9. Kies asseblief die hoogste graad van opvoeding wat u voltooi het:

Geen formele opvoeding	Primêre Skool voltooi	Hoërskool bygewoon maar het nie graad 12 voltooi nie	Graad 12 voltooi	Het universiteit, college of technikon bygewoon maar het nie gegradueer nie	Gegradueer vanaf universiteit, college of technikon	Ander
1	2	3	4	5	6	7

Indien Ander, spesifiseer asseblief: ....

10. Wat is u huidige werk status?

Voltyds werkend	Werkloos	Tuisteskepper /huisvrou	Deeltyds werkend	Student
1	2	3	4	5

11. Waar is u gebore?

_____

12. Watter van die volgende beskryf ten beste u benaderde maandelikse huishoudelike inkomste?

Minder as R2500	R2 501-R5 000	R5 001-R10 000	R10 001 – R15 000	R15 001 en meer	Weet nie
1	2	3	4	5	6

Hieronder is 'n lys van stellings wat mense aangevoer het wat hulle min of meer waarskynlik sal laat deel neem aan **kinder veiligheid, vrede en gesondheids intervensies (programme)**. Dui asseblief vir elke stelling aan hoe verwant hierdie stelling is aan u ondervinding met intervensies (programme) en hoe dit u besluit sou affekteer om deel te neem aan intervensies (programme). **Plaas asseblief een kruis "X" per lyn om jou antwoord aan te dui soos dit betrekking het tot die vraag of jy sou deelneem of nie.**

Die antwoord opsies is soos volg:

- Dit sou my **baie gewillig** maak om deel te neem in toekomstige kind gefokusde intervensies (programme)
- Dit sou my **ietwat gewillig** maak om deel te neem in toekomstige kind gefokusde intervensies (programme)
- Dit sou **nie my besluit affekteer nie**
- Dit sou my **ietwat onwillig** maak om deel te neem in toekomstige kind gefokusde intervensies (programme)
- Dit sou my **baie onwillig** maak om deel te neem in toekomstige kind gefokusde intervensies (programme)

Byvoorbeeld

	Baie Gewillig	Ietwat Gewillig	Sou nie my besluit affekteer nie	Ietwat Onwillig	Baie Onwillig
1. Deelname in intervensies (programme) sou bydra tot my kennis en dit sou my.........maak (kies die geskikste antwoord in die blokkies hier langsaan)	Ⓧ	○	○	○	○

DEEL 1

	Baie Gewillig	Ietwat Gewillig	Sou nie my besluit affekteer nie	Ietwat Onwillig	Baie Onwillig
1. Deelname in intervensies (programme) sou bydra tot my vaardighede en dit sou my..........maak	O	O	O	O	O
2. Indien ek persoonlik sou voordeel kry uit deelname in 'n intervensies (programme), sou ek.............wees	O	O	O	O	O
3. Indien deelname in 'n intervensies (programme) my sou toelaat om te dien as 'n rolmodel, sou ek.............wees	O	O	O	O	O
4. Indien die intervensies (programme) my gemeenskap se behoeftes aanspreek, sou ek.............wees	O	O	O	O	O
5. Indien ek glo dat die intervensies (programme) nie waardevol in my gemeenskap is nie, sou dit my..........maak	O	O	O	O	O
6. Indien die huis-besoeker my inlig van die intervensie (program) op 'n toepaslike tyd, sou ek.............wees	O	O	O	O	O
7. Indien vervoer na en vanaf die intervensie lokaal benodig word maar nie beskikbaar is nie, sou ek.............wees	O	O	O	O	O
8. Indien die intervensies (programme) in my gemeenskap gehou word, sou ek.............wees	O	O	O	O	O
9. Indien die intervensies (programme) nie in my huistaal aangebied word nie, sou ek.............wees	O	O	O	O	O
10. Indien ek dink dat my vriende my deelname in 'n intervensie (program) goedkeur, sou ek.............wees	O	O	O	O	O

	Baie Gewillig	Ietwat Gewillig	Sou nie my besluit affekteer nie	Ietwat Onwillig	Baie Onwillig
11. Indien ek dink dat my familie my deelname in 'n intervensie (program) goedkeur, sou ek............wees	O	O	O	O	O
12. Indien ek dink dat my gemeenskap negatief sou reageer teenoor my deelname in 'n intervensie (program), sou ek............wees	O	O	O	O	O
13. Indien daar alreeds baie intervensies (programme) aan die gang is in my gemeenskap, sou dit my..........maak	O	O	O	O	O
14. Indien ek nie verwag dat die intervensie (program) verandering sal bring in my gemeenskap nie, sou ek............wees	O	O	O	O	O
15. Indien die intervensie (program) 'n dienslewering tekort in my gemeenskap aanspreek, sou ek............wees	O	O	O	O	O
16. Indien ek 'n voedsel geskenkbewys sou ontvang vir deelname in 'n intervensie (program), sou dit my..........maak	O	O	O	O	O
17. Die ontvangs van 'n kontant geskenkbewys vir deelname in 'n intervensie (program), sou my..........maak	O	O	O	O	O
18. Indien ek in die moeilikheid sou kom by my werk vir deelname in 'n intervensie (program), sou ek..........wees	O	O	O	O	O
19. Indien ek tydsbeperking gehad het by my werk en ander belangrike take, sou ek..........wees	O	O	O	O	O
20. Indien deelname in 'n intervensie (program) nie in my daaglikse roetine pas nie, sou ek..........wees	O	O	O	O	O

	Baie Gewillig	Ietwat Gewillig	Sou nie my besluit affekteer nie	Ietwat Onwillig	Baie Onwillig
21. Indien ek 'n stresvolle situasie in my lewe ondervind, dit sou my..........maak	O	O	O	O	O
22. Indien ek nie die tyd of energie het om aan 'n intervensie (program) deel te neem nie, sou ek..........wees	O	O	O	O	O
23. Indien ek weet dat deelname aan 'n intervensie (program) 'n veiliger omgewing vir my kind sal skep, sou dit my..........maak	O	O	O	O	O
24. Indien deelname in 'n intervensie (program) kinders in my gemeenskap sal bevoordeel, sou dit my..........maak	O	O	O	O	O
25. Indien ek meer inligting het oor hoe die intervensie (program) my kind sou help, sou my..........maak	O	O	O	O	O
26. Meer kennis oor moontlike voordele vanuit 'n intervensie (program), sou my..........maak	O	O	O	O	O
27. Indien die navorsers nie my gemeenskap se beginsels, waardes en praktyke in ag neem nie, sou dit my..........maak	O	O	O	O	O
28. Indien die huis-besoeker my gemaklik laat voel, sou ek..........wees	O	O	O	O	O
29. Indien ek die huis-besoeker persoonlik ken, dit sou my..........maak	O	O	O	O	O
30. Indien ek gemaklik voel om vrae te stel, sou ek..........wees	O	O	O	O	O

	Baie Gewillig	Ietwat Gewillig	Sou nie my besluit affekteer nie	Ietwat Onwillig	Baie Onwillig
31. Indien daar vermaaklikheid verskaf word gedurende die tydperk van 'n intervensie (program), sou dit my.........maak	○	○	○	○	○

Maak asseblief seker dat u 'n kruis "**X**" gemaak het teenoor elke vraag
voordat u aanbeweeg na die volgende bladsy.

DEEL 2:

Benede is stellings in verband met deelname in kind-gesentreerde intervensies (programme). Daar is geen reg of verkeerde antwoorde nie. Lees asseblief elke stelling sorgvuldig en dui aan met 'n kruis "**X**" of u geheel –en-al nie saamstem nie, eenvoudig nie saamstem nie, neutraal is, saamstem of ten sterkste saamstem.

	Stem sterk nie saam nie	Stem nie saam nie	Neutraal	Stem saam	Stem sterk saam
32. Intervensies (programme) wat uitgevoer word in my gemeenskap is van geen belang vir my nie	○	○	○	○	○
33. Politieke gebeurtenisse in my gemeenskap beinvloed my deelname in intervensies (programme)	○	○	○	○	○
34. Intervensies (programme) wat in my gemeenskap uitgevoer word werk nooit nie	○	○	○	○	○
35. Ek voel dat ek deel is van die gemeenskap	○	○	○	○	○
36. My lewe is beter wanneer ek ander mense help	○	○	○	○	○
37. Ek het nie tyd om bekommerd te wees oor ander mense se probleme en behoeftes nie	○	○	○	○	○
38. Ek ondersteun gewoonlik gemeenskapsprojekte as/indien ek kan	○	○	○	○	○
39. Ek probeer om ander in nood te help	○	○	○	○	○

Maak asseblief seker dat u 'n kruis **X** gemaak het teenoor elke vraag voordat u aanbeweeg na die volgende bladsy.

DEEL 3:

Hieronder is stellings in verband met deelname in kind-gesentreerde intervensies (programme).

Daar is geen reg of verkeerde antwoorde nie. Lees asseblief elke stelling sorgvuldig en dui aan met 'n kruis "X" watter een van die stellings ten beste u ondervinding beskryf.

	Nooit	Min	Soms	Baie	Altyd
40. Ek het niemand om my te help omsien na my kinders wanneer ek 'n intervensie (program) wil bywoon nie	○	○	○	○	○
41. Ek mors nooit my tyd om intervensies (programme)/opleiding by te woon nie want daar is geen voordeel in nie	○	○	○	○	○
42. As gevolg van my skool opvoeding voel ek skaam om intervensies (programme) by te woon	○	○	○	○	○
43. Ek vermy situasies waar ek dink dat ek ongemaklik gaan wees	○	○	○	○	○
44. Indien intervensies (programme) plaasvind in ons gemeenskap, dan lig gemeenskapslede, leiers en/of gemeenskap organisasies altyd mekaar in	○	○	○	○	○
45. Indien daar 'n probleem is in ons gemeenskap dan kom gemeenskapslede bymekaar om oplossings te vind	○	○	○	○	○
46. Ek voel welkom en aanvaar deur die res van die gemeenskap	○	○	○	○	○

Maak asseblief seker dat u 'n kruis X gemaak het teenoor elke vraag
voordat u aanbeweeg na die volgende bladsy.

Baie dankie dat u tyd afgestaan het om hierdie vraelys te beantwoord.

Skryf asseblief enige voorstelle wat u het in die spasie hieronder:

_____

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX F

Nominal Group Technique Workshop PowerPoint

WHAT MAKES PEOPLE WANT TO PARTICIPATE IN INTERVENTIONS THAT PROMOTE CHILDREN'S HEALTH AND SAFETY IN THEIR COMMUNITY

Step 2: Silent generation of ideas in writing

Nominal Group Technique question: "What makes people want to participate in intervention in their community?"

No.	Factors/Ideas
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

IDEAS GENERATED THAT REQUIRE ATTENTION

No.	Ideas	Weight	Rank/Total

Please choose the most important five ideas from the whole list. Assign the serial number to the idea from the master list. Then please assign weights in the following manner:

Most important idea = 5, second most important idea = 4, fifth most important idea = 1. The weights need not be sequential like 5, 4, 3, 2, 1 or 1, 2, 3, 4, 5. It could be any order like 4, 2, 5, 1, 3 or 5, 3, 4, 2, 1 and so on. Thanks.

Serial No. from Master List	Ideas	Weight

TABLE: MASTER LIST OF VOTES

No.	Idea	Vote

TABLE 3. SEVEN MOST IMPORTANT FACTORS THAT INFLUENCE WILLINGNESS TO PARTICIPATE

No.	Factor	Absolute Weight	Rank/Total

APPENDIX G

Consent Form

SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

CONSENT FORM: A mixed method approach to the development and validation of an assessment tool to measure psycho-social factors associated with participation in child-centred initiatives

Participant Name & Surname: _____

		Signature
1.	I agree to participate in this research and have the session audio recorded	
2.	This agreement is of my own free will	
3.	I have had the opportunity to ask any questions about the study	
4.	I know that I may withdraw from the study at any time without giving a reason and without any negative consequences	
5.	I have been given full information regarding the objectives of the research and have been given all researchers names and the supervisor's details if I need further information, or have any concerns and comments about the study	
6.	All information provided by myself (either public or private) will remain confidential and no information that identifies me will be made public	

By signing below you are indicating that you have read and understood the consent form and that you agree to take part in this research study.

Signed:_____   Date:_____

(By Participant)

Signed:_____   Date:_____

(By Researcher: G. Ismail)

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APPENDIX H

Information Sheet of the Participants

SAMRC-UNISA VIOLENCE, INJURY AND PEACE RESEARCH UNIT

INFORMATION SHEET

Dear Participant

Participation in the Development of an Assessment Tool to Measure Psycho-Social Factors Associated with Willingness to Participate in Interventions

I am developing an assessment instrument to measure psycho-social factors associated with participation in child-centred initiatives. This research is to fulfil my requirements for my doctoral dissertation at the University of South Africa (UNISA), Pretoria.

1. **What is the Project about?**
   The purpose of the study is to conceptualise and operationalize the construct of *willingness to participate* and develop an assessment instrument to measure psycho-social factors associated with participation in child-centred initiatives (i.e. interventions for children's well-being).

2. **What do we need from you?**

   As a participant, you will be asked to participate in a nominal group discussion that assesses psycho-social factors associated with willingness participation in child-centred initiatives.

3. **Is the information confidential?**

   Every attempt will be made to keep all information collected in this study strictly confidential, except as may be required by court order or by law. If any publications result from this research, you will not be identified by name.

4. **Is the study voluntary?**

   Your participation in this study is completely voluntary, and you are free to decline to take part. You may stop taking part at any time. If you stop taking part in the project, you may ask that we not use the information already given to us. You are encouraged to ask questions about the study at any time as they occur to you during the programme.

5. **Who can give me more information if I need it?**

   If you have any queries regarding the ethics around this study please feel free to contact Ms Asanda Nogqala at nogqaa@unisa.ac.za. Any questions or concerns relating to the actual research, please feel free to contact Ghouwa Ismail on 0219380855 as well as on 35265965@mylife.unisa.ac.za or her supervisor Dr Ashley Van Niekerk on email address ashley.vanniekerk@mrc.ac.za.

…………………………...

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THANK YOU FOR YOUR CONTRIBUTION TO THIS RESEARCH

APPENDIX I

Total common variance explained for first 20 factors

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.184	15.618	15.618	3.193	6.942	6.942	2.781
2	3.107	6.755	22.373	1.533	3.332	10.274	1.584
3	2.583	5.616	27.989	1.226	2.665	12.940	2.656
4	2.088	4.538	32.527	3.070	6.673	19.613	2.782
5	1.770	3.848	36.376	1.562	3.395	23.008	2.381
6	1.607	3.493	39.868	3.031	6.589	29.597	3.610
7	1.499	3.258	43.127	1.719	3.737	33.333	3.816
8	1.362	2.960	46.087	1.514	3.290	36.624	1.943
9	1.262	2.743	48.830	1.045	2.272	38.896	2.389
10	1.191	2.589	51.419	.777	1.689	40.585	1.222
11	1.145	2.489	53.908	.756	1.644	42.229	2.264
12	1.111	2.415	56.323	.685	1.488	43.717	1.113
13	1.058	2.300	58.623	.649	1.410	45.127	1.340
14	1.010	2.195	60.818	.491	1.068	46.195	3.039
15	.951	2.067	62.885				
16	.945	2.054	64.939				
17	.908	1.973	66.913				
18	.868	1.888	68.800				
19	.834	1.813	70.613				
20	.814	1.769	72.382				

APPENDIX J

Correlation Matrix

	Q.1.	Q.2.	Q.3.	Q.4.	Q5.	Q.6.	Q. 7.	Q.8.
Q.1.	1.000	.317	.335	.297	.056	.337	.247	.201
Q.2.	.317	1.000	.436	.342	.082	.395	.249	.419
Q.3.	.335	.436	1.000	.296	.035	.287	.209	.266
Q.4.	.297	.342	.296	1.000	.114	.405	.248	.343
Q.5.	.056	.082	.035	.114	1.000	.173	.322	.127
Q.6.	.337	.395	.287	.405	.173	1.000	.303	.393
Q.7.	.247	.249	.209	.248	.322	.303	1.000	.209
Q.8.	.201	.419	.266	.343	.127	.393	.209	1.000
Q.9.	.235	.273	.219	.259	.263	.254	.367	.276
Q.10.	.347	.365	.321	.272	.120	.309	.226	.311
Q.11.	.361	.238	.171	.339	.059	.216	.164	.195
Q.12.	.230	.066	.066	.196	.213	.079	.231	.061
Q.13.	.393	.223	.242	.261	.143	.267	.240	.244
Q.14.	.144	.082	.102	.170	.245	.180	.298	.108
Q.15.	.098	.252	.142	.212	.148	.259	.235	.241
Q.16.	.191	.153	.189	.025	-.017	.109	.074	.048
Q.17.	.125	.213	.157	-.002	.012	.202	.014	.120
Q.18.	.246	.128	.191	.170	.247	.164	.271	.123
Q.19.	.225	.096	.049	.185	.245	.205	.285	.069
Q.20.	.169	.042	.114	.095	.245	.136	.202	.057
Q.21.	.186	.057	.139	.172	.201	.211	.288	.130
Q.22.	.112	.079	.082	.161	.198	.148	.218	.104
Q.23.	.388	.167	.151	.399	.029	.228	.151	.273
Q.24.	.293	.300	.196	.311	.111	.284	.218	.355
Q.25.	.256	.297	.151	.271	.065	.323	.164	.286
Q.26.	.226	.181	.113	.332	.110	.168	.127	.264
Q.27.	.090	.004	.057	.012	.320	.080	.147	-.015
Q.28.	.199	.225	.204	.218	.006	.220	.144	.155
Q.29.	-.027	.077	.046	.026	.092	.055	.128	-.063
Q.30.	.136	.106	.151	.282	.092	.236	.110	.120
Q.31.	.106	.194	.289	.156	.122	.180	.110	.273
Q.32.	.183	.158	.146	.164	-.063	.150	.137	.213
Q.33.	-.003	-.042	.010	.033	.032	-.078	-.004	-.023
Q.34.	.142	.073	.136	.071	.106	.081	.083	.136
Q.35.	-.073	-.100	-.060	-.049	-.051	.028	-.080	-.065
Q.36.	.016	-.014	-.029	-.080	-.023	-.079	-.080	-.033

Q.37.	.005	-.006	.032	.079	-.082	.084	-.039	.170
Q.38.	-.057	-.146	-.190	-.152	-.051	-.119	-.030	-.155
Q.39.	-.111	-.140	-.168	-.210	-.109	-.114	-.168	-.162
Q.40.	-.019	.067	.033	.059	-.072	.020	.008	.098
Q.41.	.120	.069	.111	.164	.017	.112	.061	.173
Q.42.	.069	.152	.191	.284	.077	.185	.257	.151
Q.43.	.005	-.044	.067	.082	.108	.093	.123	.045
Q.44.	.010	-.078	-.047	-.030	.039	-.001	.019	-.002
Q.45.	-.064	-.062	.014	-.016	-.029	-.002	-.021	.046
Q.46.	.034	.048	.086	.044	.055	.055	.074	.152

	Q.9.	Q.10.	Q.11.	Q.12.	Q.13.	Q.14.	Q.15.	Q.16.
Q.1.	.235	.347	.361	.230	.393	.144	.098	.191
Q.2.	.273	.365	.238	.066	.223	.082	.252	.153
Q.3.	.219	.321	.171	.066	.242	.102	.142	.189
Q.4.	.259	.272	.339	.196	.261	.170	.212	.025
Q.5.	.263	.120	.059	.213	.143	.245	.148	-.017
Q.6.	.254	.309	.216	.079	.267	.180	.259	.109
Q.7.	.367	.226	.164	.231	.240	.298	.235	.074
Q.8.	.276	.311	.195	.061	.244	.108	.241	.048
Q.9.	1.000	.145	.090	.190	.240	.185	.248	.028
Q.10.	.145	1.000	.568	.146	.239	.103	.019	.241
Q.11.	.090	.568	1.000	.221	.229	.120	.124	.156
Q.12.	.190	.146	.221	1.000	.261	.326	.175	.043
Q.13.	.240	.239	.229	.261	1.000	.303	.243	.196
Q.14.	.185	.103	.120	.326	.303	1.000	.251	-.059
Q.15.	.248	.019	.124	.175	.243	.251	1.000	.015
Q.16.	.028	.241	.156	.043	.196	-.059	.015	1.000
Q.17.	.052	.167	.102	-.014	.176	-.071	.071	.804
Q.18.	.278	.157	.192	.331	.296	.324	.162	.028
Q.19.	.204	.106	.193	.247	.248	.248	.137	.026
Q.20.	.205	.055	.118	.225	.208	.309	.170	-.060
Q.21.	.246	.081	.127	.230	.225	.286	.170	.039
Q.22.	.098	.056	.120	.246	.236	.304	.166	-.011
Q.23.	.193	.180	.371	.189	.306	.134	.192	.134
Q.24.	.203	.178	.284	.134	.268	.123	.373	.115
Q.25.	.153	.292	.366	.170	.182	.152	.184	.188
Q.26.	.172	.150	.226	.150	.184	.058	.202	.057
Q.27.	.205	-.013	-.046	.263	.151	.151	.115	.197
Q.28.	.082	.277	.259	.094	.197	.027	.147	.182

Q.29.	.018	.078	.078	-.072	.058	-.105	.097	.311
Q.30.	.098	.153	.185	.188	.166	.153	.147	.029
Q.31.	.111	.190	.143	.064	.162	.135	.200	.123
Q.32.	.120	.092	.083	.043	.138	-.007	.080	-.103
Q.33.	-.003	.007	-.060	.048	-.011	-.047	-.094	-.074
Q.34.	.170	.122	.011	.015	.110	.028	.087	.110
Q.35.	-.142	-.060	-.128	-.102	-.143	-.151	-.062	.045
Q.36.	-.044	.062	-.087	-.080	-.142	-.086	-.146	.056
Q.37.	.002	.004	.033	.024	.017	.174	.112	-.137
Q.38.	-.071	-.064	-.116	-.014	-.206	-.156	-.168	-.016
Q.39.	-.168	-.096	-.136	-.081	-.256	-.132	-.192	-.028
Q.40.	.072	-.004	.041	.082	.027	.072	.014	-.160
Q.41.	.131	.141	.085	.113	.190	.162	.099	-.167
Q.42.	.145	.036	.079	.167	.125	.160	.156	-.038
Q.43.	.151	-.042	.034	.116	.149	.223	.090	-.002
Q.44.	-.052	.150	.058	.008	-.018	.042	-.075	-.001
Q.45.	.009	.048	.020	-.049	-.015	.012	.014	.037
Q.46.	.101	.077	.057	.059	.071	.136	.022	-.132

	Q.17.	Q.18.	Q.19.	Q.20.	Q.21.	Q.22.	Q.23.
Q.1.	.125	.246	.225	.169	.186	.112	.388
Q.2.	.213	.128	.096	.042	.057	.079	.167
Q.3.	.157	.191	.049	.114	.139	.082	.151
Q.4.	-.002	.170	.185	.095	.172	.161	.399
Q.5.	.012	.247	.245	.245	.201	.198	.029
Q.6.	.202	.164	.205	.136	.211	.148	.228
Q.7.	.014	.271	.285	.202	.288	.218	.151
Q.8.	.120	.123	.069	.057	.130	.104	.273
Q.9.	.052	.278	.204	.205	.246	.098	.193
Q.10.	.167	.157	.106	.055	.081	.056	.180
Q.11.	.102	.192	.193	.118	.127	.120	.371
Q.12.	-.014	.331	.247	.225	.230	.246	.189
Q.13.	.176	.296	.248	.208	.225	.236	.306
Q.14.	-.071	.324	.248	.309	.286	.304	.134
Q.15.	.071	.162	.137	.170	.170	.166	.192
Q.16.	.804	.028	.026	-.060	.039	-.011	.134
Q.17.	1.000	-.004	-.002	-.048	.024	.006	.119
Q.18.	-.004	1.000	.583	.559	.321	.343	.108
Q.19.	-.002	.583	1.000	.647	.239	.326	.149
Q.20.	-.048	.559	.647	1.000	.274	.336	.111

Q.21.	.024	.321	.239	.274	1.000	.487	.157
Q.22.	.006	.343	.326	.336	.487	1.000	.138
Q.23.	.119	.108	.149	.111	.157	.138	1.000
Q.24.	.227	.147	.146	.177	.169	.173	.569
Q.25.	.157	.188	.165	.078	.120	.100	.353
Q.26.	.118	.095	.085	.015	.094	.072	.389
Q.27.	.185	.249	.251	.202	.284	.227	.047
Q.28.	.124	.056	-.005	.032	.088	.139	.164
Q.29.	.277	.019	.109	.020	.061	.035	.129
Q.30.	.008	.118	.167	.164	.126	.143	.113
Q.31.	.167	.208	.083	.097	.170	.026	.108
Q.32.	-.067	.102	.052	.013	.027	.062	.184
Q.33.	-.103	-.010	-.005	.045	-.002	-.019	-.076
Q.34.	.109	.085	.046	.024	-.068	.025	.049
Q.35.	.029	-.108	-.065	-.058	-.063	-.045	-.014
Q.36.	.096	-.141	-.141	-.121	-.161	-.100	-.064
Q.37.	-.145	.050	.056	.086	.042	.016	.148
Q.38.	-.040	-.157	-.114	-.061	-.134	-.229	-.069
Q.39.	-.003	-.216	-.214	-.133	-.159	-.138	-.089
Q.40.	-.156	.049	-.004	.043	.045	.082	.029
Q.41.	-.147	.073	.088	.073	.101	.148	.128
Q.42.	-.037	.163	.146	.185	.196	.158	.190
Q.43.	.028	.119	.114	.146	.161	.302	.102
Q.44.	-.011	.061	.060	.032	.028	.013	-.024
Q.45.	.032	-.044	-.018	-.036	.014	.052	-.014
Q.46.	-.102	.114	.060	.084	.101	.183	-.026

	Q.24.	Q. 25.	Q. 26.	Q.27.	Q. 28.	Q. 29.	Q. 30.
Q.1.	.293	.256	.226	.090	.199	-.027	.136
Q.2.	.300	.297	.181	.004	.225	.077	.106
Q.3.	.196	.151	.113	.057	.204	.046	.151
Q.4.	.311	.271	.332	.012	.218	.026	.282
Q.5.	.111	.065	.110	.320	.006	.092	.092
Q.6.	.284	.323	.168	.080	.220	.055	.236
Q.7.	.218	.164	.127	.147	.144	.128	.110
Q.8.	.355	.286	.264	-.015	.155	-.063	.120
Q.9.	.203	.153	.172	.205	.082	.018	.098
Q.10.	.178	.292	.150	-.013	.277	.078	.153
Q.11.	.284	.366	.226	-.046	.259	.078	.185
Q.12.	.134	.170	.150	.263	.094	-.072	.188

Q.13.	.268	.182	.184	.151	.197	.058	.166
Q.14.	.123	.152	.058	.151	.027	-.105	.153
Q.15.	.373	.184	.202	.115	.147	.097	.147
Q.16.	.115	.188	.057	.197	.182	.311	.029
Q.17.	.227	.157	.118	.185	.124	.277	.008
Q.18.	.147	.188	.095	.249	.056	.019	.118
Q.19.	.146	.165	.085	.251	-.005	.109	.167
Q.20.	.177	.078	.015	.202	.032	.020	.164
Q.21.	.169	.120	.094	.284	.088	.061	.126
Q.22.	.173	.100	.072	.227	.139	.035	.143
Q.23.	.569	.353	.389	.047	.164	.129	.113
Q.24.	1.000	.381	.357	.034	.189	.175	.172
Q.25.	.381	1.000	.312	.111	.239	.058	.195
Q.26.	.357	.312	1.000	-.005	.133	.076	.201
Q.27.	.034	.111	-.005	1.000	-.030	.198	.115
Q.28.	.189	.239	.133	-.030	1.000	.223	.299
Q.29.	.175	.058	.076	.198	.223	1.000	.043
Q.30.	.172	.195	.201	.115	.299	.043	1.000
Q.31.	.244	.221	.107	.138	.120	-.054	.212
Q.32.	.178	.126	.066	-.066	.102	-.132	.012
Q.33.	-.059	-.091	-.105	.068	-.070	-.072	-.109
Q.34.	.078	-.025	-.048	.077	.034	.077	.080
Q.35.	-.081	-.078	-.077	-.046	-.074	.037	-.171
Q.36.	-.143	-.158	-.047	-.028	-.060	.003	-.131
Q.37.	.182	.045	.111	-.061	.059	-.144	.023
Q.38.	-.227	-.143	-.125	-.053	-.163	.008	-.175
Q.39.	-.127	-.124	-.064	-.085	-.107	.008	-.174
Q.40.	.049	.032	.011	-.056	.008	-.185	.039
Q.41.	.139	.074	.042	-.023	.053	-.161	.078
Q.42.	.216	.083	.066	.096	-.008	.008	.080
Q.43.	.135	.057	.091	.119	.067	-.070	.107
Q.44.	-.037	-.030	-.018	-.005	-.016	-.014	.004
Q.45.	.012	-.064	.038	-.004	.084	-.005	.100
Q.46.	.036	-.033	-.006	.048	.024	-.111	.174

	Q. 31.	Q. 32.	Q. 33.	Q. 34.	Q.35.	Q.36.	Q. 37.
Q.1.	.106	.183	-.003	.142	-.073	.016	.005
Q.2.	.194	.158	-.042	.073	-.100	-.014	-.006
Q.3.	.289	.146	.010	.136	-.060	-.029	.032
Q.4.	.156	.164	.033	.071	-.049	-.080	.079

Q.5.	.122	-.063	.032	.106	-.051	-.023	-.082
Q.6.	.180	.150	-.078	.081	.028	-.079	.084
Q.7.	.110	.137	-.004	.083	-.080	-.080	-.039
Q.8.	.273	.213	-.023	.136	-.065	-.033	.170
Q.9.	.111	.120	-.003	.170	-.142	-.044	.002
Q.10.	.190	.092	.007	.122	-.060	.062	.004
Q.11.	.143	.083	-.060	.011	-.128	-.087	.033
Q.12.	.064	.043	.048	.015	-.102	-.080	.024
Q.13.	.162	.138	-.011	.110	-.143	-.142	.017
Q.14.	.135	-.007	-.047	.028	-.151	-.086	.174
Q.15.	.200	.080	-.094	.087	-.062	-.146	.112
Q.16.	.123	-.103	-.074	.110	.045	.056	-.137
Q.17.	.167	-.067	-.103	.109	.029	.096	-.145
Q.18.	.208	.102	-.010	.085	-.108	-.141	.050
Q.19.	.083	.052	-.005	.046	-.065	-.141	.056
Q.20.	.097	.013	.045	.024	-.058	-.121	.086
Q.21.	.170	.027	-.002	-.068	-.063	-.161	.042
Q.22.	.026	.062	-.019	.025	-.045	-.100	.016
Q.23.	.108	.184	-.076	.049	-.014	-.064	.148
Q.24.	.244	.178	-.059	.078	-.081	-.143	.182
Q.25.	.221	.126	-.091	-.025	-.078	-.158	.045
Q.26.	.107	.066	-.105	-.048	-.077	-.047	.111
Q.27.	.138	-.066	.068	.077	-.046	-.028	-.061
Q.28.	.120	.102	-.070	.034	-.074	-.060	.059
Q.29.	-.054	-.132	-.072	.077	.037	.003	-.144
Q.30.	.212	.012	-.109	.080	-.171	-.131	.023
Q.31.	1.000	.062	-.029	.071	-.182	-.134	.168
Q.32.	.062	1.000	.165	.149	-.072	.027	.224
Q.33.	-.029	.165	1.000	.206	.125	.135	.041
Q.34.	.071	.149	.206	1.000	-.068	.112	.054
Q.35.	-.182	-.072	.125	-.068	1.000	.290	-.088
Q.36.	-.134	.027	.135	.112	.290	1.000	-.187
Q.37.	.168	.224	.041	.054	-.088	-.187	1.000
Q.38.	-.215	-.141	.026	-.011	.299	.183	-.104
Q.39.	-.298	-.186	.059	-.005	.249	.398	-.079
Q.40.	-.053	.150	-.019	-.021	-.129	-.107	.181
Q.41.	.103	.173	.015	.108	-.145	-.098	.199
Q.42.	.118	.144	.106	.022	.018	-.150	.104
Q.43.	.023	.046	.114	.131	-.173	-.054	.147
Q.44.	.029	.043	-.012	.110	-.067	.012	.090

Q.45.	.017	-.037	-.067	.142	-.220	-.041	.053
Q.46.	.061	.089	-.059	.109	-.408	-.153	.115

	Q.38.	Q.39.	Q. 40.	Q. 41.	Q. 42.	Q. 43.	Q. 44.
Q.1.	-.057	-.111	-.019	.120	.069	.005	.010
Q.2.	-.146	-.140	.067	.069	.152	-.044	-.078
Q.3.	-.190	-.168	.033	.111	.191	.067	-.047
Q.4.	-.152	-.210	.059	.164	.284	.082	-.030
Q.5.	-.051	-.109	-.072	.017	.077	.108	.039
Q.6.	-.119	-.114	.020	.112	.185	.093	-.001
Q.7.	-.030	-.168	.008	.061	.257	.123	.019
Q.8.	-.155	-.162	.098	.173	.151	.045	-.002
Q.9.	-.071	-.168	.072	.131	.145	.151	-.052
Q.10.	-.064	-.096	-.004	.141	.036	-.042	.150
Q.11.	-.116	-.136	.041	.085	.079	.034	.058
Q.12.	-.014	-.081	.082	.113	.167	.116	.008
Q.13.	-.206	-.256	.027	.190	.125	.149	-.018
Q.14.	-.156	-.132	.072	.162	.160	.223	.042
Q.15.	-.168	-.192	.014	.099	.156	.090	-.075
Q.16.	-.016	-.028	-.160	-.167	-.038	-.002	-.001
Q.17.	-.040	-.003	-.156	-.147	-.037	.028	-.011
Q.18.	-.157	-.216	.049	.073	.163	.119	.061
Q.19.	-.114	-.214	-.004	.088	.146	.114	.060
Q.20.	-.061	-.133	.043	.073	.185	.146	.032
Q.21.	-.134	-.159	.045	.101	.196	.161	.028
Q.22.	-.229	-.138	.082	.148	.158	.302	.013
Q.23.	-.069	-.089	.029	.128	.190	.102	-.024
Q.24.	-.227	-.127	.049	.139	.216	.135	-.037
Q.25.	-.143	-.124	.032	.074	.083	.057	-.030
Q.26.	-.125	-.064	.011	.042	.066	.091	-.018
Q.27.	-.053	-.085	-.056	-.023	.096	.119	-.005
Q.28.	-.163	-.107	.008	.053	-.008	.067	-.016
Q.29.	.008	.008	-.185	-.161	.008	-.070	-.014
Q.30.	-.175	-.174	.039	.078	.080	.107	.004
Q.31.	-.215	-.298	-.053	.103	.118	.023	.029
Q.32.	-.141	-.186	.150	.173	.144	.046	.043
Q.33.	.026	.059	-.019	.015	.106	.114	-.012
Q.34.	-.011	-.005	-.021	.108	.022	.131	.110
Q.35.	.299	.249	-.129	-.145	.018	-.173	-.067
Q.36.	.183	.398	-.107	-.098	-.150	-.054	.012

Q.37.	-.104	-.079	.181	.199	.104	.147	.090
Q.38.	1.000	.396	-.039	-.152	-.109	-.153	-.050
Q.39.	.396	1.000	-.022	-.111	-.193	-.033	-.015
Q.40.	-.039	-.022	1.000	.344	.053	.058	.032
Q.41.	-.152	-.111	.344	1.000	.178	.132	-.060
Q.42.	-.109	-.193	.053	.178	1.000	.212	-.046
Q.43.	-.153	-.033	.058	.132	.212	1.000	.027
Q.44.	-.050	-.015	.032	-.060	-.046	.027	1.000
Q.45.	-.149	.033	.027	.014	-.106	.081	.382
Q.46.	-.282	-.161	.108	.140	.032	.201	.181

	Q. 45.	Q. 46.
Q.1.	-.064	.034
Q.2.	-.062	.048
Q.3.	.014	.086
Q.4.	-.016	.044
Q.5.	-.029	.055
Q.6.	-.002	.055
Q.7.	-.021	.074
Q.8.	.046	.152
Q.9.	.009	.101
Q.10.	.048	.077
Q.11.	.020	.057
Q.12.	-.049	.059
Q.13.	-.015	.071
Q.14.	.012	.136
Q.15.	.014	.022
Q.16.	.037	-.132
Q.17.	.032	-.102
Q.18.	-.044	.114
Q.19.	-.018	.060
Q.20.	-.036	.084
Q.21.	.014	.101
Q.22.	.052	.183
Q.23.	-.014	-.026
Q.24.	.012	.036
Q.25.	-.064	-.033
Q.26.	.038	-.006
Q.27.	-.004	.048
Q.28.	.084	.024

Q.29.		-.005	-.111
Q.30.		.100	.174
Q.31.		.017	.061
Q.32.		-.037	.089
Q.33.		-.067	-.059
Q.34.		.142	.109
Q.35.		-.220	-.408
Q.36.		-.041	-.153
Q.37.		.053	.115
Q.38.		-.149	-.282
Q.39.		.033	-.161
Q.40.		.027	.108
Q.41.		.014	.140
Q.42.		-.106	.032
Q.43.		.081	.201
Q.44.		.382	.181
Q.45.		1.000	.323
Q.46.		.323	1.000

APPENDIX K

Anti-image Correlation Matrix

Q.1.	.827[a]	-.102	-.162	.034	.086	-.179	-.046	.097	-.022	-.015	-.130	-.130	.114	-.033	-.062	-.018	-.083	.047
Q.2.	-.102	.854[a]	-.249	-.098	.008	-.091	-.027	-.177	-.100	-.134	.030	.073	-.116	.025	-.061	.069	.105	-.069
Q.3.	-.162	-.249	.845[a]	-.095	.064	-.018	-.034	.008	-.025	-.125	.074	-.084	.041	-.075	.151	-.111	-.022	.039
Q.4.	.034	-.098	-.095	.892[a]	-.003	-.205	.011	-.071	-.069	.033	-.127	-.044	.111	-.004	-.065	.096	.003	-.039
Q.5.	.086	.008	.064	-.003	.818[a]	-.082	-.165	-.051	-.090	-.062	-.003	.055	.017	-.006	-.007	-.077	.011	-.031
Q.6.	-.179	-.091	-.018	-.205	-.082	.836[a]	-.096	-.138	-.012	-.111	.075	.185	-.239	.045	-.082	.023	-.080	.044
Q. 7.	-.046	-.027	-.034	.011	-.165	-.096	.850[a]	-.018	-.178	-.059	.028	-.121	.146	.015	-.133	.086	-.083	-.025
Q.8.	.097	-.177	.008	-.071	-.051	-.138	-.018	.893[a]	-.081	-.120	.057	.026	-.030	.005	.028	.005	-.032	-.015
Q.9.	-.022	-.100	-.025	-.069	-.090	-.012	-.178	-.081	.869[a]	-.010	.072	.045	-.027	-.101	.021	-.057	-.140	.170
Q.10.	-.015	-.134	-.125	.033	-.062	-.111	-.059	-.120	-.010	.777[a]	-.478	-.145	.083	-.017	.043	.003	.028	.006
Q.11.	-.130	.030	.074	-.127	-.003	.075	.028	.057	.072	-.478	.808[a]	.030	-.037	-.026	-.069	.006	-.029	-.001
Q.16.	-.130	.073	-.084	-.044	.055	.185	-.121	.026	.045	-.145	.030	.596[a]	-.777	-.018	-.032	.071	-.025	.047
Q.17.	.114	-.116	.041	.111	.017	-.239	.146	-.030	-.027	.083	-.037	-.777	.581[a]	.042	.026	-.037	.022	-.034
Q.18.	-.033	.025	-.075	-.004	-.006	.045	.015	.005	-.101	-.017	-.026	-.018	.042	.877[a]	-.285	-.239	-.066	-.073
Q.19.	-.062	-.061	.151	-.065	-.007	-.082	-.133	.028	.021	.043	-.069	-.032	.026	-.285	.788[a]	-.475	.074	-.074
Q.20.	-.018	.069	-.111	.096	-.077	.023	.086	.005	-.057	.003	.006	.071	-.037	-.239	-.475	.786[a]	-.024	-.084
Q.21.	-.083	.105	-.022	.003	.011	-.080	-.083	-.032	-.140	.028	-.029	-.025	.022	-.066	.074	-.024	.833[a]	-.377
Q.22.	.047	-.069	.039	-.039	-.031	.044	-.025	-.015	.170	.006	-.001	.047	-.034	-.073	-.074	-.084	-.377	.803[a]
Q.23.	-.162	.105	.013	-.178	.061	.024	.077	-.058	-.064	.103	-.179	-.087	.092	.094	-.012	-.010	-.004	-.020
Q.24.	-.110	-.062	.042	.007	-.060	.070	-.088	-.084	.020	-.004	.012	.179	-.242	.023	.069	-.116	.002	-.024
Q.25.	.035	-.095	.068	.038	.064	-.146	.033	-.077	-.001	-.046	-.135	-.137	.101	-.061	-.044	.057	.038	.023
Q.26.	-.099	.022	.005	-.158	-.105	.116	-.023	-.092	-.038	-.021	.030	.126	-.138	-.047	-.005	.085	-.003	.017
Q.27.	-.071	.041	-.002	.047	-.221	.017	.052	.050	-.101	.034	.130	-.040	-.076	-.028	-.069	.024	-.121	-.070
Q.28.	-.071	-.053	-.008	-.042	.015	-.028	-.057	.003	-.002	-.080	-.039	-.061	.037	-.002	.170	-.072	.020	-.097
Q.29.	.208	-.029	-.044	.023	-.022	-.012	-.091	.116	.043	-.024	-.028	-.113	-.001	-.003	-.123	.049	-.059	.014
Q.30.	.029	.061	-.016	-.142	.036	-.121	.053	.051	.039	-.007	-.015	-.025	.080	.111	-.061	-.088	.001	.016
Q.31.	.083	.013	-.180	.022	-.051	.020	-.006	-.109	.076	-.032	-.011	.032	-.104	-.138	.042	.029	-.108	.109
Q.32.	-.037	-.007	-.042	.022	.084	-.043	-.116	-.035	-.003	.032	.022	.100	-.043	-.073	-.008	.071	.022	-.035
Q.33.	-.004	-.012	.019	-.107	-.017	.084	.008	.009	.036	-.058	.013	.000	.069	.071	.021	-.094	-.055	.071
Q.34.	-.114	.043	-.043	-.008	-.083	.019	.013	-.074	-.109	-.025	.048	-.036	-.036	-.081	.012	.061	.164	-.044
Q.35.	.069	.108	-.076	-.001	.001	-.152	.032	-.049	.063	-.013	.064	-.054	.035	-.023	-.026	.025	-.003	-.124
Q.36.	-.084	-.029	.017	-.033	-.007	.086	.014	-.057	-.043	-.121	.046	.050	-.095	.035	.011	-.001	.076	-.004
Q.38.	-.066	.013	.103	-.008	.005	.028	-.130	-.016	-.034	-.069	.031	.032	-.025	.052	.046	-.104	-.013	.126
Q.39.	.012	-.022	-.003	.082	.037	-.084	.025	.032	.070	.027	.002	.027	-.004	-.014	.095	-.028	-.011	.007

Q.40.	.101	-.086	-.032	.008	.069	-.005	-.006	-.039	-.042	.072	-.062	-.016	.041	-.044	.062	-.029	-.009	-.035
Q.41.	-.047	.084	-.007	-.031	.004	.014	.056	-.014	-.035	-.164	.074	.091	.006	.082	-.082	.047	-.011	-.053
Q.44.	-.044	.051	.081	-.002	-.044	.008	-.018	.035	.077	-.170	.032	.040	-.025	-.033	-.026	-.009	-.041	.045
Q.45.	.102	.070	-.052	.003	.060	-.025	.004	-.031	-.037	.011	-.012	-.067	.024	.062	-.045	.030	-.010	-.035
Q.46.	-.025	-.008	-.026	.031	.011	-.010	-.025	-.124	-.008	-.044	-.008	.071	-.001	-.037	.053	-.014	.009	-.088
Q.12.	-.046	.029	.036	-.030	-.062	.091	-.034	.044	-.019	-.021	-.079	-.050	.027	-.137	-.019	.051	-.001	-.062
Q.13.	-.182	.012	-.016	-.001	.009	-.031	.012	-.082	-.014	-.050	.033	-.058	-.039	-.068	-.023	.003	.005	-.028
Q.14.	.017	-.001	.007	-.029	-.095	-.022	-.170	.053	.034	-.024	.029	.036	.002	-.075	.065	-.103	-.068	-.071
Q.15.	.097	-.121	.018	.009	.023	-.096	-.053	-.035	-.082	.160	-.083	.008	.034	.029	.051	-.063	.002	-.007
Q.37.	.052	.039	.019	.032	.107	-.071	.122	-.088	.047	-.006	.020	-.069	.129	.035	-.061	-.032	-.003	.084
Q.42.	.087	-.069	-.073	-.142	.061	-.038	-.150	-.011	.040	.044	-.006	-.005	.022	-.009	.056	-.091	-.049	.033
Q.43.	.105	.119	-.067	.041	-.017	-.063	-.023	.057	-.096	.095	-.040	-.015	-.044	.026	-.016	.016	.031	-.211

Q.1.	-.162	-.110	.035	-.099	-.071	-.071	.208	.029	.083	-.037	-.004	-.114	.069	-.084	-.066	.012	.101
Q.2.	.105	-.062	-.095	.022	.041	-.053	-.029	.061	.013	-.007	-.012	.043	.108	-.029	.013	-.022	-.086
Q.3.	.013	.042	.068	.005	-.002	-.008	-.044	-.016	-.180	-.042	.019	-.043	-.076	.017	.103	-.003	-.032
Q.4.	-.178	.007	.038	-.158	.047	-.042	.023	-.142	.022	.022	-.107	-.008	-.001	-.033	-.008	.082	.008
Q.5.	.061	-.060	.064	-.105	-.221	.015	-.022	.036	-.051	.084	-.017	-.083	.001	-.007	.005	.037	.069
Q.6.	.024	.070	-.146	.116	.017	-.028	-.012	-.121	.020	-.043	.084	.019	-.152	.086	.028	-.084	-.005
Q.7.	.077	-.088	.033	-.023	.052	-.057	-.091	.053	-.006	-.116	.008	.013	.032	.014	-.130	.025	-.006
Q.8.	-.058	-.084	-.077	-.092	.050	.003	.116	.051	-.109	-.035	.009	-.074	-.049	-.057	-.016	.032	-.039
Q.9.	-.064	.020	-.001	-.038	-.101	-.002	.043	.039	.076	-.003	.036	-.109	.063	-.043	-.034	.070	-.042
Q.10.	.103	-.004	-.046	-.021	.034	-.080	-.024	-.007	-.032	.032	-.058	-.025	-.013	-.121	-.069	.027	.072
Q.11.	-.179	.012	-.135	.030	.130	-.039	-.028	-.015	-.011	.022	.013	.048	.064	.046	.031	.002	-.062
Q.16.	-.087	.179	-.137	.126	-.040	-.061	-.113	-.025	.032	.100	.000	-.036	-.054	.050	.032	.027	-.016
Q.17.	.092	-.242	.101	-.138	-.076	.037	-.001	.080	-.104	-.043	.069	-.036	.035	-.095	-.025	-.004	.041
Q.18.	.094	.023	-.061	-.047	-.028	-.002	-.003	.111	-.138	-.073	.071	-.081	-.023	.035	.052	-.014	-.044
Q.19.	-.012	.069	-.044	-.005	-.069	.170	-.123	-.061	.042	-.008	.021	.012	-.026	.011	.046	.095	.062
Q.20.	-.010	-.116	.057	.085	.024	-.072	.049	-.088	.029	.071	-.094	.061	.025	-.001	-.104	-.028	-.029
Q.21.	-.004	.002	.038	-.003	-.121	.020	-.059	.001	-.108	.022	-.055	.164	-.003	.076	-.013	-.011	-.009
Q.22.	-.020	-.024	.023	.017	-.070	-.097	.014	.016	.109	-.035	.071	-.044	-.124	-.004	.126	.007	-.035
Q.23.	.818[a]	-.386	-.084	-.157	-.039	.013	-.085	.086	.014	-.089	.099	-.009	-.049	-.033	-.091	.003	.020
Q.24.	-.386	.817[a]	-.151	-.030	.112	.052	-.161	-.053	-.098	-.031	-.018	.000	-.032	.087	.160	-.092	-.040
Q. 25.	-.084	-.151	.854[a]	-.150	-.130	-.094	.066	-.026	-.075	-.079	.018	.047	.011	.135	.032	-.049	.002
Q. 26.	-.157	-.030	-.150	.802[a]	.091	.057	-.056	-.135	.040	.042	.042	.129	.026	-.032	.056	-.039	.004
Q.27.	-.039	.112	-.130	.091	.750[a]	.114	-.188	-.080	-.096	.034	-.092	.015	.007	-.033	.010	-.001	-.023
Q.28.	.013	.052	-.094	.057	.114	.774[a]	-.238	-.222	-.020	-.067	.021	.057	-.019	.003	.080	.006	.001
Q.29.	-.085	-.161	.066	-.056	-.188	-.238	.603[a]	.015	.157	.105	.028	-.113	.061	-.004	-.024	-.013	.101

Q.30.	.086	-.053	-.026	-.135	-.080	-.222	.015	.799a	-.132	.029	.104	-.107	.032	.010	.013	.038	-.034
Q.31.	.014	-.098	-.075	.040	-.096	-.020	.157	-.132	.776a	.075	-.023	-.013	.130	-.038	.012	.173	.127
Q.32.	-.089	-.031	-.079	.042	.034	-.067	.105	.029	.075	.725a	-.156	-.082	.062	-.158	.033	.158	-.065
Q.33.	.099	-.018	.018	.042	-.092	.021	.028	.104	-.023	-.156	.527a	-.206	-.109	-.048	.062	-.039	.022
Q.34.	-.009	.000	.047	.129	.015	.057	-.113	-.107	-.013	-.082	-.206	.619a	.046	-.072	-.070	-.017	.037
Q.35.	-.049	-.032	.011	.026	.007	-.019	.061	.032	.130	.062	-.109	.046	.715a	-.201	-.146	-.043	.072
Q.36.	-.033	.087	.135	-.032	-.033	.003	-.004	.010	-.038	-.158	-.048	-.072	-.201	.679a	.062	-.324	.041
Q.38.	-.091	.160	.032	.056	.010	.080	-.024	.013	.012	.033	.062	-.070	-.146	.062	.787a	-.278	-.045
Q.39.	.003	-.092	-.049	-.039	-.001	.006	-.013	.038	.173	.158	-.039	-.017	-.043	-.324	-.278	.784a	-.024
Q.40.	.020	-.040	.002	.004	-.023	.001	.101	-.034	.127	-.065	.022	.037	.072	.041	-.045	-.024	.657a
Q.41.	-.019	-.014	-.009	.046	.026	-.009	.053	.033	-.060	-.028	.038	-.096	.038	.009	.062	-.024	-.296
Q.44.	-.001	.033	-.009	.017	.026	.052	-.027	.042	-.038	-.056	.039	-.068	-.050	-.021	.020	.033	-.072
Q.45.	-.020	-.028	.082	-.063	-.022	-.093	.059	-.030	.021	.060	.018	-.100	.120	.030	.070	-.112	.017
Q.46.	.022	.011	.076	.063	-.046	.063	.032	-.103	.073	-.021	.051	-.031	.262	.037	.128	.024	.010
Q.12.	-.037	-.007	-.007	-.058	-.171	-.062	.152	-.097	.061	.009	-.078	.043	.058	.013	-.102	-.047	-.039
Q.13.	-.108	.011	.100	-.024	-.011	-.052	-.020	-.005	.017	-.048	-.039	-.004	.032	.094	.056	.081	.012
Q.14.	-.053	.082	-.102	.094	.031	.088	.088	-.039	.006	.136	.063	.011	.064	-.097	.071	-.009	.009
Q.15.	.079	-.205	.026	-.078	-.050	-.039	-.048	.019	-.062	-.006	.085	-.090	-.059	.025	.021	.070	.045
Q.37.	-.044	-.105	.107	-.117	-.022	-.092	.056	.089	-.143	-.176	-.024	-.049	-.023	.166	-.008	-.046	-.083
Q.42.	-.060	-.057	.056	.037	-.038	.105	-.033	-.001	-.013	-.049	-.065	.021	-.098	.086	.024	.079	.033
Q.43.	-.018	-.045	-.030	-.068	-.022	-.074	.121	-.017	.068	.059	-.137	-.078	.142	-.047	.012	-.062	.021

Q.1.	-.047	-.044	.102	-.025	-.046	-.182	.017	.097	.052	.087	.105
Q.2.	.084	.051	.070	-.008	.029	.012	-.001	-.121	.039	-.069	.119
Q.3.	-.007	.081	-.052	-.026	.036	-.016	.007	.018	.019	-.073	-.067
Q.4.	-.031	-.002	.003	.031	-.030	-.001	-.029	.009	.032	-.142	.041
Q.5.	.004	-.044	.060	.011	-.062	.009	-.095	.023	.107	.061	-.017
Q.6.	.014	.008	-.025	-.010	.091	-.031	-.022	-.096	-.071	-.038	-.063
Q.7.	.056	-.018	.004	-.025	-.034	.012	-.170	-.053	.122	-.150	-.023
Q.8.	-.014	.035	-.031	-.124	.044	-.082	.053	-.035	-.088	-.011	.057
Q.9.	-.035	.077	-.037	-.008	-.019	-.014	.034	-.082	.047	.040	-.096
Q.10.	-.164	-.170	.011	-.044	-.021	-.050	-.024	.160	-.006	.044	.095
Q.11.	.074	.032	-.012	-.008	-.079	.033	.029	-.083	.020	-.006	-.040
Q.16.	.091	.040	-.067	.071	-.050	-.058	.036	.008	-.069	-.005	-.015
Q.17.	.006	-.025	.024	-.001	.027	-.039	.002	.034	.129	.022	-.044
Q.18.	.082	-.033	.062	-.037	-.137	-.068	-.075	.029	.035	-.009	.026
Q.19.	-.082	-.026	-.045	.053	-.019	-.023	.065	.051	-.061	.056	-.016
Q.20.	.047	-.009	.030	-.014	.051	.003	-.103	-.063	-.032	-.091	.016

Q.21.	-.011	-.041	-.010	.009	-.001	.005	-.068	.002	-.003	-.049	.031
Q.22.	-.053	.045	-.035	-.088	-.062	-.028	-.071	-.007	.084	.033	-.211
Q.23.	-.019	-.001	-.020	.022	-.037	-.108	-.053	.079	-.044	-.060	-.018
Q.24.	-.014	.033	-.028	.011	-.007	.011	.082	-.205	-.105	-.057	-.045
Q.25.	-.009	-.009	.082	.076	-.007	.100	-.102	.026	.107	.056	-.030
Q.26.	.046	.017	-.063	.063	-.058	-.024	.094	-.078	-.117	.037	-.068
Q.27.	.026	.026	-.022	-.046	-.171	-.011	.031	-.050	-.022	-.038	-.022
Q.28.	-.009	.052	-.093	.063	-.062	-.052	.088	-.039	-.092	.105	-.074
Q.29.	.053	-.027	.059	.032	.152	-.020	.088	-.048	.056	-.033	.121
Q.30.	.033	.042	-.030	-.103	-.097	-.005	-.039	.019	.089	-.001	-.017
Q.31.	-.060	-.038	.021	.073	.061	.017	.006	-.062	-.143	-.013	.068
Q.32.	-.028	-.056	.060	-.021	.009	-.048	.136	-.006	-.176	-.049	.059
Q.33.	.038	.039	.018	.051	-.078	-.039	.063	.085	-.024	-.065	-.137
Q.34.	-.096	-.068	-.100	-.031	.043	-.004	.011	-.090	-.049	.021	-.078
Q.35.	.038	-.050	.120	.262	.058	.032	.064	-.059	-.023	-.098	.142
Q.36.	.009	-.021	.030	.037	.013	.094	-.097	.025	.166	.086	-.047
Q.38.	.062	.020	.070	.128	-.102	.056	.071	.021	-.008	.024	.012
Q.39.	-.024	.033	-.112	.024	-.047	.081	-.009	.070	-.046	.079	-.062
Q.40.	-.296	-.072	.017	.010	-.039	.012	.009	.045	-.083	.033	.021
Q.41.	.763[a]	.127	-.012	-.016	-.018	-.100	-.027	-.021	-.065	-.115	-.024
Q.44.	.127	.536[a]	-.353	-.062	-.020	.013	-.016	.049	-.075	-.011	-.019
Q.45.	-.012	-.353	.595[a]	-.198	.049	.025	.002	-.046	.025	.072	.022
Q.46.	-.016	-.062	-.198	.781[a]	-.006	.037	.002	.052	-.034	.009	-.093
Q.12.	-.018	-.020	.049	-.006	.855[a]	-.064	-.144	-.083	.022	-.082	.043
Q.13.	-.100	.013	.025	.037	-.064	.918[a]	-.166	-.076	.099	.050	-.058
Q.14.	-.027	-.016	.002	.002	-.144	-.166	.837[a]	-.128	-.190	-.003	-.075
Q.15.	-.021	.049	-.046	.052	-.083	-.076	-.128	.851[a]	-.023	.011	.020
Q.37.	-.065	-.075	.025	-.034	.022	.099	-.190	-.023	.635[a]	-.001	-.097
Q.42.	-.115	-.011	.072	.009	-.082	.050	-.003	.011	-.001	.817[a]	-.163
Q.43.	-.024	-.019	.022	-.093	.043	-.058	-.075	.020	-.097	-.163	.715[a]

a. Measures of Sampling Adequacy(MSA)