Illinois State University

ISU ReD: Research and eData

3-23-2023

Memorable Health Messages and Their Influence on Health Behavior

Benjamin Brew Sam-Paintsil
Illinois State University, benjamin.sampaintsil@gmail.com

Follow this and additional works at: https://ir.library.illinoisstate.edu/etd

MEMORABLE HEALTH MESSAGES AND THEIR INFLUENCE ON HEALTH BEHAVIOR

BENJAMIN BREW SAM-PAINTSIL

81 Pages

Students encounter a lot of health messages they perceive to be relevant. Some of the health messages may stick with them for a long period of time and may be easily recalled than others, thus becoming memorable messages to them. Yet, little is known about the content and the source of college students' memorable health messages. Thus, this study explored the features, the impact, and sources of college students' memorable health message and whether students view their sources as credible. In addition, the present study examined health issues that students deem as salient in their memorable messages. The study found that students receive memorable health messages from medical professionals, parents, online, and teachers. Also, students used experience, educational qualifications, factual information and social values to determine the credibility of the sources. These and other findings are presented in detail below and recommendations are offered for future studies.

KEYWORDS: memorable message; health; college students; behavior; change; sources; parents.

MEMORABLE HEALTH MESSAGES AND THEIR INFLUENCE ON HEALTH BEHAVIOR

BENJAMIN BREW SAM-PAINTSIL

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

MASTER OF SCIENCE

School of Communication

ILLINOIS STATE UNIVERSITY

2023

MEMORABLE HEALTH MESSAGES AND THEIR INFLUENCE ON HEALTH BEHAVIOR

BENJAMIN BREW SAM-PAINTSIL

COMMITTEE MEMBERS:

Lindsey J. Thomas, Chair

John R. Baldwin

Lance Lippert

ACKNOWLEDGMENTS

To the Almighty God, who through our Lord Jesus Christ, has blessed me far beyond what I deserve. I hope this work will be useful in many ways.

I would like to thank my thesis committee for their time, patience, and assistance. Especially, I am profoundly grateful to Dr. Lindsey J. Thomas, the chair of my thesis committee, for identifying the hidden potentials in me when I least expected it. Undeniably, she has been a solid rock, a friend, an educator, and an advocate since the first day I contacted her to be my advisor. I wish to thank Dr. John R. Baldwin for accepting to be on my thesis committee and for his immeasurable comments and suggestions in my thesis and helping me hone my writing skills. I would also like to express sincere thanks to Dr. Lance Lippert for being on my committee and for his excellent questions and suggestions throughout the thesis process.

A very special salutation goes to the students who took part in this study. Without them, I could not have completed my thesis successfully. I wish to thank my co-advisees for their unflinching support and encouragement throughout this tiresome process.

I am privileged to have found many wonderful friends, mentors, and loved ones who have influenced me in diverse ways. I appreciate all of them with a thankful heart. Of course, I could never list all the people I am grateful for. So, when you get the chance to read this thesis and you are one of them, thank you, and may God bless you for everything.

B. B. S. P.

CONTENTS

CHAPTER I: LITERATURE REVIEW

Introduction

People are bombarded by tons of messages through various media every day. Due to this, people are likely to pay attention to the messages that possess personal relevance and have positive effects on their behavior. Thus, messages that people perceive to impact their health behaviors and expectation in general may stick with them for a long period of time and may be more easily recalled than others. Messages that people tend to remember for a long time are termed as "memorable messages" because they have a major influence on the progress of people's lives (Stohl, 1986). In the same vein, memorable messages are associated with hope and can reduce the adverse effects on people's health after they experience an unsettling event (Kuang et al., 2021). Because memorable messages aid people in the process of sense-making (Knapp et al., 1981), exploring such messages helps us to understand how people develop thoughts about themselves, others, and the conditions around them to select the appropriate course of action (Holladay, 2002).

As a meaningful part of college students' day-to-day routine, discussion about health behaviors opens the door to send good, memorable health messages. Yet, little is known about the content, source, and the impact of college students' memorable health messages. Earlier researchers have made efforts to address some of these issues. Specifically, Hall et al. (2016) argue that memorable messages come from older people or people of higher position. In the family setting, parents and older siblings are suitable for these source characteristics (Greenwell, 2018). Thus, health messages can be made truly memorable if they are "interpersonalized" by associating them with respected and loved ones such parents, teachers, and doctors (Miczo et al., 2013). Even so, some college students are more likely to either ignore or fail to be store

permanently important health messages they come across. This leads to higher risks of unhealthy behaviors among college students between 18-25 years (Crook & Dailey, 2016). This makes studying college students and their memorable messages an important topic as it will improve our understanding of how health messages could be designed to address unhealthy behaviors in college. By examining how health messages can be constructed to attract attention, college students may easily store and recall them in times of health adversities (Miczo et al., 2013)

Memorable messages have been explored in different contexts over the course of time. While some studies have examined memorable messages about health issues such as misuse of stimulants among college students (Crook & Dailey, 2016) and mental health (Greenwell, 2018), Ellis and Smith (2004) investigated how memorable messages could be used as a guide to assess one's behavior. Yet, our knowledge of how memorable health messages influence college students to make appropriate decisions about their health is still obscure. Thus, to understand how memorable health messages impact college students, they (students) must be involved in a discussion about the health messages they receive (Lambert, 2012). For this reason, it is imperative to investigative the features, sources, and sources' credibility of memorable health messages that college students encounter. Again, this study is an answer to the call of Kuang et al. (2021) about the need to promote memorable health messages in diverse ways to foster resilience among college students in terms of their health. Following a review of the scanty research exploring this area, this study aims to fill the gap.

The present study aims to contribute to key findings of previous literature about memorable health messages. The study will have a significant impact for family communication as it will cover what college students perceive as memorable health message. Thus, parents and guardians will obtain adequate knowledge about how to create appealing and persuading health

messages to their children. This study also has implications for university because it will provide information about how students make health decision based on the campus health messages they receive. This will improve our understanding of how health communication experts can design persuasive messages to meet the health needs of targeted audience. In addition, the findings of this study may help the health industry and the media landscape in propagating messages against detrimental health behaviors among the youth, especially college students.

Overview of the Present Study

This study is divided into four chapters. In the rest of Chapter I, I provide a background of the study, review relevant literature, explain the theoretical background that underpins the study, and pose the research questions by focusing on topics such as structure and form of memorable messages, credibility of sources of memorable messages and the common health issues that cut across most of these messages. I will also bring focus to how memorable health messages impact students' health behaviors. This is followed by Chapter II, where I explain the methodological foundation of the present study. I will discuss the research design, participants, data collection procedure and how data was analyzed. I will then transition to Chapter III where I discuss the results of the study. Chapter IV concludes the study by providing the discussion of findings and recommendations for future studies.

<div align="center">

Review of Literature

</div>

Memorable Messages

The question of what makes a message memorable has often been left for participants to decide. In other words, most researchers allow their participants to describe the content and the impact of a message that participants consider memorable. For instance, in Knapp et al.'s (1981) work, as we will see shortly in the literature review, participants were asked to talk about a

message that they recall having impacted them significantly. Similarly, Ellis and Smith (2004) asked their participants to recall a memorable message after the participants described behaviors that either violated or exceeded their expectations. More and more research has followed similar pattern. For example, after providing Knapp et al.'s (1981) definition of memorable message, Greenwell (2019), Miczo et al. (2013), and Rubinsky and Cooke-Jackson (2017) allowed the participants to recall and describe their own memorable messages. In all these studies, the participants talked about a memorable message they perceived had impacted them positively by focusing on the meaning and the purpose of the message.

Meaning and purpose.

The first work on memorable messages was initiated by Knapp et al. (1981) who were interested in the meaning of the message other than the wording. Put differently, it is the impact of the message that makes it memorable to recipients (Campbell, 2018). According to Knapp et al. (1981), most of the messages people receive have a short lifespan. That is, when people receive messages, they process them, react to them, and delete from their memory. Nonetheless, some messages may be stored for a long period of time. Thus, Knapp et al. (1981) define a memorable message as a "verbal message which may be remembered for extremely long period of time and which people perceive as a major influence on the course of their lives" (p. 27). Even though the human memory may not be consistent in the recollection of old messages, messages that are beneficial to people in times of uncertainty are more likely to be remembered than others (Campbell, 2018; Knapp et al.,1981). Following Knapp et al., Stohl (1986) later extended the memorable message literature in the context of organizational socialization by using a reflective approach to examine participants' memorable messages. From Stohl's point of view (1986), memorable messages provide people with social knowledge and skills needed to act as a

competent member of the society. Stohl (1986) discusses five distinctive features of memorable messages from the work of Knapp et al. (1981). First, memorable messages are short oral commands. Second, they are personalized messages that emphasize pertinent issues in people's live and usually occur in difficult times. Third, memorable messages suggest rules of conduct and provide tactics for solving problems. Fourth, the content of the messages reflects social values that are useful to maintain the social system. Fifth, the source of the messages is old and wise, and is perceived as someone with higher status than the receiver.

Miczo et al. (2013) maintain that memorable messages present an opportunity for socializing people about their health behaviors. Thus, as far as people's health is concerned, memorable messages are one of the techniques for them to recall what is appropriate and what they ought to do in challenging times. In the same way, memorable messages can elicit emotions for people, motivating them to take resilient action. Such messages influence people's decisions as a means of enacting resilience in the face of health adversity (Kuang et al., 2021; Barros Campbell, 2018). It is for this reason Ellis and Smith (2004) argue that one can communicate effectively if one understands the process by which people make judgments about their daily actions in relation to memorable messages. Consequently, understanding how individuals makes sense of shared reality about their health compels researchers to study the relevance of memorable messages (Stohl, 1986).

Structure and form of memorable messages.

One thing that might make a message memorable is its structure and form. The argument about how the structure and form of a memorable message should look started over four decades ago. Mostly, the discussion has been about its brevity and simplicity. Put differently, such messages enhance the process of memory storage and retrieval (Stohl, 1986). Following this line

5

of thought, Stohl (1986) demonstrates that there are three factors that guide the structure of memorable messages:

1. Memorable messages are orally transmitted;

2. Memorable messages are short, simple sentences;

3. Memorable messages are rule-structured (Stohl, 1986, p. 236). Rule-structured messages indicate the desired consequences of behavioral acts that ought to be performed. In other words, rule-structured messages use prescriptive indicators such as must, should and should not, to specify obligation, preferences, or prohibition.

In an interview study, Stohl (1986) found that all the interviewees recalled a memorable message because it was simple, short, and orally transmitted. However, 45% of the messages the participants remembered were not rule-structured. In other words, such messages do not specify the exact structure of behaviors. For example, a message like, "unprotected sex is not good," may be classified as non-rule structured because it does not state the consequences of engaging in the undesired behavior.

Other scholars have explored the structure and form of memorable messages in terms of pictorial presentation and numerical format. A specific point of reference is the study conducted by Garcia-Retamero and Cokely (2015). In their longitudinal study, they investigated condom use among young adults to determine if the structure of positive and negative framed messages elicited any behavior change. They found that when messages were positively framed using numbers, the use of condom increases, with young adults showing favorable attitudes and stronger intentions to use condoms, in comparison to negatively framed messages. In contrast, Kauffman et al. (2013) found that negatively framed messages can sometimes lead to positive attitudes. In other words, the negative characteristics of a situation may be deemed a memorable

experience. Surprisingly, when messages are presented in picture format, message frames do not prompt a change in behavior. However, Garcia-Retamero and Cokely (2015) believe that if health messages are presented with visual aids that are easy to understand, the message will be memorable. After all, the questions surrounding the structure and form might not be the major concern here. This is because scholars do not give much attention to the structure and the form as they do with the meaning it has for the recipients (Barros Campbell, 2018).

Design and content.

Prior studies on memorable messages have shown that a majority of memorable messages are action-oriented. They dictate rules that can guide people in different health contexts (Knapp et al., 1981). For this reason, Stohl (1986) advances that memorable messages reflect social values that are favorable to the conservation of a social system. In the same vein, content of memorable messages should emphasize appropriate behavior for people to succeed (Holladay, 2002). Thus, through memorable messages, parents can teach their children lessons that can be applied to their childhood through adulthood. Bringing this together, Stohl (1986) identifies four features regarding the nature of content of memorable messages:

1. Memorable messages prescribe specific role behaviors;

2. The action-oriented messages are transcontextual;

3. The content of memorable messages is consistent with other information provided through official channels;

4. An individual's position in the organization is related to the memorable nature of content (Stohl, 1986, p.238).

In their 2020 study, LaBelle et al. designed a student-driven campaign, The Rethink Campaign, to reduce the normalization and misuse of stimulants among college students. The

campaign message assessed four academic attitudes that students use stimulants for: to concentrate better while studying, to study longer, to concentrate better in class, and to get better grades. To test the impact of the message on students, the researchers had 187 participants complete a survey before and after the campaign. The campaign message successfully changed students' attitudes about how they misuse stimulants in the name of studying longer and concentrating better in class (LaBelle et al., 2020). In other words, there was a decrease in behavioral intention and actual misuse of stimulants. However, the message produced a reverse effect due to its design. LaBelle and her colleagues noticed that students' attitude towards misuse to get a better grade did not change because the message created the impression that students use drugs to cheat in exams. Thus, some participants viewed the campaign as ineffective, harmful, and irresponsible because they perceive that college students, friends, and people they know are less likely to indulge in drugs (LaBelle et al., 2020).

In a similar study, Wansink and Robbins (2016) investigated the design features of memorable infographic campaigns. The authors studied message features such as short versus long title, short versus long text, color, and humor and their implication for health message recall. The study was done in two phases. In the first phase, a focus group of 28 participants rated their favorite design features. In the second phase, 50 participants were randomly assigned to either actively or passively watch slides of various infographics. They found that the major criteria for designing an effective memorable health message are action-oriented titles and short texts. In other words, action-oriented titles are important for message recall in both active and passive processing conditions.

However, Wansink and Robbins (2016) found that if color and humor are used in designing memorable health message, they do not play any significant role in message recall.

This may explain the reason why Stohl (1986) argues that memorable messages are orally transmitted and should be short and simple. Nonetheless, other studies have illustrated that humor helps people to remember messages for a longer period. For instance, Lee (2010) postulates that messages that are humorous increase the chances for people to see and remember them. Likewise, college students are likely to clearly remember details presented in humorous health messages shared with friends (LaBelle et al., 2020). Even so, the key to effective memorable message is having an actions-oriented title, one that is a clear call to action (Wansink & Robbins, 2016).

In general, memorable messages provide meaningful health information upon which college students may base their decisions. As such, every memorable health message has its purpose, and this may influence how it is designed and what features of the message college students may easily recall. Stohl (1986) demonstrates that simplicity, rule-structured, and oral features of a message make it memorable. However, this is an observation made in the organizational setting. To better understand the features of memorable health messages that stand out to college students and the health behaviors they engage in after receiving those messages, it is necessary to address the following question:

RQ₁: What, if any, features (e.g., of construction or delivery) of memorable health message do college students explicitly recall?

Health and Memorable Health Messages

In light of Stohl's (1986) work, other communication scholars have operationalized the concept to a variety of health issues. In other words, there are a plethora of health issues one could discuss in term of college students' memorable message. The most common topics usually surround sexual activities and mental health. Messages about these topics inform the identities

and health behaviors of young adults (Rubinsky & Cooke-Jackson, 2017). A particular study in this instance is Kauffman et el. (2013). After investigating the narratives of college students about their sexual activities, the researchers found five themes related to memorable messages that college students receive from both parents or only mothers: practice safe sex, premarital sex is wrong, wait until you are ready, sex is natural or pleasurable, and sex is negative, abusive, and taboo. Out of these five themes, the authors noticed that college students most often report receiving memorable messages about practicing safe sex. One of the reasons for receiving such messages is to teach them about STIs. In other words, parents use personal experience or others' stories about contracting sexual infections to encourage their children to protect themselves (Kauffman et al., 2013).

Even though some parents may relay the importance of protected sex to their children, others think it is a taboo to have sex before marriage. Thus, memorable messages about premarital sex are often based on religious beliefs. In other words, by using spiritual memorable messages, parents or family members can push their children to develop a healthy behavior (Cooke-Jackson et al., 2015). In short, parents seek to provide memorable messages to college students about sex to protect them. Unfortunately, some scholars may not see the outcome of such messages as positive. Rubinsky and Cooke-Jackson (2017) report that such messages negatively affect people's beliefs and self-concept. In their study, some participants commented that they find the memorable messages they receive about sexual activities as harmful to their opinions and self-concept, especially when the messages are faulty or wrong. Nonetheless, college students may find it difficult to disconnect from factually erroneous messages because these messgaes come from credible source like parents and teachers (Rubinsky & Cooke-Jackson, 2017).

In addition to memorable health messages about sexual activities, college students often receive memorable messages about mental health. For example, Greenwell (2018) analyzed survey responses from 193 college students and found that memorable mental health messages sent by family members are classified into strategizing, normalizing, and minimizing. Strategizing messages provide proactive mechanisms to tackle mental health issues before they become a problem. In other words, this type of message comes in the form of advice. Normalizing messages give college students the impression that mental health is nothing to worry about. That is, family members view "mental illness as common and permissible while situating mental health as a top priority" (Greenwell, 2018, p. 656). Lastly, minimizing messages downplay mental health and the possibility for seeking treatment. As such, parents who send this type of messages stigmatize mental illness and its treatment.

Flood-Grady et al. (2021) made similar observations in their study of the content of memorable messages about depression that parents send to their young adult and its relationship with perceived stigma and treatment-seeking. Their analyses revealed that most of the messages either minimized or normalized mental illness. In other words, parents acknowledge the existence of mental illness and expect their children to overcome it. However, Flood-Grady et al. (2021) maintain that young adults acquire the requisite skills for managing mental illness through parent-child communication. Congruently, Greenwell (2018) posits that if college students receive familial messages that endorse mental health care, they will develop a more positive behavior toward seeking psychological help.

Health Issues in College

Given that there are over 17 million students enrolled in colleges and universities across the country (Lipson et al., 2018), it is crucial to discuss their health behaviors and how those

11

behaviors might affect their academic progress. According to Henry et al. (2018), unhealthy students can exhibit health problems, which may lead to absenteeism and poor grades. For this reason, universities may have students with poorer academic performance and lower retention and graduation rates. Hebert et al. (2020) report that common health issues among college students include sleep, sexual activity, physical activity, nutrition, stress, mental health, and chronic illness, as well as substance use. In the same vein, Henry et al. (2018) state that college students face health problems concerning sleep patterns, diet, and sexual behaviors. In other words, problems ranked as most likely to intrude upon students' health are "anxiety or stress, followed by lack of sleep, concerns for troubled friends or family, attention deficit hyperactivity disorder, computer or video game use, and acute illnesses such as cold or flu" (Henry et al., 2018, p. 13).

In spite of the above, societal expectations affect how students, especially males, report their health problems. For instance, Ruthig et al. (2011) conducted a study on the challenges and implications of mental health on college students' academic performance. The authors found that college men suffer from stress and poor diet yet are unlikely to report these issues due to societal expectations. In other words, it is socially acceptable for college women to frequently report having stress and poor nutrition, whereas it is not "masculine" for men to think about diet choices (Ruthig et al., 2011).

In a similar study, Reuter and Forster (2021) examined 28 health behavior habits that college students are likely to engage in and how these behaviors impact academic performance. They categorized students' health behaviors into (1) sleeping habit, (2) working, (3) physical activity, (4) eating habits, and (5) alcohol, tobacco, and drug consumption. After the analyses of health behaviors of 614 students, the authors found that students who sleep 4 hours or less per

night have lower GPA when compared to students who sleep for 6, 7 or 8 hours. Consequently, students who engage in push-ups, sit-ups or weightlifting have higher GPA than their colleagues who do not. Interestingly, female college students believe that becoming physically active contributes to being more successful in college (Ruthig et al., 2011).

Moreover, mental health is one of the common health issues among college students. This is even associated with an increasing rate at which college students commit suicide. For example, 86% of college students who died by suicide in 2014 did not seek counseling for their mental disorder, and 61% of students diagnosed with a mental disorder in 2016 did not get any treatment (National Council on Disability, 2017). Looking at these alarming findings, memorable health messages about mental health and what guidance and where to seek help might be a good start to counter the ravaging effects of mental problems students are facing. As Kitzrow (2003) points out, mental health problems can have intense consequences on students' physical, emotional, intellectual, and interpersonal functioning, which negatively impact their academic performance and graduation rates.

Previous studies on college students' mental health issues confirm Kitzrow's (2003) argument. In their study, Hebert et al. (2020) found that fewer than 15% of students reported their mental health as excellent. Students who live with poor mental health had lower GPA than those with good mental health (Henry et al., 2018; Hebert et al., 2020). However, students who possess individual factors such as better coping abilities and confidence in communicative skills improve their mental health (Byrd & McKinney, 2012). Yet, we do not know how memorable health messages may influence students to develop these individual factors to adopt a positive behavior about their mental health. The lack of literature on how memorable messages help mental health has increased the prevalence of severe mental health cases in colleges (Byrd &

McKinney, 2012), putting other students, faculty, and staff at risk since students suffering from mental health problems are likely to engage in unsettling and dangerous behaviors (Kitzrow, 2003).

Students who suffer from mental health issues report lower usage of counselling services. Rosenthal and Wilson (2008) studied students' use of counseling services for emotional problems. They found that 90% of the participants had never used counseling services within the last six months. This may be due to the stigma students hold about themselves. Particularly, Eisenberg et al. (2009) conducted a study on help-seeking behavior among students experiencing mental health issues. After analyzing the responses of 5,555 students from 13 universities, they found that students who stigmatize their mental health issues are less likely to seek counselling services or therapy. In addition, students' personal stigma leads to lower likelihood of taking medicines prescribed by their psychiatrist. However, Hunt and Eisenberg (2010) maintain that the prevalence of mental health issues among young adults had remained steady.

Arguably, alcohol consumption and substance use continue to be a major health issue among college students, which in turn poses a negative effect on students' performance. Patrick et al. (1997) conducted a study on health risky behaviors among California college students and found that 71.4% had smoked cigarette at least once in their lifetime, and 72.2% of men and 67.5% of women had consumed alcohol. Of this, men are more likely than women to consume alcohol (Patrick et al., 1997). In a congruent study, Ruthig et al. (2011) state that an increase in tobacco use results in lower final grades among male students. Thus, students are at higher risk of facing poor academic performance because of health issues (Henry et al., 2018). According to Reuter and Forster (2021), students who reported consuming alcohol and substance use like marijuana, had a lower GPA than those who did not.

Of course, one cannot neglect the topic of sexual behavior when discussing health issues in college. Studies have found that a decent number of college students do not use condom during sexual intercourse. Desiderato and Crawford (1995) investigated the risky sexual behaviors in college students by looking at number of sexual partners and condom use. They found that more than one third of the sexually active students (36.6%) have more than one sexual partner. What is more, students with multiple partners are less consistent with condom use. Similarly, Skelly et al. (2018) found that 62.8% of students who are sexually active indicated having sex with one to three partners. In contrast to the Desiderato and Crawford (1995) finding about condom use, Skelly et al. (2018) report that most sexually active students (93.75%) use condoms.

In their study about sexual behavior among college student, da Silva Nascimento et al. (2018) made a similar observation. The authors focused on the sexual behaviors and the life habits of 90 undergraduate nursing students towards the prevention of STIs. They found the majority of the participants (80%) to be sexually active. In other words, most of these students had their first intercourse between 16 and 18 years of age. In terms of sexual partners, 69.4% noted that they have had sex with more than one partner. In a long-term relationship, females use condoms during sexual activity. However, men are less likely to practice safer sex and are unlikely to use condoms during sex with their long-term partners (da Silva Nascimento et al., 2018). da Silva Nascimento et al. stress that requesting a condom be used may lead to feelings of distrust. To avoid feelings of infidelity, partners who have STDs have also reported not using condoms during sexual intercourse (Desiderato & Crawford, 1995).

The paucity of previous studies on memorable messages gives rise to the need to explore other health issues or problems that college students' memorable health messages talk about.

15

Topics concerning eating habits, sleeping habits, physical health, sexual activities among others have been identified as important health issues by previous scholars. Nevertheless, there are other health issues in college that may have equal adverse effects on students as any of the health issues previous studies have explored. In this light, it is imperative to close the gap by addressing the following question:

RQ2: What health issue(s) emerge as salient regarding content in college students' recollections of the memorable health messages they received?

Sources of College Students' Memorable Health Messages

Memorable messages come from variety of sources. Typically, sources are of higher status, older and wiser than the recipients (Hall et al., 2016; Knapp et al., 1981; Stohl, 1986). According to Greenwell (2018), parents and family members are suitable for these source characteristics. A specific example to buttress this argument is Ellis and Smith's (2004) work on memorable messages as guides to self-assessment of daily behavior. In their study, 194 college students completed a journal for five days by describing one behavior that violated and one behavior that exceeded their expectations. They then recalled a memorable message and the primary source used in assessing their behavior. The authors found that the source of memorable messages are mothers, followed by both parents, teachers, personal experience, and other family members. In other words, when assessing both positive and negative behaviors, the primary source of college students' memorable messages are mothers. For instance, Ellis and Smith (2004) found that mothers often emphasize the importance of living a healthy in their messages to their children.

In examining who the primary source might be, there seems be a relationship between the sex of the source and the frequency of sending memorable messages. The primary source of most

memorable messages are women, mothers in this context. Holladay (2002), for example, studied of the examination of memorable messages about aging, Holladay found that message senders are considerably women, 61.5%, in comparison with 38.5% male. In addition, the author observed that messages delivered within same-sex dyads are common. That is to say that women or mothers are more likely to send memorable messages to girls, and men or fathers to boys (Holladay, 2002).

Another study supports that the primary sources of memorable messages are family, mothers, and parents. Kauffman et al. (2013) investigated the narratives of college students regarding memorable messages about sexual activity. After analyzing the description of 101 students, they noticed that the most frequent sources recognized by participants are family, followed by parents and mothers. In other words, siblings, fathers, cousins, grandparents, and other family members are recognized as less significant source of memorable messages (Kauffman et al., 2013). The observations made from these findings is that memorable messages from these three major sources have a greater impact on the health behaviors of college students. For this reason, the power of memorable messages from mothers, parents and family members cannot be underestimated because such messages are important for life decision (Bigalke, 2019; Ellis &Smith, 2004). Likewise, Greenwell (2018) explored memorable messages about mental health that college students receive from family members. The author found that mothers are the most frequent source of memorable messages about mental health. This is directly followed by fathers, both parents, aunt/uncle, siblings, and other family members. This finding concurs with Knapp et al. (1981) who posit that sources of memorable messages have higher status in the family. Conversely, Greenwell (2018) maintains that men are reported to be the most frequent source of memorable messages.

However, other studies found different primary sources of memorable message other than mothers and both parents. For instance, Crook and Dailey (2016) worked on memorable messages about misuse of prescription stimulants among 129 college students. The authors specifically explored messages college students recall about misuse of stimulants and how those messages are correlated with students' intention to use stimulants. The study revealed that the primary source of those messages were friends, followed by classmates and siblings. Other participants reported receiving memorable messages from family members (parent, cousin, aunt/uncle), instructors, and medical practitioners. Another study has made a similar observation. Smith et al. (2009) examined breast cancer memorable messages and their sources. In all, 359 females responded to a survey on the awareness and prevention of breast cancer. The study revealed that media is the most frequent source of memorable messages about breast cancer, followed by friends, family, and medical practitioners. Nonetheless, family members and friends are significant sources of memorable messages than the media (Smith et al., 2009).

Similarly, Miczo et al. (2013) explored memorable messages college students recall regarding the prevention of H1NI. Participants (N = 204) described the content of memorable messages and where the students encountered the message. The authors found that the most common sources of memorable messages about H1NI are campus emails, posters, and flyers. Put differently, students mention parents or family members less as source of these memorable messages; when it comes to health-related behavior, the central sources of memorable messages are mass media and interpersonal communication (Miczo et al., 2013). This argument is further supported by the findings of Popham et al. (1993). The authors studied the effects of anti-smoking media campaign on regular smokers. Out of 288 participants who indicated they saw the campaign, 143 affirmed that their decision to quit was because of the campaign. Thus, it

suffices to claim that media campaign serves as an encouraging source of memorable messages because it strengthens the effectiveness of widespread to a large population. In contrast, Miczo et al. (2013) contend that it is difficult to evaluate the effectiveness of a health-related media campaign because of its large reach.

Looking across this literature, it is apparent that the most frequent sources of memorable health messages are mothers, parents (both mother and father), and other family members. However, because communication scholars have not looked at content and source credibility together, it is a worthy cause to examine the source of memorable health messages that college students receive, and how they perceive the credibility of the source. Therefore, I ask the following questions:

RQ3: Who do college students identify as source(s) of their memorable health messages?

RQ4: Based on what factors do students determine the credibility of the source of their memorable health message?

Theoretical Framework: The Transtheoretical Model of Health Behavior Change

Many studies have employed control theory (Miczo et al., 2013; Crook & Dailey, 2016; Ellis & Smith, 2004) to investigate the impact of memorable messages on college students' intention to adopt a positive health behavior. Control theory explains the reasons behind people's actions and how they assess their behavior. The theory view people as living control systems who act to control certain standards, goal, or an aspect of the world about themselves (Nickols, 2013). The central concept of the theory is the feedback loop which negates an undesired behavior. Control theory posits that people compare their present condition to a point of reference. If they sense a discrepancy between their present condition and the referent behavior, they take an action to reduce the discrepancy (Carver & Scheier, 1982; Crook & Dailey, 2016).

In other words, the feedback loop works to create and maintain the perception of a specific desired behavior. For example, a student may be experiencing a poor sleeping pattern (present condition), which is likely to affect their academic performance. The student may then remember a message from their professor telling them about how they could properly manage their sleep to excel academically (referent behavior). In this example, the message from the professor is the feedback loop.

In the context of health behavior, an individual may be more connected to their memorable health messages when they perceive a life-threatening health issue (Smith & Ellis, 2001). In sum, control theory predicts that an individual should recall a memorable message when assessing personal behavior during a negative present condition (Ellis & Smith, 2004). Control theory is useful to highlighting gaps that might point to a need for change or why people change. Although the theory has been applied to many previous studies about memorable messages, the transtheoretical model of behavior change (TTM) adds a framework for investigating the stages of change, including decision making and processes of change. More importantly, there is a gap in literature as scholars are yet to apply TTM to explain how the model may function with memorable messages and health behavior. As propounded by Prochaska and Velicer (1997), TTM explains the processes that an individual undergoes to change their health behavior after recalling a memorable health message. TTM is a model of intentional change that combines various processes and principles of theories of intervention (Prochaska & Velicer, 1997; Velicer et al., 2000). The fundamental assumption of the model is that behavior change is a process that evolves with time through series of stages. Thus, the absence of planned interventions prevents an individual from progressing to the next stage, thereby being stuck at the early stages (Prochaska & Velicer, 1997).

Stages of change.

Change is an event that occur over time. TTM posits that people undergo six stages to change their health behavior. The first stage, precontemplation, is where people have no intentions to change their behavior. People at this stage are either uninformed about the consequences of their actions or have given up on themselves due to their inability to change. In other words, they are "unmotivated clients" who are not ready to talk, read or think about the high risks of their health behaviors (Prochaska & Velicer, 1997). The next stage is contemplation: the stage where people plan to change in the next six months. People at this stage are well educated about the advantages and disadvantages of changing their behavior. However, the balance between the pros and cons of a change can keep people stuck in contemplation stage for a long time (Glanz et al., 2008; Prochaska & Velicer, 1997). This event is what Prochaska and Velicer term as "chronic contemplation or behavioral procrastination" (p. 39). For this reason, college students may not be encouraged to act after exposure to health messages. The third stage, preparation, is when people intend to change. They plan a course of action by visiting physicians, taking health education classes, or purchasing health-related books, among other self-change approaches.

What follows is the action stage, where individuals develop specific and clear adjustments to their lifestyle. Prochaska and Velicer (1997) point out individuals at this stage adopt a criterion that is approved by experts to reduce health risks. The fifth stage is called maintenance. This is where people make overt and specific changes in their life (Glanz et al., 2008). Having observed the results of the change, they seek to make the change they have made an ongoing behavior and are less tempted to relapse (Prochaska & Velicer, 1997). The final stage, termination, is where people have little or zero temptation to back go the first stage. At this

stage, individuals have 100% self-efficacy and make a firm decision not to return to their old unhealthy behavior as a way of coping. In other words, people perceive their unhealthy behavior as something that never existed. However, Prochaska and Velicer (1997) indicate that this stage may be impractical for most people.

Processes of change.

The processes of change are the covert and overt guidelines that help people to progress through the stages. The model identifies ten processes of behavior change: consciousness raising, dramatic relief, self-reevaluation, environmental reevaluation, self-liberation, social liberation, counterconditioning, stimulus control, contingency management, and helping relationships Prochaska & Velicer, 1997).

Consciousness raising involves interventions such as education, feedback, and confrontations to raise awareness about the causes, effects, and cure of the health problem. Dramatic relief uses role play, personal testimonies, psychodrama, and media campaigns as techniques to motivate people to embrace change. Prochaska and Velicer (1997) define self-reevaluation as the "cognitive and affective assessments of one's self-image with or without a particular unhealthy behavior" (Prochaska & Velicer, 1997, p. 40). Environmental reevaluation is when one assesses the consequences that a personal behavior has on the social environment. The authors maintain that family interventions are a good way of reassessment. It is safe to argue that memorable health messages from family members are vital resources that help college students to adopt a positive behavior. Prochaska and Velicer (1997) opine that self-liberation is when an individual believes they can change and, thus, commits themselves to act upon that belief. In other words, people have the "willpower" to change their unhealthy behavior.

Social liberation involves empowering and giving an underserved population access to health promotions and resources. In terms of counterconditioning, a negative health behavior is substituted for a positive one. For instance, people can substitute unprotected sex for condom use, or replace fatty or junk foods with fat-free foods. In simple terms, stimulus control involves adding cues to one's environment to emphasize healthier behaviors and removing cues for risky behaviors. For example, to increase exercise, one can put their exercise gear near the door to serve as a constant reminder. This leads to the process of contingency management, which involves the use of rewards and punishments to elicit positive health behaviors. For example, relying on positive self-statements and group recognition can ensure the repetition of a positive health behavior (Prochaska & Velicer, 1997). The final process, helping relationships, involves openness, acceptance, and identification of social support for the healthy behavior change. In other words, parents, friends, counsellors, among other sources of memorable messages can serve as social support.

TTM has been applied to a wide range of health behaviors such as alcohol consumption (Armitage, 2009), exercise adoption (Marcus et al., 1992), and unplanned pregnancy prevention (Dempsey et al., 2011). Notably, studies that have applied this model only focus on how health campaign or interventions can change negative health behaviors. For example, O'Hea et al. (2003) applied the model to study the differences between males and females in terms of smoking cessation, exercise adoption and dietary fat reduction. Similarly, Velcier et al. (2000) described how TTM is used to develop and implement interventions to reduce smoking. Finally, Dempsey et al. (2011) used TTM to measure the health behavior of 1,245 young women to see if they continued the use of oral contraceptive after six months. Nonetheless, studies about memorable health messages are yet to apply this model. I must reiterate that the TTM is only

being used in this study to help our understanding of the stages and process of change students undergo to adopt positive health behaviors.

Impact of Memorable Messages on College Students' Health Behaviors

Given the vast sources of memorable health messages and the alarming health issues college students face, it is necessary to understand how sources such as parents, relatives, teachers (including religious leaders), and medical practitioners emphasize the importance of their messages to elicit appropriate health behaviors among college students. The only problem is that there is lack of literature that explores how memorable health messages influence college students to adopt positive behaviors after receiving those messages.

Although not specifically related to college students, Kerr et al.'s (2019) study offers insight about the impact of memorable messages. The authors studied how parents of children with vascular birthmarks react to both positive and negative memorable messages. Seventy parents completed a survey where they recalled a total of 92 memorable messages. Kerr et al. found that parents receive stigmatizing messages about their children's identity. Thus, most parents view the messages as hurtful. However, Kerr et al. (2019) argue that parents consider messages of blame as memorable because they were delivered in times of vulnerability and uncertainty. Given that college students are likely to engage in vulnerable behaviors such as smoking (Ruthig et al., 2011), unprotected sex (da Silva Nascimento et al., 2018; Desiderato & Crawford, 1995), and alcohol consumption (Reuter & Forster, 2021), memorable health messages may be instrumental in stimulating positive health behaviors. In other words, memorable messages young adults receive can strengthen relational closeness as well as "bring immediate realizations and changes in perspective" (Kerr et al., 2019, p.8).

In an exploratory research project, Cooke-Jackson et al. (2015) investigated the memorable sexual narratives of 65 virgins and how those narratives influenced them to abstain from sexual activities. Through an interpretive approach, they found that young women's abstinence from sex is because of religious motivation, taboo, risk, and personal commitment. In other words, young women strengthen their personal commitment to abstain from sexual activities by engaging in memorable messages with their parents, older family members and friends. Likewise, participants who viewed sex as a taboo and risky had been involved in direct communication with family and friends as well as observations of peers and mass-mediated relationships.

In like fashion, some parents use their personal stories about the mistakes they made in college as a way of memorable message to warn their children about risky health behaviors such as alcohol consumption, drugs, and sexual activities (Kranstuber et al., 2012). In other words, parents stress the remorseful decisions they made while in college in the hopes that their children will not commit the same mistakes. For this reason, Cooke-Jackson et al. (2015) admonish communication scholars to be strategic in developing health messages directed at young adults. The authors continue that doing so will encourage people to make their own decision, appreciating sexual abstinence as a meaningful behavior they can pursue. Previous research such as Cooke-Jackson et al. (2015), Kerr et al. (2019) and Kranstuber et al. (2012) made a good effort to examine how memorable messages influence people to adopt positive behaviors. However, what is lacking in all these studies is that the authors did not look at the process that their participants describe undergoing to adopt a positive behavior after encountering their memorable messages. In other words, we need to explore how college students describe adopting

positive health behaviors after receiving memorable health messages. Dueling on TTM's process of change, I ask the following question:

RQ5: What behaviors do college students perceive as having engaged/adopted in light of memorable health messages?

Chapter Summary

In this chapter, I discussed the features of memorable messages in terms of content, design, and delivery. I also discussed the findings of previous literature about the sources of college students' memorable messages. In addition, I talked about some salient health issues in college and the theoretical framework of this study. I ended the chapter by looking at the importance of memorable health message on health behavior. In the next chapter, I will discuss the methodology by explaining the research design, the study populations, sampling techniques, data collection procedure and data analysis.

CHAPTER II: METHODS

Research Design

To better understand college students' perceptions of memorable health messages and answer the research questions, it is key to explore stories and personal experiences of young adults, specifically college students, because they move away from home and may have memorable messages they turn to, to get through a health issue. Thus, the present study adopted a qualitative approach to examine the individual accounts of participants. The rationale behind this approach is that it gives participants the opportunity to express their feeling concerning memorable health messages they encounter daily. According to Willig (2013), qualitative approach is the best way to examine in-depth experiences of students as well as explore potential explanatory mechanisms which cannot be quantified. Qualitative methods enabled the participants to engage in an in-depth conversation with the researcher without limiting themselves to a rating scale or stimulus-response tool (Tracy, 2020). In other words, participants had the opportunity to explain in their own words the kinds of messages they find to be most memorable and effective (Miller, 2012). This approach helped me to imbed myself in the study to form a better understanding of the stories of my participants, thus becoming the research instrument (Conquergood, 1991; Lincoln & Guba, 1985)

Participants

Participants were recruited via listserv invitation and research board posting at a mid-size Midwestern University. Eligibility criteria included being at least 18 years of age and attending postsecondary school (i.e., college or university) at the time of data collection. These criteria allowed for maximum variation among participants (Lincoln & Guba, 1985). In other words, getting a diverse population was necessary because each participant gave rich and in-depth

accounts of their experiences that established support for the objectives of the current study. Moreover, I believe participants' diversity was an important determining factor that may have impacted their perception of memorable messages and how they use these messages to make decisions about their health (Barros Campbell, 2018). Overall, recruitment yielded a convenience sample of a diverse student participants (N=17) from a variety of majors and programs. The majority of participants identified as white (n=12), with two identifying as Asian and three identifying as Black. There were more women (n=13) than men (n=4) and more undergraduate (n=14) than graduate (n=3) students. The sample size was small because qualitative method is focused on gathering an in-depth understanding of how and why of a phenomenon (Dworkin, 2012). For this reason, saturation is the most broadly used principle by qualitative researchers to determine their sample size and evaluate its sufficiency (Vasileiou et al., 2018). To achieve saturation, 12 interviews are enough in qualitative studies because qualitative researchers are not interested in the number of people recruited, but to comprehend the cultural categories of their participants (Tracy, 2020; McCracken, 1988). I reached saturation at interview nine. I achieved this by making sure that the interview protocol remained the same in each interview (Tracy, 2020). In other words, interviews ten to seventeen produced little or no new observations to the findings.

Procedure

After obtaining ethical clearance from the university's IRB Board, I randomly recruited participants through two ways. First, participants were invited through a university mass email system. The email explained the objectives and the criteria of the study and what participants were expected to do. This was purposely to recruit students from various departments other than the Communication department. Second, I posted the research on the School of Communication

research board, so students in Communication classes who were eligible and interested could participate. Once I received communication from a potential participant, I arranged a time for a face-to-face interview. Participants signed the consent form and returned a copy to the researcher via university email before the interview day. Each participant was given enough time, at least two days prior to the interview, to read the consent form and ask questions before they signed. The researcher and the participants kept copies of the signed consent form for their records.

Before the interview, I gathered demographic data through a brief questionnaire outlined in Appendix A. The participants were also assured of confidentiality, and that all identifying data, both audio recording and transcriptions, would be destroyed at the end of the study. I used pseudonyms to protect the identity of the participants (Tracy, 2020). Finally, at the end of the interviews, all participants who were from different academic departments, other than Communication, were entered into a raffle for an opportunity to win one of the five $10 Starbucks gift cards. However, students in Communication classes earned extra-credit for research participation according to their instructor's course policies.

Data Collection

I conducted a semi-structured interview to examine how college students make decision about their health behavior based on the memorable messages they receive. On an average, each interview lasted for at least 18 minutes. These interviews gave me the opportunity to understand how the participants perceive the world. The interviews were conducted at a Speech Lab or at the researcher's office because of easy access, proximity, privacy, and quietness of these two locations (Tracy, 2020). Before I started the interview, I provided a definition of memorable message to the participants based on Knapp et al.'s (1981) definition (definition is also included in Appendix A) and allowed for about five minutes for them to familiarize themselves with the

definition. I believe doing so gave them the opportunity to think deeply about their responses. During the interview, I asked the participants to share their experiences of encountering a health message they consider memorable as well as discuss the source of the message. They then described the content of the message and how long the message has stuck with them. Tracy (2010) commends this process in data collection to achieve rich rigor.

The interview protocol was divided into three main parts. Part 1 started with the opening questions by investigating the features of memorable health messages, how long the has stuck with the participants, and health issues participants consider as salient in their memorable health messages. In this part, participants responded to questions like, "Could you discuss some of the health issues in your memorable health messages that you consider as salient?" and, "What features or characteristics of the message do you pay most attention to?" Part 2 focused on how the memorable health messages have impacted or influenced the participants to adopt positive health behaviors. This part had questions such as, "Could you describe the risky health behavior you were engaged in before receiving the memorable health messages?" and, "What impact or specific positive health behavior(s) did you adopt after receiving the memorable health messages?" Part 3 examined the sources of memorable health messages and students' perception of the source's credibility. Some of the guiding questions were, "Who do you mostly consider a frequent source of the memorable health messages?" and "Could you explain what makes this source credible to you?" As Tracy (2020) recommends, I did a review with the participants at the end of each interview where they had the opportunity to ask questions or add up to whatever we had discussed.

Data Analysis

Many coding and analysis methods exist; I followed the one that best answered the research questions and established support for the methodological design. I analyzed the data in terms of themes. Thus, I used both Braun and Clarke's (2006) six phases of inductive thematic analysis and Owen's (1984) interpretive analysis approach to develop themes based on each research question. Thematic analysis is "a method for identifying, analyzing and reporting themes within data" (Braun & Clarke, 2006, p. 79). This type of analysis is flexible and reports the experience and reality of participants. To identify relevant segment of the data, I expected that the participants' responses have three criteria set forth by Owen (1984): recurrence (when at least two parts data express the same idea or concept), repetition (when key word, sentences or phrase are repeated explicitly using the same wording), and forcefulness (when participants use vocal inflection or dramatic pauses to emphasize a point). To accomplish this, Braun and Clarke (2006) propose six stages: familiarize yourself with the data, generate initial codes, search for themes, review themes, define and name themes, and produce the report.

First, I familiarized myself with the data by listening to the recorded interview multiple times before transcribing the data. Afterwards, I crosschecked the transcription with the audio to verify if any important detail is missing. I used an inductive approach to analyze the data by putting the data into units and categories (Lincoln & Guba, 1985). Any word, sentence or phrase of the participants that related to the themes of the research questions was used as a unit of analysis. By manually coding the data, I printed all 17 transcribed interviews and used colored pencils to make notes (Tracy, 2020). I generated themes by doing open coding, comparing the data for differences and similarities. From here, similar words, sentences or phrases were labeled and grouped together categories and subcategories (Corbin & Strauss, 1990).

Verification and Trustworthiness

      To ensure trustworthiness of data, I incorporated the opportunity for member reflections. Member reflections allowed for participants' feedback on the findings. After writing up the results, I contacted all the participants via email so they could review the findings. Six responded, and I arranged a one-on-one, face-to-face meeting with them. During our meeting, I summarized the findings, after which they spent about an hour to read a portion of the results. I assigned at least one person to read the results of only one of the research questions. By doing so, all six people had read the entire findings of the study. This process increased the trustworthiness of the study (Lincoln & Guba, 1985), as each person had enough to focus on one aspect of the findings so they could react, verify, or identify mistakes with the analysis. The member reflection helped me to reconsider ways the findings could be more comprehensible and expressive to the participants (Tracy, 2020). Finally, by imbedding exemplar quotes from the participants, the reader can gauge the trustworthiness of the study.

Chapter Summary

      This chapter explained the methodological approach of the present study. I provided justifications to help the reader understand the qualitative nature of the study. As such, I covered topics concerning the participants, and how I collected and analyzed the data. In this study, all 17 participants were recruited from a mid-size Midwestern University and were at least 18-year-old. By using a semi-interview approach, I engaged in a one-on-one, face-to-face conversation with each participant who shared their experience about receiving a memorable health message. After the interviews, I followed Braun and Clarke's (2006) six phases of inductive thematic analysis and Owen's (1984) interpretive analysis approach to develop themes based on each research question. In the next chapter, I report the findings of this study.

CHAPTER III: RESULTS

The purpose of current study was to examine the features of memorable health messages that college students pay most attention to. Also, it explored who or where college students consider the source of their memorable message as well as some health issues students deem salient in the recollection of their memorable messages. The study employed a semi-interview approach to examine students' perspective and experience memorable health messages. This chapter presents the major findings of the current study. Direct excerpts from the interview transcriptions are used as exemplars to illustrate major themes and subthemes. Because analysis was done based on each research question, multiple themes emerged based on explicit features of memorable health message, content of the memorable message, source(s) of memorable health messages, credibility of a source, and the perceived impact of a memorable health messages on a recipient. Therefore, the themes are presented below based on each research question.

RQ1: Features of Memorable Health Messages

The purpose of the first research question was to identify the features of a health message that college student paid most attention to. In other words, I was interested in the how the message was constructed and delivered which it makes it memorable. Three themes emerged per participants recollection of memorable health messages: direct and short features, instructional features, and oral features.

Simple and short features.

One of the major features that participants acknowledged was helpful for remembering a health message they received was the simplicity and brevity of the message. For participants who were interested in a direct message, messages that were long were considered boring, not useful,

and not memorable. For example, Kanaiya indicated that she could not remember the details of the recent health message she received because the message was boring. She stated that:

> I had a doctor's appointment a couple of weeks ago and they were talking a lot about diet and nutrition, but it was kind of a boring conversation. I don't remember all of it. But I know they were talking a lot about me being a very picky eater.

Nonetheless, when the participants were asked to describe the content of their short memorable message, they talked about physical health, improper sleeping pattern, and self-doubt. For instance, it had been five years since Max received his memorable health message about his physical health. Max connected his memorable message to his physical disabilities he had after a car accident. He recounted how he got involved with a car accident and how he received his memorable message:

> Five years ago, there was an old lady driving a van and I was on my motorbike. She hit me and I have received a TBI or traumatic brain injury. And this TBI has left me with some visual field loss. The messages I received was one word, SCAN! And so, in order to stop stubbing my left foot on everything, I have to scan. The message was scans, scan, scan. It was repeated to me a great many times when I was in rehab, and it stuck with me.

For Max, just a word from the entire message was memorable. He has connected the word, SCAN, to his disabilities which makes it easier to remember. Others who described their memorable messages also connected them to the brevity of the message. For example, Emily expressed that she receives at least three health messages a week, but a message she received about improper sleeping pattern stood out to her because it was short and sweet. She explained that she was not getting enough sleep, which was draining her. Thus, since she received that message, she has always been conscious about late night sleep. Emily stated:

A memorable message I received was definitely to get the amount of sleep that you are supposed to get to be properly healthy, which I think it's like eight to nine hours. It was short and sweet. It was very easy to do. And it's something I can do kind of right before bed and right when you wake up. And I think hearing the message when the person said that they also do it… that also kind of convinced me.

For Emily, all other health messages that are not short and simple, may not stick with her. In the same way, Kanaiya described that her memorable message was blunt and straight to the point. Kanaiya received her memorable message at the age of 13 when she was a freshman of high school. Back in high school, Kanaiya was experiencing mental health issues, but she said she feels a lot better now due to her memorable messages. She stated:

I think definitely being very blunt. Not like talking around the bush because it was clearer. It was only a couple sentences that she said, but it was super clear and to the point. So, I think that's part of why I remember it because she [her teacher] wasn't going on and on and on about something random. She [her teacher] was very, very clear. I still remember that because she was just like, very blunt about it and was like, hey, there are repercussions to your actions.

From Kanaiya's experience, if she had not received that message, it would have been difficult for her to graduate high school. She recounted that she disconnected with her colleagues at school because of her mental health and that she is happy she came across her memorable health message. Also, Braeden talked about the simplicity of his memorable message he received about the importance of proper sleep. For him, simple messages are easy to remember.

Simplicity was definitely a big factor like for the sleep message. I think it's good because

it's very short and you can keep it in your head, like remember it pretty easily. It's not

like a whole page of instructions or anything like that…so simplicity is big, I guess.

Unlike Max, Emily, Kanaiya and Braeden, Alicia's memorable message was not about a specific

health issue, but she still remembers the details because the message was short. Alicia

articulated:

It was brief because it's kind of a general idea. So, it's not saying, like specifically do this

to have this outcome. It's just saying like, have this mindset. And so, it's straight to the

point. It applies to multiple situations, I guess.

Even though Alicia does not have personal connection to the message, it has stuck with her

because of the brevity of the message.

Instructional features.

Some of the participants noted that they were interested in messages that came with

instructions. Thus, if a health message spells out rules or directives, it is easier to remember.

Mostly, the participants responded well to a step-by-step process on what do about their health

issues. One of such people is Jessica, an international student. Jessica's memorable message goes

back to 2020 when she first had an issue with her reproductive system. She narrated that her

culture makes it difficult for female patients to discuss reproductive topics with male doctors.

However, because she had a friendly encounter with the doctor, she still remembers the message

the doctor gave her:

The directives or instruction that he gave to me stuck with me. It informed me as to how

to carry myself so that I wouldn't catch what I caught. Because it was my first time

catching it and I didn't understand why I was experiencing it. I had never experienced

something like that. I was scared. I've never been to the hospital to talk to a doctor about

my vagina. I think what got stuck with me is…the directions as to how to go. And…I've

never had that. I don't think I'm going to have it anytime soon.

Sometime, societal expectations or cultural values may hinder people from receiving healthcare.

Nonetheless, people may shun cultural barriers when they perceive that the messages they

receive have the potential to positively impact their health. Likewise, Rosemary received her

memorable message when COVID-19 reached its peaked. Rosemary explained that when she

first came across the message, she paid the most attention to the rules and the steps listed in the

message:

I think it was rule structured. It was about washing your hands but sometimes like with an

example in terms of someone washing their hands, but maybe with like pictures of a tap

water. They will give you instruction like maybe first you do this. There are like bulletin

points to follow in washing your hands. They also added a poster with washing your

hands without any kind of further explanation.

Although some health messages may lack detailed information, rules, instructions, and

infographic features make them easy to remember, as pointed to by Rosemary. In a similar way,

Trevor shared that his memorable message came with instructions. Trevor traced his memorable

message back to freshman year of high school. He explained that because he was an honor

student, he did not have enough sleep due to academic workload. However, his memorable

health message helped him to develop a good sleep schedule.

I think it was definitely about rules and instructions…the whole reason it was being

brought up was because I was in a lot of honors and advanced placement classes in high

school. And so those classes were a lot more rigorous and had a lot more work involved.

37

And so a lot of the teachers and even like some of my fellow students would talk about

how important sleep was and how that could lead to doing better on tests and doing better

in the class…And so I think for me, it kind of stuck with me because it was kind of like

this is something you have to do if you want to do well in the class.

It is common for college students not to have enough sleep, especially those in advanced classes.

In such situations, memorable messages are always useful to turn to. For Jessica, Rosemary, and

Trevor, they pay most attention to health messages that come with rules or instructions.

Oral features.

The last feature the participants talked about was messages that were delivered orally.

Such memorable messages were given through either one-on-one, in person conversation or

through a video campaign. Some of the participants described paying more attention to the oral

delivery of their memorable message because they wanted to establish some sort of connection

with the source. For instance, Melanie explained that her memorable message is a Dove

campaign that talks about body and eating habits. She felt connected with the message in this

video campaign because the source – via the actress featured in the ad – talked about insecurities

she (the source) was experiencing, which Melanie identified with, as she faced similar

insecurities:

I consider oral delivery part… I felt super connected to what she was saying because I

think she started with some joke. She told about a story when she was like super insecure.

I rewatched this video because from the first glance, you're like it's just your

interest…and you are like, Oh, that's interesting. I want to rewatch it. And this is how, I

think campaigns can be valuable for health messages.

Unlike Melanie, Alondra received her memorable message through a face-to-face conversation with her coach. Alondra narrated that before she received her memorable message, she would compare herself to her peers in terms of sports and academics. However, her coach spoke to her about how such comparison could negatively impact her health:

> I just compared myself to everyone. In sports, I would compare myself to like the top runner because I ran cross country or like the top point scorer in basketball or like the top performer for soccer. Because those were like my three main sports and then like, academic wise, I like comparing myself, making sure my GPA was up in the top with everyone else in my class, and like making sure my grades were always A's and B's. when I got a C, I felt like a failure. And so, my coach watched me go through everything because I was with them all year. So, they always spoke to me and told me not compare myself to others.

Alondra may not have thought about the side effects of what she was doing until her coach spoke to her. She added that she does not compare herself to anyone anymore. She now plays sports for fun thanks to the memorable message her coach gave her. Across the data, these were the three features participant acknowledged that they can explicitly recall about the features or qualities of their memorable message.

RQ2: Health Issues in Memorable Health Messages

The second research question focused on detecting the types of health issues that college students report as pertinent in the health messages they receive. The participants talked about three major health issues: dietary practices or habits, mental health issues, and STDs/STIs. The three themes are presented below with support quotes from the interviews.

Dietary practice or habits.

The topmost health issue almost every participant talked about was bad eating habits among college students. Most of the participants expressed their concerns about the amount of fatty food they consume every day. Some of the participants blamed poor eating habits on food options at university dining services. For instance, Trevor described how he used to consume a lot of junk food at the university dining hall because options were limited to grill food.

> If we're talking about food, I definitely feel like I would gravitate towards the grill. So, eating chicken sandwiches and fries pretty much for every meal or like pizza for every meal…I do kind of feel sometimes the food at the dining hall just isn't what I want…Sometimes you can feel like it's the only healthy thing to eat. I feel that's not always the case. I guess maybe if guess you could say so.

Trevor stated that his dietary habits may improve if he had more options to choose from. However, he is stuck in a circle where he gets the same results every day. In a similar way, Max expressed that he used to weigh about 300 pounds back in high school because he consumed a lot of fast food. Max expressed that he consumed too much fast food because there are so many restaurants in his hometown. He reminisced:

> Back in high school, I was much fatter. I was over 300 pounds and not good…Living here in Dream City [original named of town withheld] is obviously one of the densest restaurant cities in America, like top 10 or so…The actual foods that you eat, and fast food are really incredibly unhealthy. That kind of stuff is not necessarily bad for you. It is specifically how they are made at McDonald's or Burger King or Panda Express that makes them so nasty for you.

Max stated his belief that fast food in general is not harmful but how they are made. This is not the case for other participants who expressed concerns about proper eating habits. Some of the participants narrated that they either overeat or undereat. Melanie, for instance, explained that she sometimes feels insecure when she presents herself publicly because she either overeat or undereate. She explained that she is so concerned about her looks that it sometimes affects her happiness in life:

> If we're talking about direct risk, I would say these are like eating habits. It's connected with your brain and with your mental state. And I found that I overeat sometimes or sometimes I'm undereat. And I felt really bad about that. It also reflected in the condition of my skin and at some point, I just you know when I present myself, I feel insecure. It means that I project these insecurities on other people. And I cannot fully enjoy my life because the only thing I think about is like, oh, do I look good?

Melanie may not have the looks she wants now, but the Dove campaign she received has helped her to appreciate self-acceptance.

Mental health issues.

Mental health was another salient issue that participants talked about. They explicated that most of the health messages they come across are about how one could balance their life, as such messages are often associated with academic work. Alondra, for instance, said that mental health is a big issue in college and that whenever she sees mental health messages, she feels that people care. When asked about which health issue she felt was most important, she replied:

> It would probably be mental health because I know like a lot of people like struggle with it in college. They struggle to find a way to like balance everything in life. It makes me feel good because I know that people are actually paying attention to how people feel,

and they are taking into consideration that their mental health isn't that good. So, sending

that out kind of gives everyone a boost.

Alondra did not acknowledge any personal mental health issues. However, she feels that the

health messages she receives about mental health are salient for others even if those messages

may not carry any personal value for her. In the same vein, Nora believes that mental health is a

big topic in college. She has come across such messages in classrooms, and her school has

resources to help people who may be facing mental health challenges. She uttered that:

> Mental health is a big topic that I see around campus. I see posters for it, I see flyers. I
>
> would say it's mentioned a lot in classes... and I kind of think that's because we have a
>
> lot of resources around ISU.

For Nora, mental health messages cannot be ignored as she sees them pretty much everywhere

on campus. This shows that the university recognizes people's mental health and has provided

resources for it. A few of the participants noted that they have had mental health issues before.

One of them is Kaniaya, who explained that she used to engage in risky behavior such as self-

harm and frequently becoming anxious. However, she got better when someone spoke to her:

> I just didn't really care very much. And so, I did a lot of things that hurt my mental
>
> health…constantly getting anxious just things like that. I ended up like doing things like
>
> self-harming and things that just were obviously risky behavior. Even like losing touch
>
> with friends…not caring about my grades. Now I'm definitely glad that she brought that
>
> to my attention because up until then, people were kind of very much baby talking it like
>
> it's okay. Like let's try this. Let's try that and at the time, I did not like it.

It is obvious from Kanaiya's experience that she did not like that fact that people could say to her

face to stop harming herself or help her get out of the situation.

Sexually transmitted diseases/infections (STDs/STIs).

The participants also reported STDs and STIs as salient health issues they see in most of the health messages they come across. However, only Trevor and Emily talked about this topic explicitly. Trevor explained that he hears a lot about how to engage in safe sex on campus and at his dorm. He added that his RA provides resources such as booklets for dorms members. He articulated:

> I definitely hear a lot about practicing safe sex and things like that. Especially like my RA at my dorm has like a spot on the floor where she has like different resources and pamphlets and stuff. The housing gives a lot of pamphlets and stuff about practicing safe sex and things like that.

Emily also added that she sees a lot of posters about STDs on campus. Emily expressed that she was motivated to go for an STD test because it is cost effective. She echoed that:

> I've recently seen more STD posters and STD testing, which I think is great because it's very convenient right at the health center and it's not too much money or salary. I genuinely think about them a lot. I intend to get STD testing or maybe even kind of look into the therapy sessions because they are kind of free and I think it's good to take advantage of them because they can really be expensive outside of college.

Even though other participants did see STIs/STDs as salient health issues in their memorable messages, Emily and Trevor believe that messages about STIs and STDs should be taken seriously, and that people should take advantage of the free resources available.

RQ3: Sources of Memorable Health Messages

For the third research question, I was interested in finding where the memorable messages come from. In other words, the construction and the delivery of a health message is

influenced by a sender, which may have a bearing on how students perceive or consider what message as memorable. Four types of sources emerged from the data: medical sources, familial sources, online sources, and academic sources. These themes are presented below with excerpts from the interviews.

Medical sources.

When asked to identify the sources of memorable health messages, about half of the participants talked about medical professionals such as neurologists, psychologists, dieticians, and even public health institutions. One participant who had received a lot of memorable messages from medical doctors and psychologists is Max. He was admitted into a rehabilitation following his involvement in a car accident. He recounted that during his time in rehabilitation, he met a lot of medical providers who helped him recover his vision:

> My vision before the wreck was between 20 and 25. I had well above average vision. But then when I first woke up in rehab, my vision was down to 20-140. Nearly legally blind. So, I went through a lot of effort to try to get back and still was not as good as it was…But I met various medical doctors, neurologists, psychologists, even as I mentioned before, a neuro ophthalmologist…who deals with vision as it relates to the brain…They offered me a number of memorable health messages.

Max expressed that he failed on his own to regain his vision. Waking up in rehabilitation may have been difficult for him, but he appreciated the comfort and the memorable messages he received from his medical providers. Likewise, Alicia received most of her health messages from her dietician. She likened her dietician to a social media influencer by explaining that influencers just create awareness. To her, influencers do not give factual information. She explained that:

Most of them [memorable messages] have come from dieticians…I tried to find those

people versus certain sources, as I said, that are just influencers, and they may say that

they have a personal training background, but they really aren't communicating factual

information. And like with those people, I can kind of tell holes in what they're saying

where it doesn't align with the people that actually have an education like a PhD in the

nutrition or exercise and everything like that.

Alicia seems to be very specific about who she wants to receive health messages from. In other

words, she does not accept messages that come from people outside the medical field. Equally,

Rosemary subscribes to health messages that come from public health institutions. She stated "It

was from the health service. It is the mother organization comprising of most of all the health

workers, like doctors who have had experience. They've been educated to get the exposure as to

how to help patients." Rosemary seems to be on a similar path as Alicia. Both looks at specifics.

Unlike Max, his source might have been a different person if he had not been involved in a car

accident.

Familial sources.

Other participants cited their parents (either both mom and dad, or only mom) as the main

sources of their memorable health messages. For instance, Alondra explained that her parents are

the main people she communicates with most often about her health. For Alondra, it is easy to

text her parents about anything.

I personally receive a lot [memorable messages] from my mom and my dad…those are

kind of the top people I stay touch with the most. When I'm struggling with school or

something, or just being away from home since I am at college, I can just text them or

call them and talk to them about what I'm going through, and they will help me out.

Even though there are health providers on campus, Alondra turns to her parents, who live far from her, for support. In the same way, Kanaiya's first point of contact for medical help is her mother. She stressed that she trust her mom because her mom knows all her medical history.

> My mom is very, very knowledgeable. My mom obviously knows all my medical history. She was there when I had a stroke when I was little. She was there through middle school through to high school, paying for things, getting me into different programs. So honestly, the first person I go to when I have a health concern is my mom. And then she will direct me where to go. She's definitely someone I really trust.

The mother-daughter bond seems to be very strong between Kanaiya and her mother, in part due to their long-shared history. Because of this, Kanaiya always chooses her mother in terms of her health. For Alondra, because of easy communication, she always goes to her parents than any other source.

Online sources.

Some participants credited the source of their memorable health messages to online spaces. Such participants talked about using the internet and subscribing to social media content. Melanie, for example, streams on the internet, and this is where she received her memorable messages. She disclosed that:

> I would say most frequent source is just the internet. I cannot distinguish just one channel. But I spend most of my time on the internet. So, this is why on the internet, I see more health messages. The internet is like physical space. If I go to specific place, like the medical center or like a vaccination point, these are all physical spaces as well.

Melanie views the internet as a physical space rather than a virtual community. She equates the online space with actual physical medical centers. By so doing, she feels the internet is a good

source for memorable health messages. Likewise, Jessica has subscribed to social media content to receive personalized feeds. According to her:

> I engage with social media content until I have a need to go to the hospital where this kind of credible people are. I don't talk to anybody. So, all those people they engage in physical settings are credible and they are few. It doesn't happen as often as the content I consume on social media…. on social media, it's more like someone teaching how to detox or how to treat a menstrual cramp or something.

Even though Jessica believes there are credible sources at the hospital to give good health advice, she feel comfortable with social media content. With social media, she does not have to share any information about her health with anyone. This makes a lot of sense because Jessica had earlier explained in the interview that her cultural expectations make it difficult for her to discuss health issues with doctors, especially of a different sex. Nonetheless, both Melanie and Jessica see online space as an important place for memorable health messages.

Academic sources.

Academic sources that participants named were either a teacher or the university. For example, Trevor said that he received a health message about dietary habits from his high school teacher and his teaching assistant. He explained that:

> I kind of credited two sources. So, one of them was a teacher that I had in the Honors Program that talked about it because I guess like our whole class was kind of talking about how sick they're becoming of dining hall foods. And the teacher and the teaching assistant both were talking about other healthier alternatives.

Even though Trevor is now in college, he still remembers the message he received from his high

school teachers during his freshman year. Similarly, Nora also shared that she received most of

her memorable health messages about Covid-19 from her university.

> I really think and as a student who was going into my freshman year, still with Covid
>
> being at a peak, I think the school at the time was mainly the sender of my health
>
> information. That's because I didn't want to get held back on anything.

One would expect that Nora's source of memorable message would have been her parents or

CDC, or online, given the fact that classes were moved online due to Covid-19 lockdown.

However, she looked up to her school for health information.

RQ4: Credibility of Message Sources

Research question four asked participants to describe the credibility of the source of their

memorable messages. Here, I explored students' perception or how they determined who a

credible source is. I was specifically interested in their justification for choosing a particular

source over the other. The data suggest that credibility of a source was assessed based on four

themes: authoritative experience, educational qualifications, factual information, and social

values. I provide more details about these themes below.

Authoritative experience.

Most of the participants assessed or determined the credibility of a source based on

sources' experience. These were not any ordinary people but those who hold authority, position,

or a title in the society or in a family. While some cited their teachers as credible, others

mentioned their parents. Specifically, Emily and Trevor disclosed that their teachers were

credible sources. Emily stressed that her Spanish professor sends the class memorable messages

about the importance of getting enough sleep. Because the professor told the class it works for her, Emily believes her. When asked why she perceived her professor as credible, Emily stated:

> I personally do only because she [her Spanish professor] has a lot of energy in the morning. She's always very full of life…She says it works for her and she always comes in with a very open-up face…So, I feel that kind of made her more credible to me. I see her every day and I kind of feel that is possible. I also feel like you can look it up and see that it has worked for other people or like it's a good message that's been spread throughout.

Here, Emily looks not only at the fact that her professor was the who sent the message, but also at the physical health of her professor to confirm if what her professor said is true. Likewise, Trevor added that he considered his teachers as his mentors more so than just his high school teachers. He emphasized that his teachers have experience and that makes them credible. He said the source of his credible message was:

> My teacher and that teaching assistant. I saw both of them as mentors as they got adjusted to college in general. And not just like in a specific class or specific discipline, but just like becoming a college student and kind of learning how to navigate and maneuver it. And so, I definitely see saw them as two credible sources because they both had that experience and had information about college that I didn't have yet.

Both Emily and Trevor recognized the authoritative figure of their teachers and see them as credible sources because they (the teachers) have enough experience about the message they are putting across. Equally, Alondra based her justification on her parents' experience. She sees her parents as credible because they have enough experience than her. She voiced that:

49

They've (Alondra's parents) actually have gone through their own stuff. So, I think with

that, they always know what to say and they want the best for me. So, they're always

pushing me to do my best and never fall off the track because they want me to go and

succeed and do what I want to do when I'm older.

From Alondra's perspective, she parents have enough life experience and can give the best

advice to their children. This makes her to see her parents as credible people when it comes to

her health.

Educational qualifications.

Other participants judged the credibility of a sources based on their degree or the level of

education that they had acquired. For example, Kanaiya cited her mother as her credible source.

Kanaiya went beyond the mother-daughter relationship and disclosed that her mom has a

master's degree in Neuroscience and a Ph.D. in Speech Pathology:

Besides from just being my parent, she also has a master's degree in Neuroscience as well

as a PhD in Speech Pathology. So, I think she's credible in both ways because she kind of

has that background science knowledge to mom knowledge…my mom helped find very

specified people that just know a lot about my specific situation.

With all these qualifications, it is hard to argue that Kanaiya's mom is not a credible person.

Kanaiya has no trust issues because her source is already in the science field, and she believes

her source knows best regarding health-related messages. Another participant to discuss

qualifications of a source was Jessica. She stressed that she is careful and only looks out for

certified people, even at the hospital:

I'm very selective when it comes to the people that give those kinds of information

[health messages]. I don't go to them or engage with them like the way I engage with

social media content. I don't speak to anybody on the road or a random person who says

he's a doctor or something…My optometrist is credible, certified! If I go to the hospital

for a checkup or something, it has to be the certified doctor.

Jessica appears to know exactly who she must contact for memorable health messages. Unlike

Kanaiya, Jessica does not have a familial relationship with her sources, so she must be careful

about the kind of health messages she encounters.

Factual information.

Some participants revealed that they assessed the credibility of their source based on

research findings. In other words, they cross-checked the health message with multiple online

sources. Melanie and Alicia share this same principle. For Alicia, sources who back their

information with empirical facts are deemed as credible.

When people are talking about a certain subject and then they bring in data, or if it's

talking about the human body and then they bring in how the human body reacts to

certain type exercise, it makes it credible…some people even cite actual research or what

they're saying, versus some people just kind of speak and aren't necessarily backing it up

with anything. I tried to make sure that the people are backing up what they're saying.

Also, Melanie engages in the same process. She verifies online information by researching on the

topic:

When I see health message on the internet, I don't perceive it as one credible source. If

I'm interested in the topic, I go and do my research by myself. And if my research proves

that there are different sources confirming this claim, then I can believe it.

Alicia and Melanie applied their information literacy skills to determine which source is credible.

This makes them more aware of what information they consume.

Social values.

For some participants, the consistency between the values of the source and the message were essential factors for determining credibility. In other words, if the health message contradicts the values of the source, they may be seen as not credible. Melanie raised this topic, centering her conversation around influencers who work for the government.

> For me, sometimes it can be cringey even for these influencers paid by government. And if this campaign does not align with their values, it just doesn't click well. But when I like the influencer, artist, singer, musician, or whatever, and I see this continuity between their values and their message and the company they're working with and the campaign they're creating, I think this is the most efficient way to deliver health messages.

Even though Melanie wants to consume credible health messages, her biases influence how she determines the credibility of a source. In other words, if she does not like an influencer, she may not see them as credible, even if they send out reliable information. Per the participants' experience with the sources of their memorable health message, these were they four topics they discussed concerning sources' credibility.

RQ5: Perception of Change in Health Behavior

The fifth and final research question focused on identifying change in behavior after receiving a memorable health message. Here, I explored students' perception of how their memorable messages have helped them to adopt a positive health behavior. Per the participants' reported experiences, the following themes were evident: improved self-awareness and mental health, practicing healthy dietary habits, and better doctor-patient communication.

Improved self-awareness and mental health.

Participants expressed that they are more aware about their health than they were prior to receiving the memorable health message. They acknowledged that before encountering their memorable message, they did stuff that were risky or unhealthy. For instance, Alondra used to engage in an "unhealthy" competition with her colleagues about literally everything. She felt that her memorable message has made her more aware of her personal strengths. She now participates in sports for fun and focuses on her academic strengths. This is something she did not do before. She noted that:

> After receiving that [memorable message], I started, like academic-wise, not to compare myself when people in high school wanted to know if you were top of the class or compare your GPA to see where you fell. So, I just wouldn't share my information with them… And then, sports-wise, I was like whatever I do in a game or in a race, that's what I can bring. On campus, I participated in intramural volleyball. So, when I went to that, I was like this is for fun. It's not like a big competition…So, I didn't push myself to want to beat the best or even be the best. I could just like relax and have fun with everyone.

Alondra's memorable message pointed out that she was so focused on always wanting to be the best in everything. It may have put a lot of stress on her. She now appreciates her qualities without comparing herself to anybody. Also, Kanaiya disclosed that her memorable message gave her a different outlook about her health. She is now more conscious about her future goals. She expressed that adopting a positive behavior was difficult at first, but her memorable message always helps her get through tough times. She articulated that:

> Getting up the courage to go back into regular high school and working hard to stay in a public high school and not going back into any alternative or therapeutic schools was

definitely a positive step. It definitely made me change the way I kind of viewed things. It made me look a little bit more at my long-term goals, instead of just trying to get through the day type thing. Obviously, it wasn't that simple. It didn't just fix everything overnight. But again, it's something that I still remember and still go back to. So, even though there's been rough patches in between that message, and today, it's still something that I can go back to.

Kanaiya revealed in the interview that she used to harm herself, did not care about her mental health, and lost touch with people. However, she believes that her memorable message helped her to change from these risky behaviors. Likewise, Alicia is more aware and intuitive about her behavior after receiving her memorable messages. She added that the message helped her to take a pause to assess her health in terms of destressing and staying in touch with people:

I feel like it [memorable message] allowed me to take a breather with how I perceive my health, to where it's not always going to be perfect. And it's just allowed me to guide what I do with a mindful mindset where I am intuitively thinking about what I'm doing, rather than just following something specific. Just keeping different things in mind to be able to make the right decision where it benefits my health and allows me to…destress and making connections with people.

Like Alondra and Kanaiya, Alicia is also aware about her health and is more interested in alternative ways she could improve. It is obviously not easy for these participants as they go through changes to improve their health. However, receiving their memorable messages has open their minds and increased their awareness about how they can make the right decisions.

Practicing healthy dietary habits.

Other participants explained that their memorable health messages have impacted their eating habits in a positive way. These were participants who revealed that they used to consume junk, or fatty foods. For example, Trevor noted that he used to consume fried chicken, sandwiches, fries, and pizza for every meal, which he considered as unhealthy. However, he believes that his memorable message influenced him to adopt healthier eating options. He added that he has been practicing balanced diet because he chooses different meals for lunch and dinner.

> I think balancing my diet was the biggest thing. And I think that leads into having energy as well. I think it's very easy to…form an unhealthy relationship with junk food all the time or eating food that isn't the most nutritious for you. But… being aware of the different options available and the different health benefits that they all have, helps me balance it a lot more to where I can say okay, for lunch, I'll have something from Station Eight and for dinner, I can have a slice of pizza. I can kind of balance it more to where it's something that's realistic.

For Trevor, it is unrealistic to avoid any type of junk food. However, the most important thing for him is to eat a balanced diet. Thus, he thinks his memorable message has helped him to develop a healthy meal menu, which is something he did not think about before. Similarly, Max has stopped eating junk food. He added that even though his favorite restaurant makes the best fast food, eating a home-cooked meal is tastier and healthier. He noted:

> I started cooking everything at home and basically quit eating takeout because it's tastier at home, and a lot healthier. I specifically used to eat at [restaurant]. That was one of my favorites back in the day…I would imagine the reason the [restaurant]is so much higher

in calories is because they're using really very cheap ingredients because they have to add a lot of fillers and sweeteners to make things palatable…. but I learned there was a recipe to make at home and it was a lot better.

Max had indicated earlier in the interview that he used to weigh about 300 pounds. His weight was probably connected to him eating a lot of fast food from his favorite restaurant. Although some fast foods were or are tasty, he stated that home meals are a much better choice. He revealed this when I asked him about how he thinks his memorable message has impacted him to adopt a positive health behavior.

Better doctor-patient communication.

Other participants acknowledged that the misconception they held about male doctor-female patient communication has changed. In other words, some of the participants felt that it was inappropriate for female patients to discuss their reproductive health issues with doctors of the opposite sex. Specifically, Jessica was the only participant who felt that her memorable message has changed her perspective about discussing certain topics with male doctors. She revealed in the interview that her culture makes it difficult for female patients to talk to male doctors. Nonetheless, she now feels safe to speak with male doctors.

I had a lot of misconceptions about opening up to people or even a doctor of the opposite sex about such issues. I've never had to first of all go to the hospital to talk to a doctor about my vagina…I had that experience and now I feel comfortable enough to talk to someone about it.

Overcoming cultural expectations was in no way easy for Jessica. However, it was a necessary step she had to take because she knew benefits.

Chapter Summary

In this chapter, I have presented the finding of the present study. Findings were based on five research questions. For the first research question, participants reported that they paid key attention to simple and short features, instructional features, and oral features when they first received their memorable health messages. They explained that these features made the message memorable. In relation to the second question, the participants expressed that dietary habits, mental health, and STIs/STDs are the most important health issues in the recollection of their memorable message. In addition, data based on the third research question suggested that participants received memorable health messages from sources such as medical professionals, family members, online, and teachers. Per the findings of the fourth question, the participants explained that they determined the credibility of the sources of their memorable message based on the experience of the source, educational qualifications of the source, factual information, and social values. In the final question, the participants described how their memorable health messages have impacted them to adopt a positive behavior. They explained that their memorable messages have improved their self-awareness and mental health. They also expressed that their memorable messages have impacted them to adopt healthy dietary habits and that their communication with doctors of different sex has improved. In the next chapter, I discuss these findings, laying them side by side to see how they support or contradict previous studies.

CHAPTER IV: DISCUSSION

Memorable messages have been explored in diverse contexts. Previous studies examined topics such as memorable messages and self-assessment of health behavior, and mental health memorable messages from parents to college students Yet, we know little about how memorable health messages influence college students to adopt a positive health behavior. For this reason, it was imperative to investigative college students' recollection of memorable health messages and their perception of how the messages have influenced them in positive ways. Using a qualitative approach, semi-interviews, gave me the opportunity to have an in-depth conversation with the participants to explore the features of memorable messages in terms of construction and delivery, the sources of the messages and factors that affect the source's credibility. I also examined health issues that students consider as salient in their memorable health messages. A lot of themes emerged regarding college students' recollection of memorable health messages. Thus, I begin this section by discussing the findings based on each research question. After this, I address some limitations as well as discuss implications universities and theory development.

Summary of Findings

The purpose of the first research question was the explore the characteristics of college students' memorable health messages in terms of how they were constructed and delivered. In other words, students pay much attention to specific features of health messages which help them to remember the messages for a long time. Per the participants reports, three features made their health messages memorable. First, most of the participants revealed that they pay most attention to messages that are simple and short. In other words, simplicity and brevity are key features for remembering a particular messages. This means that health messages that were long were considered boring and not helpful. Second, the participants explained that for a health message to

be recalled, it should contain instructions and rules as well as visual representation. Instructional messages are those that explains step-by-step guides that one must follow to achieve a desired result. Some of the participants stressed that they vividly remember the content of their memorable health messages they received as far back as freshman year in high school because of the instructions. The final feature participants talked about was oral messages. This means other participants consider the oral delivery of the message more important than the instructions or how simple and short the message may be. Oral delivery often happened through a one-on-one conversation or through a video health campaign.

All of these features are consistent with previous studies. Specifically, Stohl (1986), whose research on memorable messages serves as a foundation for later studies, argues that the structure of memorable messages is guided by oral transmission, short and simple sentences, and are rule-structured. Equally, participants of the current study will consider rule-structured messages as instructional messages. In the same vein, Wansink and Robbins (2016) found that the major criterion for a memorable message is its brevity. Stohl (1986) maintains that all these features improve the process of memory storage and retrieval. In terms of using visual elements, Garcia-Retamero and Cokely (2015) posit that health messages presented in a picture format do not prompt any behavior change. However, other participants of the study indicated that pictures in health messages make the message easy to recollect. This conflicting observation may be due to the interests of participants in the present and previous studies.

For the second research question, I was interested in the health issues that college students deemed as relevant in the recollection of their memorable health messages. Three health issues surfaced to be the most significant in students' health messages. On top of the list was bad dietary habits. The participants acknowledged that this is a major health issue in college. Some

of the participants explained their options at the university dining is limited to fatty food. Other

participants also indicated that their decision to consume too much fast food was as a result of

the many restaurants in their hometown. The second health issue the participant talked about was

mental health. They expressed that mental health needs equal attention as dietary habits. Those

who raised concerns about mental health expressed that it is a big topic that cannot be ignored,

and that their university has resources for those who might need it. The third health issue was

about STDs/STIs. Only a few of the participants acknowledged that they see or receive

memorable health messages about STIs. Even so, such participants believe that STIs are big deal

in college and as such, students must pay attention to them.

All of these health concerns have been explored in earlier studies. For instance, the

National Council on Disability (2017) reported that 86% of college students who died by suicide

in 2014 did not seek counseling for their mental disorder, and 61% of students diagnosed with

mental disorders in 2016 did not get any treatment. Also, both Hebert et al. (2020) and Henry et

al. (2018) agree that common health issues in college include unhealthy sexual practices,

nutrition problems, stress, and mental health. However, Henry et al. (2018) emphasize that

mental health issues, such as anxiety and stress, are more likely to interfere with students' health.

For this reason, mental health cases in colleges have increased (Byrd & McKinney, 2012),

putting students, faculty, and staff at heightened risk (Kitzrow, 2003). To ameliorate this

problem, Flood-Grady et al. (2021) maintain that young adults must acquire the requisite skills

through parent-child communication for managing mental illness. Consequently, if college

students receive familial messages that endorse mental health care, they will develop a more

positive behavior toward seeking psychological help (Greenwell, 2018). Moreover, Ruthig et al.

(2011) found that college men suffer from stress and poor diet but are unlikely to report these

issues due to societal expectations. Surprisingly, most of the participants who talked about dietary habits were males. Contrary to Ruthig et al. (2011), the men in this study openly discussed how poor diet is affecting their health. Nonetheless, mental health became the second most talked about health issues in this study. In terms of STIs, Kauffman et el. (2013) found that college students most often report receiving memorable messages about practicing safe sex. However, some college students may view messages they receive about sexual activities as harmful to their opinions and self-concept, especially when the messages are faulty or wrong (Rubinsky & Cooke-Jackson, 2017). Overall, eating habits, mental health and STDs/STIs remain serious issues in college, thus highlighting the need for more awareness.

For the third research question, I examined who or what college students consider as the source of their memorable health messages. The participants disclosed four types of sources: medical sources, familial sources, online sources, and academic sources. Participants cited medical professionals such as neurologists, psychologists, and dieticians as the sources of their memorable health messages. For example, one participant who was involved in a car accident explained that he received a lot of memorable messages from his medical doctor, neurologist, and psychologist. Others explained that their memorable message came from a government health institution. For familial sources, the participants indicated that they received a memorable message from only their mother or from two/both parents. A participant expressed that she it is easier to communicate with her parents than other sources. Those who cited online sources found their memorable health messages on the internet through social media and video health campaigns. Finally, few participants cited their teachers and their university as their source of memorable messages.

Prior studies found that college students' memorable messages come from parents, especially mothers, and teachers (Ellis & Smith, 2004). The authors highlight that the primary source of college students' memorable messages are mothers. Likewise, Greenwell (2018) opines that mothers are the most frequent source of memorable messages about mental health. Nonetheless, only one participant in this study confirmed that their mother is the primary source of their memorable messages. Even so, studies like Crook and Dailey (2016) and Smith et al. (2009) assert that college students often receive memorable messages from family, medical practitioners, and instructors. However, Miczo et al. (2013) explored college students' memorable messages about H1NI prevention and noticed that the most common source of memorable messages was the university through emails, posters, and flyers. Although not directly connected to memorable messages, Popham et al. (1993) argue that health campaigns are effective in eliciting positive health behavior. Equally, one of the participants in this study said that their memorable message was a Dove campaign they found online. All the participants felt some personal connection with their sources which contributed to them committing the message into a long-term memory. Thus, to make health messages memorable, they should be "interpersonalized" by associating them to respected and loved ones such parents, teachers, and doctors (Miczo et al., 2013).

The credibility of a source might impact how college students apply their memorable messages, thus prompting my fourth research question. With question four, I was able to examine the factors that students use to determine the credibility of the source. Per the participants encounter with memorable messages, four themes emerged: credibility based on authoritative experience, credibility based on educational qualifications, credibility based on factual information, and credibility based on the social values of the source. In terms of

authoritative experience, the participants were interested in the experience the source has about their health issues. Thus, the participants connected this type of credibility to people who hold a position in the society or a family, often citing the experience of teachers and parents. Those who talked about qualifications made it clear that an academic degree or level of education was an important factor to determine if a source was credible. In other words, the higher the level of education, the more credible one becomes. In addition, other participants assessed the credibility of their source based on the details of the message. Such participants were interested in facts, and if they are not convinced by the messages, they did their own research to verify it. Lastly, the participants explained that for a source to be considered credible, their values must be consistent with the health message they put across. This type of credibility was linked to influencers who work for the government.

Little attention has been made to explore the factors that influence college students' perception of the credibility of sources of memorable health messages. Nonetheless, few studies have found that sources are often in higher status, older and wiser than the recipients (Knapp et al., 1981; Stohl, 1986; Hall et al., 2016). In this study, some participants determined the credibility of a source based on status and experience. In the same vein, Miczo et al. (2013) argue that message sources have higher social status than messages receivers. Additionally, memorable messages must reflect social values that are favorable to the conservation of a social system (Stohl, 1986). Put differently, the content of memorable messages should emphasize appropriate behavior for people to succeed (Holladay, 2002). These assertions are in line with the participants' argument that the values of a source must be consistent with their messages. Again, Stohl (1986) stresses that the content of memorable messages should be consistent with other information provided through official channels. Equally, participants of the present study

indicated that they determine the credibility of a source by doing their own research to confirm the facts in health messages. All these four types of credibility are equally important. The only difference is that they impact students in various health context such as eating habits, mental health, and STDs/STIs.

Finally, the fifth research question looked at ways students think their memorable messages have impacted them to adopt a positive change. I examined their perception of change through the lens of TTM. That is, I was interested in specific behaviors they adopted as well as the processes and stages they went through after receiving their memorable health messages. The participants disclosed that after receiving their memorable message, their self-awareness has improved, they started practicing healthy dietary habits, and they developed a better communication with their doctors. Some of the participants who talked about self-awareness disclosed that they used to engage in unhealthy competition with their colleagues in terms of tests, examinations, and sports. However, after encountering their memorable messages, they became more aware the of harm involved and eventually stopped. Those who discussed practicing healthy dietary habits were participants who indicated that they used to consume a lot of fast food or their options at the university dining were limited to fatty food. One of the participants said they started cooking their own meal because it is healthier than takeout meals. In addition, one of the female participants said that their communication with male doctors has improved after receiving their memorable health message. She explained that her cultural background makes it difficult for female patients to discuss reproductive health issues with male doctors. However, she now feels comfortable to discuss such issues with male doctors.

These observations concur with the tenets of TTM. Prochaska and Velicer (1997) discuss six stages that individuals go through to change a negative behavior: precontemplation stage,

contemplation stage, preparation stage, action stage, maintenance stage, and termination stage. All the participants in this study explained adopting a positive behavior following their memorable health messages. This puts the participants in the maintenance stage where they have adopted overt and specific changes in their lives (Glanz et al., 2008; Prochaska & Velicer, 1997). For instance, some of the participants adopted healthy dietary habits by eating home-cooked meals instead of takeout. Others have developed a meal menu which helps them to vary their food whenever they visit the university dining. At the contemplation stage, the participants expressed that their memorable health messages educated and motivated them to change, thereby transitioning them into the action stage where they made adjustment to their lifestyle. However, participants are yet to reach the termination stage, as none of them pointed to having 100% self-efficacy and little or no temptation to return to their old behavior. It may take them a while to reach the final stage because behavioral change evolves with time (Prochaska & Velicer, 1997).

In addition, four of the ten processes of change in TTM seem to be applicable in this study. An explanation for this may be due to the specific positive behaviors that the participants adopted. In other words, to adopt a positive behavior, it may not be necessary to go through all the ten processes. The participants' discussion centered around the processes of consciousness raising, dramatic relief, self-liberation, and helping relationships. Consciousness raising is when an individual becomes aware of the repercussions of their health problem (Prochaska & Velicer, 1997). Some of the participants in this study explained that they had become more aware of the choices they make concerning their health behavior, which has improved their mental health. In the same vein, other participants stated that they received their memorable message through an influencer in a video campaign. Prochaska and Velicer (1997) postulate that the process of dramatic relief uses role play, personal testimonies, psychodrama, and media campaigns as

65

techniques to motivate people to embrace change. By focusing on the influencer in the campaign, some participants adopted a positive health behavior through the process of dramatic relief.

Moreover, some of participants adopted positive health behaviors through the process of self-liberation – when an individual believes and has the willpower to change and thus commits to the change. A female participant stated that their culture hindered them from disclosing their health issues to doctors of the opposite sex. Nonetheless, her communication with doctors of the opposite sex improved after receiving their memorable health message. The participant emphasized that they now feel confident to talk about their health with male doctors. This particular participant liberated herself from the status quo that threatened her engagement with medical professionals. The final process of change the participants talked about was helping relationships. Through this process, people receive social support from parents, friend, counselors among others (Prochaska & Velicer, 1997). Some of the participants articulated that they received a lot of support and motivation from their parents and teachers. Participants who identified their parents and teachers as their sources of memorable health message emphasized that their parents and teachers were available to guide them (participants) to a healthy behavior change.

Notwithstanding all the observations made in this study regarding how memorable health messages bring about positive change, there is lack of extensive literature on the impact of memorable messages on college students. Most past studies focused on the content or sources of the messages, with no attention to students' perception of the messages' influence on their health behavior. The closest observation is that of Kerr et al. (2019), who argue that the memorable messages that young adults receive can strengthen relational closeness to bring about changes in perspective. This is congruent with the observation of this study. Although it might not be a

strong argument, only one participant acknowledged that their relationship with male doctors has improved. These findings are very important because they serve as the foundation for future studies. Healthy diet is a big deal in college, yet past studies only talk about it being a problem, without looking at what students are doing to change the problem.

Limitations and Recommendation for Future Studies

There are apparent weaknesses in this study that could not be ignored. First, this study limited itself to college students from a single university. Other populations such as chronic disease survivors who are not college students may be an excellent fit for future studies as such populations may have encountered memorable health messages. Also, for future studies, researchers could collect data across multiple university if they want to study college students, or even better across the nation.

In addition, most of the participants were females and undergraduate students. This was influenced by the sampling method. I still believe convenience sampling was the best method for this study. However, future studies may consider balancing the gender and probably the educational level of the participants, as these may affect their perception of memorable health messages.

Finally, two observations from this study need more exploration. First, little has been done about how students perceive the influence of memorable message on their health. Past studies examined either the content or the sources of the messages. Thus, future studies should look deeply into how memorable messages influence students or other populations to adopt a positive health behavior. The second thing is that diet and mental health are still major health issues in college. For this reason, future research should study how health messages could be employed to stress these problems and their solutions.

Theoretical Implications

Despite these limitations, the findings from this study have useful implications for theory development. First, the final and sixth stage of change in TTM is termination, where individuals have 100% self-efficacy and zero temptation to go back to their old negative health habits. Prochaska and Velicer (1997) did a great job to explain this concept, but they did not discuss how an individual could reach this final stage. The participants in this study went through the first five stages of change, demonstrating significant positive changes after receiving their memorable health messages. This observation raises questions about the relevance of stage six. Prochaska and Velicer (1997) postulate that the maintenance stage could last from 6 months to five years. This time frame is enough to reach 100% self-efficacy and zero temptation to relapse. If termination is a relevant stage to conclude a behavioral change, then we must know how and when an individual could reach there.

In addition, TTM does not discuss external factors that may motivate or curtail an individual to move from one stage to another. The authors only point out to self-efficacy and decisional balance (perceived risks and benefits of changing a health behavior) as the mediating factors of change, without explaining how an individual could achieve self-efficacy. For example, an external factor such as the credibility of a source of a memorable message may prevent an individual from progressing through the stages. In a situation where the source is not perceived as credible, such perception can affect all the stages because the recipient may not be motivated to initiate the change stages. We could also look at external factors from the perspective of the health issue that an individual needs a change from. In other words, if an individual becomes aware of the pros and cons of change, but does not consider the health issue as salient or threatening, do that individual still initiate the stages of change? In other words, the

severity of a health issue can serve as a motivation for change. Participants in this study explained considered their unhealthy behavior as risky, which motivated them to change after receiving their memorable health messages. There may be a lot of external factors, other than self-efficacy, that influence an individual to start the change stages.

Finally, Prochaska and Velicer (1997) do not make it clear if the ten processes of change are interconnected with each other and must be followed chronologically. In their preliminary study to test TTM, participants stated that they used different processes at different times (Prochaska & Velicer, 1997). This means that an individual can skip a process. Likewise, participants in this study did not follow the processes of change in a chronological order. The term process in TTM suggests that change must be achieved in a chronological manner. I propose ways of change instead of a process, indicating that change is not necessarily sequential.

Practical Implications for Colleges and Universities

The present study also has useful implications for universities. First, a major health issue the participants talked about was diet. Obviously, some universities do not provide healthy meals for their students. University management should not consider this as a trivial problem but must start to include more meal options for their students.

Second, this study revealed that the primary sources of students' memorable health messages are medical professionals. Thus, health providers at university health centers should bear in mind that students look up to them optimum healthcare. For this reason, health providers must personalize health messages, with minimal focus on general messages such as emails and digital screens, to attract students' attention. Also, university health centers should bear in mind that health messages are more likely to be remembered if they are simple and short.

People's cultural background may hinder them from discussing important health issues with their doctors. Thus, university health centers must recognize this and provide the opportunity for patients to choose, only if they want to, doctors of the same and/or of same racial background. This will remove cultural barriers or differences that curtail healthcare.

Conclusion

The purpose of this study was to explore college students' memorable health messages, specifically looking at the features of the messages in terms of construction and delivery, the sources, and how the messages have impacted students' health behavior. The study revealed that memorable health messages often tend to be simple, short, instructional, and orally delivered. These features lead students to adopt positive behaviors regarding health issues such as diet, mental health and STIs. The study also noted some pressing concerns for universities regarding students' healthcare. Although this study faced some weaknesses, it has made a significant contribution to the memorable message literature. Nonetheless, similar future studies are encouraged, especially examining how memorable messages impact young adults.

REFERENCES

Armitage, C. J. (2009). Effectiveness of experimenter-provided and self-generated
implementation intentions to reduce alcohol consumption in a sample of the general
population: A randomized exploratory trial. *Health Psychology*, *28*(5), 545–553.
https://doi.org/10.1037/a0015984.

Barros Campbell, R. P. (2018). The relationship between memorable messages and identity
construction. (Publication No. 11180) [Master's Thesis, University of
Montana*]. Graduate Student Theses, Dissertations, & Professional
Papers*. https://scholarworks.umt.edu/etd/11180.

Bigalke, B. D. (2019). Memorable messages received during freshman year of college. [Doctoral
dissertation, University of Georgia]. ProQuest Dissertations and Theses Global.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in
Psychology*, *3*(2): 77-101. https://doi.org/10.1191/1478088706qp063oa.

Byrd, D. R., & McKinney, K. J. (2012). Individual, interpersonal, and institutional level factors
associated with the mental health of college students. *Journal of American College
Health*, *60*(3), 185–193. https://doi.org/10.1080/07448481.2011.584334.

Carver, C. S., & Scheier, M. F. (1982). Control theory: A useful conceptual framework for
personality–social, clinical, and health psychology. *Psychological Bulletin*, *92*(1), 111–
135. https://doi.org/10.1037/0033-2909.92.1.111.

Conquergood, D. (1991). Rethinking ethnography: Towards a critical cultural politics.
Communication Monographs, *58*(2), 179–194.
https://doi.org/10.1080/03637759109376222.

Cooke-Jackson, A., Orbe, M. P., Johnson, A. L. & Kauffman, L. (2015). Abstinence memorable

    message narratives: A new exploratory research study into young adult sexual narratives.

    Health Communication, *30*(12), 1201-1212.

    https://doi.org/10.1080/10410236.2014.924045.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and

    evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21.

    https://doi.org/10.1007/bf00988593.

Crook, B., & Dailey, R. M. (2016). Memorable messages about the misuse of prescription

    stimulants. *Health Communication*, *32*(8), 921-930.

    https://doi.org/10.1080/10410236.2016.1196411.

da Silva Nascimento, B., Spindola, T., Reicherte Pimentel, M. R. A., de Almeida Ramos, R. C.,

    Costa Santana, R. S., & Sampaio Teixeira, R. (2017). Sexual behavior among college

    students and care for sexual and reproductive health. *Global Nursing*, *17*(1), 259–

    269. https://doi.org/10.6018/eglobal.17.1.261411.

Dempsey, A. R., Johnson, S. S., & Westhoff, C. L. (2011). Predicting oral contraceptive

    continuation using the transtheoretical model of health behavior change. *Perspectives on*

    Sexual and Reproductive Health, *43*(1), 23–29. https://doi.org/10.1363/4302311.

Desiderato, L. L., & Crawford, H. J. (1995). Risky sexual behavior in college students:

    Relationships between number of sexual partners, disclosure of previous risky behavior,

    and alcohol use. *Journal of Youth and Adolescence*, 24(1), 55–68.

    https://doi.org/10.1007/bf01537560.

Dorrance Hall, E., Ruth-McSwain, A., & Ferrara, M. (2016). Models of health: Exploring

    memorable messages received from parents about diet and exercise. *Journal of*

    Communication in Healthcare, *9*(4), 247-255.

    https://doi.org/10.1080/17538068.2016.1187892.

Dworkin, S. L. (2012). Sample size policy for qualitative studies using in-depth interviews.

    Archives of Sexual Behavior, *41*(6), 1319–1320. https://doi.org/10.1007/s10508-012-

    0016-6.

Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for

    mental health among college students. *Medical Care Research and Review*, *66*(5), 522-

    541. https://doi.org/10.1177/1077558709335173.

Ellis, J. B., & Smith, S. W. (2004). Memorable messages as guides to self-assessment of

    behavior: A replication and extension diary study. *Communication Monographs*, *71*(1),

    97–119. https://doi.org/10.1080/03634520410001691456.

Flood-Grady, E., Starcher, S. C., & Bergquist, G. L. (2021). Parental memorable messages about

    depression: Implications for perceived support, stigma, relational satisfaction, and

    treatment-seeking among young adults with depression. *Health Communication*, 1-10.

    https://doi.org/10.1080/10410236.2021.1926108.

Garcia-Retamero, R., & Cokely, E. T. (2015). Simple but powerful health messages for

    increasing condom use in young adults. *The Journal of Sex Research*, *52*(1), 30-42.

    https://doi.org/10.1080/00224499.2013.806647.

Greenwell, M. R. (2018). Memorable messages from family members about mental health: Young adult perceptions of relational closeness, message satisfaction, and clinical help-seeking attitudes. *Health Communication*, *34*(6), 652-660. https://doi.org/10.1080/10410236.2018.1431021.

Glanz, K., Rimer, B. K., & Viswanath, K. (2008). Health behavior and health education: Theory, research, and practice. John Wiley & Sons.

Hebert, E., Henry, B., Duplan, C., Naquin, M., & Wood, R. (2020). Relationships between academic success and health and illness in college students. *American Journal of Health Studies*, *35*(1), 1-13. https://doi.org/10.47779/ajhs.2020.99.

Henry, B., Cormier, C., Hebert, E., Naquin, M., & Wood, R. (2018). Health and health care issues among upper-level college students and relationships to age, race, gender, and living arrangement. *College Student Journal*, *52*(1), 7-20. https://eric.ed.gov/?id=EJ1171614.

Holladay, S. J. (2002). "Have fun while you can," "You're only as old as you feel," and "Don't ever get old!": An examination of memorable messages about aging. *Journal of Communication*, *52*(4), 681-697. https://doi.org/10.1111/j.1460-2466.2002.tb02568.x.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, *46*(1), 3–10. https://doi.org/10.1016/j.jadohealth.2009.08.008.

Kauffman, L., Orbe, M. P., Johnson, A. L. & Cooke-Jackson, A. (2013). Memorable familial messages about sex: A qualitative content analysis of college student narratives. *Electronic Journal of Human Sexuality*, *16*(20), 1-20.

Kerr, A. M., Thompson, C. M., & Rubinsky, V. (2019). Memorable messages parents of children

    with vascular birthmarks receive from others: Implications for stigma and identity.

    Health Communication, *35*(6), 685–695.

    https://doi.org/10.1080/10410236.2019.1582314.

Kitzrow, M. (2003). The mental health needs of today's college students: Challenges and

    recommendations. *Journal of Student Affairs Research and Practice*, *41*(1), 167-

    181. https://doi.org/10.2202/1949-6605.1310.

Knapp, M. L., Stohl, C., & Reardon, K. K. (1981). "Memorable" messages. *Journal of*

    Communication, *31*(4), 27-41. https://doi.org/10.1111/j.1460-2466.1981.tb00448.x.

Kranstuber, H., Carr, K., & Hosek, A. M. (2012). "If you can dream it, you can achieve it."

    Parent memorable messages as indicators of college student success. *Communication*

    Education, *61*(1), 44–66. https://doi.org/10.1080/03634523.2011.620617.

Kuang, K., Tian, Z., Wilson, S. R. & Buzzanell, P. M. (2021). Memorable messages as

    anticipatory resilience: Examining associations among memorable messages,

    communication resilience processes, and mental health. *Health Communication*, 2021, 1-

    10. https://doi.org/10.1080/10410236.2021.1993585.

LaBelle, S., Ball, H., Weber, K., White, A., & Hendry, A. (2020). The Rethink campaign to

    reduce the normalization of prescription stimulant misuse on college campuses.

    Communication Quarterly, *68*(1), 1-28. https://doi.org/10.1080/01463373.2019.1668446.

Lambert, C. A. (2012). Memorable health messages embrace student perspectives. *Public*

    Relation Journal, *6*(5), 1-23. https://prjournal.instituteforpr.org/wp-

    content/uploads/2012Lambert.pdf.

Lee, M. J. (2010). The effects of self-efficacy statements in humorous anti-alcohol abuse

    messages targeting college students: Who is in charge? *Health Communication*, *25*(8),

    638–646. https://doi.org/10.1080/10410236.2010.521908.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

Lipson, S. K., Kern, A., Eisenberg, D., & Breland-Noble, A. M. (2018). Mental health disparities

    among college students of color. *Journal of Adolescent Health*, *63*(3), 348–356.

    https://doi.org/10.1016/j.jadohealth.2018.04.014.

Marcus, B. H., Banspach, S. W., Lefebvre, R. C., Rossi, J. S., Carleton, R. A., & Abrams, D. B.

    (1992). Using the stages of change model to increase the adoption of physical activity

    among community participants. *American Journal of Health Promotion*, *6*(6), 424–429.

    https://doi.org/10.4278/0890-1171-6.6.424.

McCracken, G. (1988). *The long interview*. Sage Publication.

    https://doi.org/10.4135/9781412986229.

Miczo, N., Danhour, E., Lester, K. E. & Bryant, J. (2013). Memorable messages and H1NI flu

    virus. *Western Journal of Communication*, *77*(5), 625-644.

    https://doi.org/10.1080/10570314.2013.776099.

Miller, A. Y. (2012). An exploration of college-related memorable messages. (Publication No.

    1148) [Master's Thesis, Western Kentucky University]. *Master's Theses and Special*

    Project.

    https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=2151&context=theses.

National Council on Disability. (2017). Mental health on college campuses: Investments,

    accommodations needed to address student needs.

    https://ncd.gov/sites/default/files/NCD_Mental_Health_Report_508_0.pdf.

Nickols, F. (2013). A control theory view of human performance in the workplace: People as "Living Control Systems." *Distance Consulting*. https://www.nickols.us/controltheoryview.pdf.

O'Hea, E. L., Wood, K. B., & Brantley, P. J. (2003). The transtheoretical model: Gender differences across 3 health behaviors. *American Journal of Health Behavior*, *27*(6), 645–656. https://doi.org/10.5993/ajhb.27.6.7.

Owen, W. F. (1984). Interpretive themes in relational communication. *Quarterly Journal of Speech*, *70*(3), 274–287. https://doi.org/10.1080/00335638409383697.

Patrick, K., Covin, J. R., Fulop, M., Calfas, K., & Lovato, C. (1997). Health risk behaviors among California college students. *Journal of American College Health*, *45*(6), 265–272. https://doi.org/10.1080/07448481.1997.9936896.

Patrick, K., Grace, T. W., & Lovato, C. Y. (1992). Health issues for college students. *Annual Review of Public Health*, *13*(1), 253-268. https://www.annualreviews.org/doi/pdf/10.1146/annurev.pu.13.050192.001345.

Popham, W. J., Potter, L. D., Bal, D. G., Johnson, M. D., Duerr, J. M. & Quinn, V. (1993). Do anti-smoking media campaigns help smokers quit? *Public Health Reports*, *108*(4), 510-513. http://www.jstor.org/stable/4597426.

Prochaska, J. O. & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion*, *12*(1), 38-48. https://doi.org/10.4278/0890-1171-12.1.38.

Reuter, P. R., & Forster, B. L. (2021). Student health behavior and academic performance. *PeerJ*, *9*, 1-20. https://doi.org/10.7717/peerj.11107.

Rosenthal, B., & Wilson, W. C. (2008). Mental health services: Use and disparity among diverse

    college students. *Journal of American College Health*, *57*(1), 61–68.

    https://doi.org/10.3200/jach.57.1.61-68.

Rubinsky, V. & Cooke-Jackson, A. (2017). "Tell me something other than to use a condom and

    sex is scary": Memorable messages women and gender minorities wish for and recall

    about sexual health. *Women's Studies in Communication*, *40*(4), 379-400.

    https://doi.org/10.1080/07491409.2017.1368761.

Ruthig, J. C., Marrone, S., Hladkyj, S., & Robinson-Epp, N. (2011). Changes in college student

    health: Implications for academic performance. *Journal of College Student Development*,

    52(3), 307–320. https://doi.org/10.1353/csd.2011.0038.

Skelly, C., Hall, C., Risher, C., & Brown, B. (2018). Peer-to-peer education of college females

    on sexual health. *Universal Journal of Educational Research*, *6*(5), 844–847.

    https://doi.org/10.13189/ujer.2018.060505.

Smith, S., & Ellis, J. (2001). Memorable messages as guides to self-assessment of behavior: An

    initial investigation. *Communication Monographs*, *68*(2), 154–168.

    https://doi.org/10.1080/03637750128058.

Smith, S. W., Nazione, S., LaPlante, C., Kotowski, M. R., Atkin, C., Skubisz, C. M., & Stohl, C.

    (2009). Topics and sources of memorable breast cancer messages and their impact on

    prevention and detection behaviors. *Journal of Health Communication*, *14*(3), 293-307.

    https://doi.org/10.1080/10810730902805903.

Stohl, C. (1986). The role of memorable messages in the process of organizational socialization.

    Communication Quarterly, *34*(3), 231-249.

    https://doi.org/10.1080/01463378609369638.

Thompson, C. M. & Zaitchik, S. T. (2012). Struggling with the freshman fifteen: College

    students' recollections of parents' memorable messages about weight. Kaleidoscope: A

    Graduate *Journal of Qualitative Communication Research*, *11*(4), 39-58.

    https://opensiuc.lib.siu.edu/kaleidoscope/vol11/iss1/4/?utm_source=opensiuc.lib.siu.edu

    %2Fkaleidoscope%2Fvol11%2Fiss1%2F4&utm_medium=PDF&utm_campaign=PDFCo

    verPages.

Tracy, S. J. (2010). Qualitative quality: Eight "Big-Tent" criteria for excellent qualitative

    research. *Qualitative Inquiry*, *16*(10), 837–851.

    https://doi.org/10.1177/1077800410383121.

Tracy, S. J. (2020). *Qualitative research methods: Collecting evidence: Crafting analysis,*

    communicating impact (2nd ed.). Hoboken, NJ: Wiley-Blackwell.

Vasileiou, K., Barnett, J., Thorpe, S., & Young, T. (2018). Characterising and justifying sample

    size sufficiency in interview-based studies: Systematic analysis of qualitative health

    research over a 15-year period. *BMC Medical Research Methodology*, *18*(1), 1-18.

    https://doi.org/10.1186/s12874-018-0594-7.

Velicer, W. F., Prochaska, J. O., Fava, J. L., Rossi, J. S., Redding, C. A., Laforge, R. G.,

    Robbins, M. L. (2000). Using the transtheoretical model for population-based approaches

    to health promotion and disease prevention. *Homeostasis in Health and Disease*, *40*(5),

    174-195. https://digitalcommons.uri.edu/psy_facpubs/338.

Wansink, B. & Robbins, R. (2016). Which design components of nutrition infographics make

    them memorable and compelling? *American Journal of Health Behavior*, *40*(6), 779-787.

    http://dx.doi.org/10.5993/AJHB.40.6.10.

APPENDIX A

MEMORABLE HEALTH MESSAGES AND THEIR INFLUENCE ON HEALTH BEHAVIOR

Sample Interview Questions

Instructions: Thank you for participating in this study! As you answer the following questions, please think of the memorable health messages you have received since you, at least, started college. There are no right or wrong answers; simply tell me your first impression. While you answer the following questions, please pay attention to the definition below:

Memorable messages: verbal message which may be remembered for extremely long period of time and which people perceive as a major influence on the course of their lives.

Demographic Questions

1. How old are you?

2. What is your ethnicity/race?

3. What is your gender?

4. What is your level of education?

Part I: Opening Questions (Features of Memorable Health Message)

5. What was the most recent memorable health message you received? Walk me through why you deem the message as memorable.

6. In what situation did you recall this particular message?

7. How long has this message stuck with you?

8. What features or characteristics of the message do you pay most attention to?

9. Could you discuss some of the health issues in your memorable health messages that you consider as salient?

10. What feelings do you associate with these topics or themes?

11. Would you prefer you received memorable health messages about a specific topic? Why or why not?

Part II: Influence of Memorable Health Messages on Health Behavior

12. From all the health messages you have received, was there a particular one that had a significant impact on your health since you started college?

   a. What was the messages about?

   b. Could you describe the risky health behavior you were engaged in before receiving the memorable health messages?

   c. What impact or specific positive health behavior(s) did you adopt after receiving the memorable health messages?

   d. What feelings did you have associated with this message?

   e. Were there parts of the message that did or did not align with your health behavior?

Part III: Sources of Memorable Health Messages

13. Who do you mostly consider a frequent source of the memorable health messages?

14. Could you explain what makes this source credible to you?

15. In what situation do the source usually send their messages?

These questions represent the format of questions that were used throughout the interviews. As the participants respond, different questions were included in order to further examine the responses. These types of probing questions were not necessarily the same for each participant interview. They emerged as each individual interview progressed.