

BITTERSWEET NATURE OF NOSTALGIA AND ITS IMPACT ON DEPRESSION
RELATED HELP-SEEKING

By

Syed Ali Hussain

A DISSERTATION

Submitted to
Michigan State University
in partial fulfilment of the requirements
for the degree of

Information and Media – Doctor of Philosophy

2018

ABSTRACT

BITTERSWEET NATURE OF NOSTALGIA AND ITS IMPACT ON DEPRESSION RELATED HELP-SEEKING

By

Syed Ali Hussain

Depression is a critical public health concern, which can be mitigated by seeking professional help and/or social support. Several communication researchers have studied this area to improve help-seeking intentions through message design and evaluation. This dissertation aims at the use of nostalgic emotional appeals to influence behavioral intentions to seek help. Using the theory of planned behavior (TPB) as a guiding framework, the study examined the effects of nostalgic appeal's valence (positive vs. negative vs. coactive) on help-seeking intentions from three sources of help (professional counselors, friends, and family).

The study recruited 482 participants from Amazon Mechanical Turk. Participants were randomly assigned to one of the three video conditions: positive, negative, or coactive nostalgia. The results showed that participants' attitude, perceived behavioral control, and descriptive norms were significantly associated with their intentions to seek help from all sources of help. However, injunctive norms didn't predict help-seeking intentions. Additionally, the parallel multiple mediation analysis found a serial mediation effect of message conditions on positive emotions that further influenced TPB variables, and in turn enhanced behavioral intentions to seek help. This study provides support for the TPB theoretical framework to influence help-seeking intentions for depression, via evoking more positive emotions, improving perceived behavioral control, and improving attitudes to seek help. Theoretical implications of this study for conceptualizing the effects of positive emotions and TPB variables on help seeking intentions are discussed, and practical implications for future interventions are provided.

I dedicate this dissertation to Imam Ali (601 - 661) who said,
“Knowledge is better than wealth. Knowledge guards you while you have to guard wealth.”
I also dedicate this dissertation to Mother Teresa (1910 - 1997) who said,
“God doesn't require us to succeed, he only requires that you try.”
Finally, I dedicate this dissertation to my parents who raised me such that I could appreciate the
wisdom and life of Imam Ali and Mother Teresa.

ACKNOWLEDGMENTS

I would like to express my deepest gratitude to a lot of faculty members in the College of Communication Arts and Sciences (CAS) at Michigan State University (MSU) for helping me reach this point of learning. Specifically, I would like to thank my dissertation advisor Prof. Saleem Alhabash for helping me learn psychophysiological and eye-tracking research at the MapLab, and for investing time and effort in helping me learn the multivariate statistical skills. I could produce several publications from this knowledge, which I couldn't have acquired without his help. Second, I am grateful to Prof. Lucinda Davenport who was a constant source of inspiration during my entire PhD program. Prof. Davenport guided me at each step with her vision and advice to navigate through the PhD program and acquire success from the educational resources. Third, I would like to thank Prof. Maria Lapinski who helped me think conceptually for the design and execution of experimental studies specifically for health and risk communication. I am also indebted to Prof. Maria for including me in the funded grants and projects at MSU. Fourth, I am grateful to Prof. Sue Carter for welcoming support and guidance at each step of the prelim and dissertation. Fifth, I would like to thank my wife (Ainee), children (Abbas, Moonis, Reza), and brother (Khuram) for helping me maintain the work-family-life balance. Sixth, I would like to recognize the CAS staff including Nancy Ashley, Lubas Kareen, Nicole Bond, Marge Barkman, Barb Miller, Ken Beer, Tyler Tulloch, Jen Spitzley, Kim Veraldi and Alex among many others for their unconditional support and assistance. Finally, I would like to thank MSU overall for providing resources to successfully achieve my academic goals. These include MSU libraries, IM Sports, Family Resource Center, Office of International Students and Scholars, UAB, COGS, MSU Administration and The Graduate School. Go Green!

TABLE OF CONTENTS

LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1: INTRODUCTION.....	1
Study Objective and Rationale	3
CHAPTER 2: THEORETICAL FRAMEWORK	4
Theory of Planned Behavior.....	4
Core Assumption of TPB	5
Main Predictions of TPB.....	6
Behavioral Intentions to Seek Help	7
Attitude toward Seeking Help	8
Perceived Norms.....	12
Perceived Behavioral Control.....	14
Chapter Summary	17
CHAPTER 3: NOSTALGIA.....	18
Triggers and Types of Nostalgia.....	18
Nostalgia and Psychological Wellbeing.....	19
Emotions, Moods, and Feelings.....	21
Emotional Valence.....	22
Emotional Valence of Nostalgia	23
Role of Emotions in TPB	26
Discrete and Dimensional Models of Emotion.....	28
Nostalgia and TPB Variables	31
Chapter Summary	33
CHAPTER 4: ADDITIONAL PREDICTORS	34
Social Support.....	34
Stigma	35
Depression Symptomology	36
CHAPTER 5: SUMMARY OF HYPOTHESES.....	38
CHAPTER 6: METHOD	40
Study Design and Independent Variable.....	40
Operationalization of Emotional Valence	40
Stimuli Design Pretests	41
Pretest 1.....	41
Pretest 2.....	43
Main Study	44
Measures.....	44

Attitude.....	44
Perceived Norms.....	45
Perceived behavioral control.....	45
Behavioral Intention.....	46
Message Valence Induction Check.....	46
Nostalgia Induction Check.....	47
Depression Symptoms.....	47
Perceived Social Support.....	47
Stigma.....	48
Power Analysis.....	48
Recruitment.....	49
Procedure.....	52
Data Analysis.....	53
Scale Reliability.....	53
 CHAPTER 7: RESULTS.....	 55
Random Assignment and Message Valence Check.....	55
Message Valence Check.....	55
Covariate Determination.....	55
H1-3: Attitudes, Norms, and PBC predicting BI.....	57
BI to seek help from a Counselor.....	57
BI to seek help from a Friend.....	57
BI to seek help from a Family Member.....	57
H4: Effect of Nostalgic Valence.....	58
H5: Mediation Analysis.....	60
Parallel Serial Mediation Analysis.....	61
TPB Variables as Parallel Mediators.....	63
Parallel Serial Mediation Analysis: Help Seeking from a Counselor.....	63
Parallel Serial Mediation Analysis: Help Seeking from a Friend.....	67
Parallel Serial Mediation Analysis: Help Seeking from a Family Member.....	71
 CHAPTER 8: DISCUSSION.....	 76
Hypothesis 1-3.....	76
Hypothesis Four.....	77
Hypothesis Five.....	79
Positive Emotion as Serial Mediator.....	80
Help-Seeking from Counselor.....	82
Help-seeking from Friends.....	83
Help-seeking from Family Members.....	84
Summary of Mediation Analysis.....	85
Limitations.....	85
Conclusion and Future Research.....	87
 APPENDICES.....	 89
Appendix 1: SCRIPTS.....	90
Appendix 2: SCALES.....	94

Appendix 3: DISTRACTOR TASK	103
Appendix 4: DEBRIEF FORM	104
REFERENCES	105

LIST OF TABLES

Table 1. Theory of planned behavior and depression.....	5
Table 2. Summary evaluation of positive, negative and counseling images.....	41
Table 3. Summary evaluation of positive, negative and coactive text essays.....	42
Table 4. Feelings related to happiness, sadness, positivity, negativity, nostalgia, hopefulness, hopelessness, relief and regret; evoked from positive, negative and coactively nostalgic PSAs..	44
Table 5. Participant demographic characteristics.....	49
Table 6. Eigenvalues, mean, SD, Cronbach's alpha, and % of total variance for each variable...	54
Table 7. Differences in arousal, positivity, negativity, and nostalgia across nostalgic valence conditions.....	55
Table 8. Differences in stigma, perceived social support, and depression symptoms across nostalgia valence conditions.....	56
Table 9. Inter-correlations of TPB constructs with stigma, social support, and depression symptomology.....	56
Table 10. Linear regression results for behavioral intention to seek help from counselor, friends and family members (DVs), predicted by attitude, perceived behavioral control (PBC), descriptive norms (DN), and injunctive norms (IN).....	58
Table 11. Means, SDs, and ANCOVA results for the effect of valence on TPB constructs, and the difference between sources of help.....	59
Table 12. Coding of categorical X variable for analysis.....	62
Table 13. Path coefficients for multiple mediation model: Relative direct and indirect effects of message conditions on BI to seek help from counselor through serial mediation of positive emotions, preceded by attitude, PBC, DN and IN.....	65
Table 14. Path coefficients for multiple mediation model: Relative direct and indirect effects of message conditions on BI to seek help from friends through serial mediation of positive emotions, preceded by attitude, PBC, DN, and IN.....	69
Table 15. Path coefficients for multiple mediation model: Relative direct and indirect effects of conditions on BI to seek help from family through mediation of positive emotions, preceded by attitude, PBC, DN and IN.....	73

LIST OF FIGURES

Figure 1. TPB model for help seeking in depression (Ajzen, 1991).	7
Figure 2. Distribution of participants as per depression symptomology.	51
Figure 3. Distribution of depression symptomology across gender	51
Figure 4. Mediation model for the relationship between message conditions, TPB constructs and behavioral intention to seek help from counselor, friends, and family members.....	61
Figure 5. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from a counselor.....	66
Figure 6. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from friends.....	70
Figure 7. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from family members.....	75
Figure 8. Total mean scores of TPB variables for each source of help, across message conditions.	78

CHAPTER 1: INTRODUCTION

Depression is generally characterized by negative perceptions an individual may hold about himself, and the world (Beck, Rush, Shaw, & Emery, 1979). It is arguably a critical public health crisis existing today. Worldwide, depression is ranked among the top three main causes of mortality, and is expected to become the number one cause by 2030 (World Health Organization, 2004). Depression is a serious health issue in both middle-income and high-income countries (WHO, 2014). In the United States, major depressive disorders contributing mortality, disability and affecting one out of ten adults (NIMH, 2012).

Even though high school and college are considered among the best days in life, they could also be the most tumultuous and difficult ones. A survey of 200,000 college freshmen coming to a four-year college reported students at the lowest emotional wellbeing ever seen in last two decades (Lewin, 2011). The National College Health Assessment survey (2008) cited academic anxiety and stress as the biggest reason for low academic performance, followed by sleep difficulty, video games, depression, and alcohol use. Most students reported feeling depressed to the extent that it impaired routine day-to-day life (American College Health Association, 2008). Carton and Goodboy (2015) in a survey with 204 students investigated why students with psychological difficulties do not perform as well as their peers without such difficulties. Results showed that depressed students were less inclined to communicate in class and reported less involvement in class activities. In addition to adverse academic performance, depression among students also results in difficulty to form social relationships, resulting in roommate or housing conflicts, delay in graduation, or dropping out of school (Pleskac, Keeney, Merritt, Schmitt, & Oswald, 2011).

Psychological illnesses are increasing on college campuses (Gallagher, 2010), among college students who often avoid seeking treatment and leave the illness untreated (Chang, 2007; Lucas & Berke, 2005; Yaris, 1996; Schomerus, Matschinger, & Angermeyer, 2009; Vogel, Wade, & Hackler, 2008). Such avoidance by younger people, also known as “help-negation” results in behavioral retardation and social withdrawal that makes depression even more severe (Rudd, Joiner, & Rajab, 1995; Sawyer, Borojevic, Ettridge, Spence, Sheffield, & Lynch, 2012; Wilson & Deane, 2010). Unfortunately, such unmet need of mental health is often made visible through a serious tragedy such as attempting suicide or self-harm. Among those who recover from depression, 80 percent may experience a relapse (Keller & Boland, 1998).

Improving students’ intentions to seek help could make significantly improve their quality of life. Generally, improving help seeking intention starts with an accurate recognition of symptoms (Wilson, Bushnell, & Caputi, 2011), acceptance of the illness, and having the skills and social support to find help when feeling depressed (Rickwood, Wilson, & Deane, 2006; Zwaanswijk, Ende, Verhaak, Bensing, & Verhulst, 2003). Designing communication messages to persuade students to seek help is both timely and relevant especially while they are still on campus with an administrative system designed to provide help. On-campus services like counseling centers and student mental health clubs provide an opportunity to implement such programs. Campus-wide support measures have been recognized as effective means to decrease the negative effects of depression among college students (Soet & Sevig, 2006). To sum, seeking appropriate help may lessen the impact of depression and improve students’ personal and academic life.

Study Objective and Rationale

The current study is geared toward the use of persuasive appeals to influence college students' behavioral intentions to seek help during depression. To do so, the study experimentally manipulated a promotional message, based on nostalgic emotional appeal, as a persuasive strategy to influence help-seeking intentions. Using the theory of planned behavior (TPB) as a guiding theoretical framework, the study investigated the effects of nostalgic appeal's valence (positive vs. negative vs. coercive) on help-seeking intentions. To the best of my knowledge, this was the first study to experimentally test the effects of nostalgic emotions and its valence on improving help-seeking among college students in the United States. The dissertation includes eight additional chapters. In chapter 2, I will review TPB's theoretical framework and discuss its constructs; attitude, descriptive norms (DN), injunctive norms (IN), perceived behavioral control (PBC), and behavioral intention (BI). In chapter 3, I will discuss the role of emotions in designing persuasive messages, role of emotions in TPB, and then introduce nostalgia as an emotional appeal for message design. In chapter 4, I will layout additional predictors for help seeking including social support, stigma, and depression symptomology. In chapter 5, I will summarize the hypothesis. In Chapter 6, I will layout the study design and method. In Chapter 7, I will present the results, followed by discussion, limitations and conclusion in Chapter 8, concluding with appendices in Chapter 9, followed by references.

CHAPTER 2: THEORETICAL FRAMEWORK

In my previous study on visual narratives of depression, I interviewed individuals with moderate depression (Hussain & Davenport, 2017). An important finding of the study was the increased awareness among depressed individuals about their depression symptoms that triggered a desire to seek help. However, due to stigma, several participants talked about keeping the suffering to themselves while still wanting to receive help or hoping someone would notice and aid. The help seeking was particularly expected from three main sources: friends, family members and professional psychological counselor.

An individual's attitude toward counselor, friends or family members has appeared as an important factor in influencing help seeking intentions. Public health messages and promotional campaigns can influence such attitudes and eventually the decision-making process. Seeking help for depression is a decision made by a rational thought process, generally initiated when individuals with depression notice their unusual mental health symptoms and a reduced ability to function in society. The rationale to select TPB for this study was based on its ability to parsimoniously conceptualize such differences and determinants to help-seeking intentions. This section further elaborates the process in context with the TPB in forming behavioral intentions.

Theory of Planned Behavior

TPB was proposed by Ajzen (1985) to explore how behavioral beliefs, normative beliefs, and control beliefs influence peoples' attitudes, PBC, DN and IN that in turn influence intentions to perform certain behaviors. According to TPB, attitudes, social norms, and PBC influence the intention to perform the behavior. Briefly, attitudes are broadly defined as an individual's evaluation of an object, person or place which could be either favorable or unfavorable. Perceived norms are derived from an individuals' beliefs about how social others may respond to

or approve/disapprove a behavior. PBC is an individual's perceived control on himself or herself performing a behavior. PBC is the third main determinant and is carried forward from TPB's predecessor theory i.e., theory of reasoned action (TRA) to account for factors that lie beyond one's control (Fishbein & Ajzen, 1975; Ajzen, 1985). Although, TPB posits actual behavior as the end goal, it focuses on behavioral intention as the most important predictor of behavior (Cascio, Cin, & Falk, 2013; Glasman & Albarracin, 2006). Table 1 layout each of these constructs with examples relevant to help seeking in depression.

Table 1.
Theory of planned behavior and depression.

Concept	Definition	Example
Behavioral intention	Likelihood of enacting in the behavior	Are you likely or unlikely to seek help for depression?
Attitude	Personal appraisal of the behavior	Do you see help-seeking as good, bad or neutral behavior?
Perceived Norms	Perceived approval or disapproval from social others about the behavior	Do you agree that people important to you would approve or disapprove you to seek help?
Perceived behavioral control	Control over performing the behavior	Do you believe that seeking help is up to you or not up to you?

Core Assumption of TPB

As per TPB, behavior is a rational decision-making process influenced by behavioral, normative, and control beliefs as interrelated events that in turn influence intentions and may translate into an actual behavior (Fig 1). TPB's predecessor, TRA assumed that behavior is voluntary. However, later research showed that behavior is not completely voluntary or under-control, which led to the addition of PBC in the model. Thus, the use of word "planned" was introduced in the TPB. In this way, TPB assumes that behavior could be deliberate and planned as well.

Main Predictions of TPB

In case of behavioral beliefs, the intention of an individual is reflected in his/her personal attitude which is based on the probability of desired behavior producing certain outcomes.

People usually have more than one belief about a certain behavior, but not all of them may be readily accessible at any given moment. Together, the beliefs which are accessible, and the subjective evaluation of their expected outcomes together form the overall attitude.

Perceived norms held by an individual also have an impact on intentions to seek help. Perceived norms are derived from normative beliefs and consists of an individual's perception about how social others may reach to him/her performing the behavior. Together, normative beliefs and an individual's motivation to comply formulate the prevailing subjective norm.

The intention to seek help is also driven by PBC; comprising of control beliefs about factors that may either hinder or facilitate the performance of desired behavior. The control beliefs and the perceived power of each factor together form the PBC. The factors may include one's perceived ability to perform the behavior and presence or lack of physical and psychological resources. PBC is of two types: internal and external. Internal control refers to how an individual perceives his own control and ability to perform the behavior. For example, ability to pay for counseling, or confidence in talking with a friend/family member. External control refers to the factors outside one's control. For example, acceptance and approval of social others, and availability of counseling resources etc.

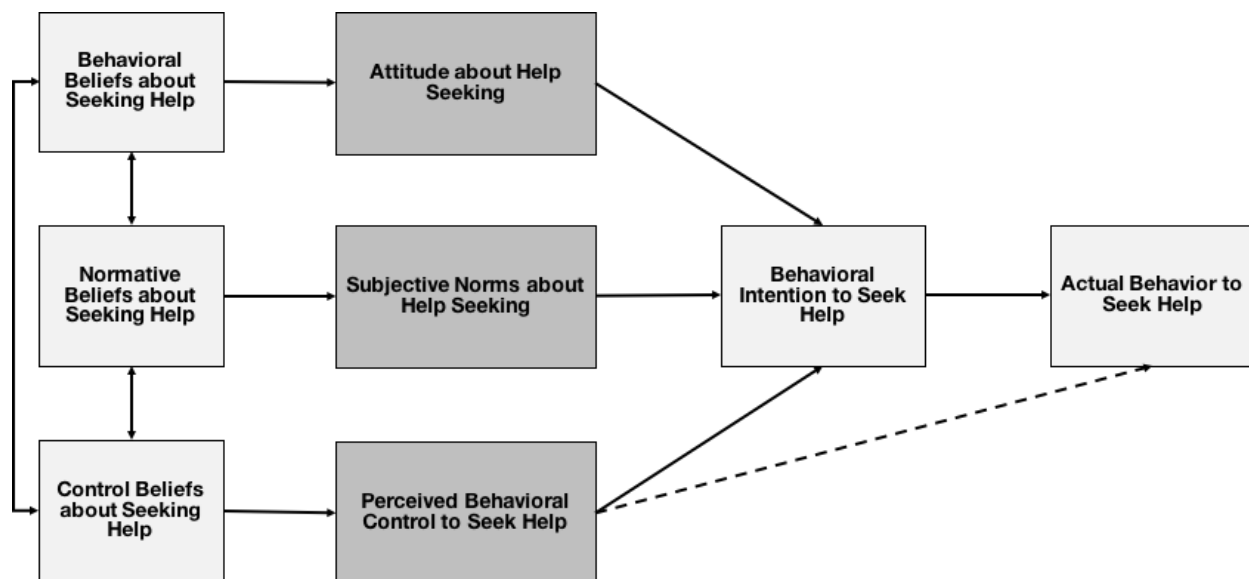


Figure 1. TPB model for help seeking in depression (Ajzen, 1991).

In summary, the TPB explains how attitudes toward the behavior, perceived norms, and PBC, influence intentions, which in turn may influence actual behavior. Below I elaborate each of these constructs in the context of depression and relevant help-seeking behavior.

Behavioral Intentions to Seek Help

For this study, help seeking behavior is defined as “an adaptive coping process to obtain external assistance to deal with a mental health concern” (Rickwood, Thomas, & Bradford, 2012; p.6). The history of help-seeking goes back to 1962, when the term ‘illness behavior’ first originated in the medical sociology literature (Mechanic, 1962). Illness behavior refers to the way patients observe their bodies, understand disease symptoms, adopt preventive measures, or utilize health services (Mechanic, 1982). The study of illness behavior is more pronounced for mental health because of the nature of illness and its tendency to change over time. For instance, in contrast to other illnesses, mental illnesses are not easily recognized, and the treatment may not always be readily available (Field, 1976). Additionally, due to a slow and regular onset of mental health problems, one’s decision to consult professional psychological help may get

delayed or even replaced with self-help-seeking (Rosenstock & Kirscht, 1979). Thus, help-seeking behavior is now considered a more dynamic process and defined as “adaptive form of coping” (Rickwood, Thomas, & Bradford, 2012; p.10). This may include actively seeking help from counselors, friends, and family members to understand the illness, and seek advice about treatment.

Help seeking behavior could be formal or informal. Formal includes assistance from legitimate and recognized professionals and specialists (e.g., certified counselors). Informal help-seeking includes seeking assistance from community social workers, friends, and family members. Due to the rise of computer-mediated communication, help-seeking behavior now also includes online means such as websites, helplines, and discussion forums. In the context of TPB, help-seeking behavior may include consulting a professional counselor or contacting friends and family members.

Attitude toward Seeking Help

Like most concepts in psychology, attitudes have multiple definitions. According to Eagly and Chaiken attitude is “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (1993, p. 247). As per Fazio attitude is “an association in memory between a given object and a given summary evaluation of the object” (1995, p. 247). Petty and Cacioppo suggests that attitude is “a general and enduring positive or negative feeling about some person, object, or issue” (1996, p. 7). According to Zanna and Rempel attitude is “the categorization of a stimulus object along an evaluative dimension” (1988, p. 319).

Fishbein and Ajzen (1975) discuss in detail about the variation in defining of attitude due to the wide range of disciplines in which attitude is being studied. However, they suggest a

definition of attitude which most psychologists would agree as “a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object” (p. 6). Overall, attitude may be defined in several different ways but a commonality among all definitions is that attitude comprise of an evaluative judgment of liking and/or disliking towards an object, place, person, or event.

Recently, Maio and Haddock (2010) added another perspective of looking at attitude in terms of its content, structure, and functions; which are different but closely interrelated concepts. First, attitude content comprises of the cognitive, affective, and behavioral information associated with an attitude object. Basically, it is the type of information incorporated *within* attitudes. The attitude content is about the way people organize their emotions, and past experiences about a particular thing in a way that shapes their future attitudes. Second, attitude structure refers to the unidimensional or bidimensional conceptualization of attitudes. It is the way evaluative information about an object is organized. Third, attitude function comprises of the psychological needs that an attitude object serves.

Attitudes differ in terms of their strength. On some matters, one may hold a very strong attitude, while for others less strong. Strong attitudes are different from weak attitudes. For instance, Visser suggests that strong attitudes are persistent over time (1998), change resistant (Petty, Haugtvedt, & Smith, 1995), influence the way people process information (Houston & Fazio, 1989), and forecast behavior (Holland, Verplanken, & van Knippenberg, 2002). Generally, people act more upon strong attitudes (Holland et al., 2002).

One may question: how attitude-related information is organized as function of its valence consisting of positive, neutral, or negative. To answer this question, I refer to the earlier discussion about attitude structure, i.e., unidimensional and bidimensional structure of attitudes.

As per the unidimensional view, valence of attitude occurs on a continuum with positive and negative ends (Cacioppo, Gardner, & Bernston, 1997). The bidimensional view posits that valence of attitude occurs on two separate dimensions. The first dimension has few or more positive elements, while the second dimension has few or more negative elements. The overall attitude is formed by a combination of positive, negative and neutral elements about an attitude object. For example, a person with depression may have mixed attitude toward seeking help from a professional counselor because of both positive and negative past experiences, leading to attitudinal ambivalence, as per the bidimensional view. Such a situation is hard to interpret in a unidimensional view in which a student may have multiple positive or negative feelings about a counselor or no view at all (Kaplan, 1972).

Understanding attitude ambivalence has practical implications to design communication messages. An individual with ambivalent attitudes is more likely to be persuaded when positive aspects of the object are made salient (Bell & Esses, 2002; MacDonald & Zanna, 1998). Such high accessibility of attitudes from memory is indicative of the unidimensional structure of attitudes (Mellema & Bassili, 1995; Pomerantz, Chaiken, & Tordesillas, 1995). But people with ambivalent attitudes also perform greater scrutiny of information to resolve ambivalence in their divergent views (Clark, Wegener, & Fabrigar, 2008). In this way, attitude ambivalence affects decision making process, and are less likely to predict behavior, than non-ambivalent attitudes (Conner & Armitage, 2009).

Attitude ambivalence can be of two types: potential ambivalence and felt ambivalence. In potential ambivalence, people simultaneously hold both attitudes (positive and negative) toward an attitude object. For example, a voter may dislike a political candidate but still vote for him due to long-standing party affiliation. Potential ambivalence informs the underlying process of

attitude formation including information about positive/negative beliefs (cognitive ambivalence), feelings (affective ambivalence), and behaviors/actions (behavioral ambivalence). Second, felt ambivalence is based on the mixed-feelings individuals have about an attitude object (Wegener, Downing, Krosnick, & Petty, 1995).

Several communication scholars have studied the role of attitudes in depression-related help seeking. Aloia and Brecht (2017) studied the impact of affectionate communication on psychological well-being. Results show that subjects receiving affection expressed positive attitude toward help seeking, higher self-esteem, and less stress. Lienemann and Siegel (2016) studied the psychological reactance experienced by depressed individuals. It is defined as “the motivational state hypothesized to occur when freedom is eliminated or threatened with elimination” (Brehm & Brehm, 1981, p. 37). For example, a two-part study tested the influence of public services announcements (PSAs) on participants ($n = 2027$, and $n = 777$, respectively) at different depression levels. The studies used PSAs based on autonomy-supportive language (which means messages designed using indirect or implicit language) and controlling language. Results show that increased depression was associated with less intentions to seek help and more psychological reactance to the PSAs. Furthermore, the reactance toward PSAs mediated the association between feeling depression and less intentions to seek help. Imai (2017) used modified labeling theory to predict how international students’ stereotypes about mental illnesses are associated with their self-disclosure, loneliness, and depression. The study recruited international students in Japan ($n = 146$). Results show stereotypes as negatively correlated with both loneliness and depression but positively linked with self-disclosure.

Overall, these studies discuss the role attitudes play in determining a person’s intention to seek help in depression. Positive attitude toward seeking help has been shown to improve help

seeking behavior (Ten-Have, deGraaf, Ormel, Vilagut & Alonso, 2010) which in turn can improve behavioral intentions to seek help. As such, I propose first hypothesis:

H1: Attitude toward help-seeking behavior will be positively associated with help-seeking intentions from counselor, friends, and family member.

Perceived Norms

As per TPB, perceived social norms comprise the second main factor of behavioral intentions. Ajzen defines it as “the perceived social pressure to perform or not to perform a behavior” (Ajzen 1991, p.188); driven by normative beliefs of salient referents who have influence or control over behavior (social pressure), and approve/disapprove future actions (Ajzen, 1991). In case of depression, perceived norms are important as they constitute the opinions of social others that may influence decision to seek help.

Several communication researchers have explored the relationship of perceived norms with depression related help seeking. For example, a study examining help seeking intentions and stigma (Barney, Griffiths, Jorm, & Christensen, 2006) recruited adult participants ($n = 1,312$), randomly sampled from an Australian community. Results show that participants reported embarrassment in seeking help from counselors. The study offers implications to minimize expectations of negative responses to improve help-seeking behavior. Studies have also explored how perceived norms about depression are created through portrayal of mental health on mass media. For example, Soontae (2008) examined the effects of antidepressant advertising on perceptions about depression prevalence in society. Survey results showed that participants with high recall of antidepressant drugs perceived depression to be more prevalent. Park, Ju & Kim (2014) studied the effects of antidepressant ads on the consumers’ bias about risk of acquiring depression. Survey results ($n = 699$) provided support for an optimistic bias

among consumers in which they considered others at more risk of being diagnosed as depressed, than themselves. However, exposure to the advertisements reduced the bias, specifically among participants who were less skeptical of consumer drugs. Optimistic bias was negatively related with intention to seek more information about depression. Park (2016) extended this research to examine participants' exposure to antidepressant ads and how it relates to stigma toward clinical depression. Here, stigma is perceived to be a facet of perceived norms about performing a behavior. In Park (2016) study, participants with low skepticism toward antidepressant ads expressed less stigma toward depression. Further analysis showed that for participants with personal experiences of depression; exposure to advertisements strengthened their stigma toward depression. In the context of PSAs, Lienemann, Siegel, & Crano (2013) randomly assigned college students ($n = 271$) to receive a print PSA about depression or a non-relevant comparison ad. The study measured response toward stigma, and intentions to seek professional help. Viewing a depression PSA caused people with depression to experience higher levels of self-stigma, than depressed people exposed to a non-relevant comparison PSA. Additionally, for subjects who viewed a depression PSA, stigma functioned as a mediator between levels of depression and intentions to seek help.

Overall, these studies strengthen the evidence that individuals with depression may face challenges making disclosures about their health (Greene, 2009), avoid talking about their health conditions, prevent future contact, and express less empathy toward them compared to people without a non-stigmatized health condition (Hebl, Tickle, & Heatherton, 2000; Rush, 1998). The studies reviewed here suggest that perception about the acceptance of a behavior (injunctive norms) as well as individuals' notions about how prevalent and common the behavior is (descriptive norms) affect behavioral intentions. As such, I propose:

H2: Perceived descriptive and injunctive norms toward help-seeking will be positively associated with help-seeking intentions from counselor, friends, and family member.

Perceived Behavioral Control

Ajzen defined perceived behavioral control as “the perceived ease or difficulty of performing the behavior” (Ajzen, 1991; p.188); formed by a set of control beliefs comprising of perceived access to and availability of resources as well as perceptions about the usefulness to perform the behavior (Ajzen, 1988). Ajzen, further categorized the control beliefs as internal and external. The internal factors include personal knowledge, self-efficacy, power, willingness and skills to perform a behavior. The external factors may include things like access to money, opportunity or support from social others (Ajzen, 1991). PBC is called perceived (not actual), because of the inherent difficulty in identifying and measuring actual opportunities and resources required to perform a behavior.

PBC, is like self-efficacy (SE) i.e., one’s confidence to perform a behavior (Bandura, 1982, 1986, 1997). Ajzen, considers perceived behavioral control and SE as conceptually similar, but different at the operational level. For example, SE is measured by providing participants a list of obstacles hindering their ability to perform the behavior. Whereas, PBC is measured by asking participants how much they control over performing the behavior. Generally, Ajzen proposes that such items measure the same concept of perceived behavioral control and SE, albeit differently (Ajzen, 1985).

Several communication and psychology researchers have studied the role of PBC in determining help-seeking intentions for depression. Many such studies are from medical discipline measuring perceived behavioral control’s effectiveness for treating childhood depression, diabetes, chronic pain, and post-operative recovery from cardiac surgery. For

example, Bandura (1999) examined the connection between childhood depression and social/academic self-efficacy. Results show that low self-efficacy among subjects contributed to onset of depression. Similarly, Agapidaki et al. (2013) found that self-efficacy is positively related with detecting depression, knowledge of depressive symptoms, and identification of depression. Lua and Khairuzzaman (2014) further reported that individuals' depression symptoms were reduced when they had higher self-efficacy in identifying their own depression.

Studies have also reported the mediating and moderating roles of perceived behavioral control to seek help for depression treatment. Dulin, Hanson, and King (2013) conducted a longitudinal study with older adults and found PBC moderating the association between stresses-in-life and depression. On the effects of PBC for diabetes patients, one study examined its potential mediating effects to seek cognitive behavior therapy (CBT) for medication adherence (Gonzalez, Shreck, Psaros, & Safren, 2015). Results show that PBC mediated the relationship between emotional distress and medication adherence for diabetes treatment.

Medical researchers have also explored the role of PBC for pain management. More PBC is found to be related with feeling less pain intensity and depression (Jensen, Turner, & Romano, 2001). Another study on pain therapy program showed older patients showing reduced catastrophizing PBC after receiving treatment (Darchuk, Townsend, Rome, Bruce, & Hooten, 2010). Another study looked at the effectiveness of CBT on patients recovering from heart surgery (CS) (Doering, et al., 2016). Patients with depression, recovering from surgery received eight weeks of CBT or usual care ($n = 53$). Results show that for depressed patients recovering from a cardiac surgery; CBT increased patients' PBC to manage postoperative problems.

PBC has also been explored for increasing physical activity among patients. One such study ($n = 502$) examined the effects of depression and PBC to improve physical activity among

hospitalized patients (Allan, Johnston, Johnston, & Mant, 2007). Regression analysis showed that perceived behavioral control to exercise independently predicted exercising behavior after hospitalization. Overall, these studies point toward the importance of building patients perceived behavioral control and self-efficacy to improve mental health.

Studies on PBC have also looked at how depression is portrayed on media and its influences on viewers' perceptions about help seeking (Klin & Lemish, 2008). For example, viewing the Dr. Phil show on TV improved viewers' efficacy beliefs about seeking mental help for themselves, and for their children, that in turn influenced their behavioral intentions to seek help (Rasmussen & Ewoldsen, 2016). Jain, Pandey, & Roy (2017) measured the public announcements made by *Deepika Padukone* (a popular Indian actress) about her struggles with depression and its effects on the audience members perceived behavioral control and help-seeking intentions. The survey of Indian participants ($n = 206$) found that para-social interaction with the actress served as a mediator between exposure and help seeking intention. In a similar vein, an experimental study with college students in China, examined the effects of news coverage about depression and responsibility attribution as a function of participants' PBC to identify self and others with depression (Jin, Zhang, Lee, & Tang, 2017). These studies provide evidence on the role of media and celebrities' disclosure with its impact on influencing viewers' PBC to seek help for depression treatment. To sum, PBC has received considerable attention by both communication and medical researchers to improve help seeking behavior for depression treatment. Based on the evidence provided above, I propose:

H3: Perceived behavioral control to seek help will be positively associated with help-seeking behavioral intentions from counselor, friends, and family member.

Chapter Summary

So far, I have discussed depression as a serious public health concern, specifically among younger populations. Theoretically, the current study uses TPB as a framework to understand attitude, PBC, and perceived norms as viable routes to influence help seeking intentions for depression. I have also discussed communication and medical studies about improving help seeking intentions among depressed individuals. In the next section, I will elaborate the literature on human emotions, specifically nostalgic emotions and propose the design of communication messages to influence help seeking intentions. Specifically, I will introduce the bittersweet characteristics of nostalgia, and advocate for its positive effects to influence help seeking intentions among depressed individuals.

CHAPTER 3: NOSTALGIA

We always have the memories, and we can always return to them. Especially, when overwhelmed by the present and future, we often retreat to the past. This emotional urge to mentally travel back in time is called *Nostalgia*. Nostalgia has four broad definitions. Temporally defined nostalgia is a, “positive feeling for the past, with a negative feeling for the present or future; things were better, then than now” (Davis, 1979; p. 40). Second definition is about the emotions felt when feeling nostalgic, “a wistful mood that may be prompted by an object, a scene, a smell or a strain of music” (Belk, 1990; p. 669). Third, Holbrook, defines nostalgia based on what triggers it as, “a preference toward objects that were common when one was younger” (1991; p. 330). Later, Holbrook adds, “a longing for the past or a fondness for possessions and activities associated with the days of past” (Holbrook, 1993; p.161). Davis (1979) noticed that college students showed signs of nostalgia by expressing a deep yearning for childhood and good old times.

Triggers and Types of Nostalgia

Nostalgia is evoked by taste, smell, music and other sensory experiences from the past (Holbrook, 1993). Additionally, associations with things of the past such as meeting old friends and visiting historical places evoke nostalgia. It is experienced by everyone irrespective of age, gender or culture (Boym, 2001, Hepper et al., 2014).

Nostalgia has two broad categories: historical and personal (Sergeant, Ford, & West, 2006). Historical nostalgia is about a time before one was born (“The way it was”). Personal nostalgia is about personally experienced and remembered past (“The way I was”). Generally, intense life events intense have more memory retention compared to events which are less intense (Sehulster, 1989). For example, an individual may remember an event because it was the

first time he/she delivered a speech in front of a large audience. Thus, the more intense is personal experience, the stronger will be nostalgic memories (Baumgartener, 1992).

A content analysis of television advertisements identified seven dimensions of nostalgia-evoking factors in which period-oriented symbols and music are most cited (Unger, McConocha, & Faier, 1991). Other dimensions include reference to family events, golden days, heritage brands, and patriotism. A study, testing the communication effectiveness of nostalgic and non-nostalgic radio commercials, found greater recall and preference for the nostalgic commercials (Unger, McConocha, & Faier, 1991). Another study on participants' response to nostalgia-evoking print-ads, found a positive relation between feeling nostalgic and attitude toward the advertisement with higher intentions to purchase the product (Pascol, Spratt, & Muehling, 2002). Hirsch (1992) found that nostalgic evoking products are more likely to be consumed by customers who are generally dissatisfied towards life. The consumption of nostalgia products has shown to ease emotional pain and restore a sense of order in life (Hart, Shaver, & Goldenberg, 2005).

Nostalgia is labeled as an emotion (Johnson & Oatley, 1989), and more specifically a happy and positive emotion (Van Tilburg, Bruder, Wildschut, Sedikides, & Göritz, 2018). Experimental induction of nostalgia increases positive affect and social affiliation (Wildschut, Sedikides, Routledge, Arndt, & Cordaro, 2010). Overall, nostalgia has a bittersweet nature (Davis, 1979) in which the joy and sadness blend together (Sedikides, Wildschut, Routledge, & Arndt, 2015).

Nostalgia and Psychological Wellbeing

Nostalgia is a fascinating topic to study because it is so closely connected with our lives and ourselves. Anybody from anywhere understands and feels connected with nostalgia

irrespective of “age, social class, gender, ethnicity, or other social groupings” (Marchegiani & Phau, 2010, p. 80). Nostalgia has two dimensions: cognitive (based on memories) and affective (emotions evoked from those memories) (Werman, 1977; Baumgartener, 1992). Holak & Havlena (1998) further identified six emotional characteristics associated with nostalgia including, fear, tenderness, and serenity. By remembering the past, one feels warmth with a tinge of sadness because it is gone and cannot be relived (Holak & Halvena, 1998).

People gain authenticity from nostalgia (Baldwin & Landau, 2014; Stephan, Sedikides, & Wildschut, 2012). It buffers against threat to their self-worth (Vess, Arndt, Routledge, Sedikides, & Wildschut, 2012), and increase meaningfulness in life (Juhl & Routledge, 2012). Nostalgia acts as a psychological resource which enhances and restores feelings of personal wellbeing (Routledge, Wildschut, Sedikides, & Juhl, 2013). The ability of nostalgia to restore self-continuity is characterized to the social relations it engenders by feeling being loved and protected (Hepper, Ritchie, Sedikides, & Wildschut, 2012).

Nostalgia also increases optimism (Cheung, Wildschut, Sedikides, Hepper, Arndt, & Vingerhoets, 2013). By reminiscing fondly about past events, one feels happy. Such remembrance of the past serves as a motivational force to look ahead and take proactive actions to amend mistakes of past, and plan for a prosperous future. For instance, participants exposed to nostalgic messages reported higher approach motivation (Stephen et al., 2014) and exploratory intentions such as exploring new things in life and visiting new places (Baldwin & Landau, 2014).

The impact of nostalgia to produce positive results is of value to psychological health. Davis (1979) suggests that nostalgia helps people cope with life changing circumstances and discontinuity. Mills and Coleman (1994) found that nostalgia could restore the sense of identity

among older people living with dementia. Hertz (1990) found positive effects of nostalgia to cope with trauma. Hussain and Lapinski (2016) tested the effects of nostalgia-themed PSAs to promote no-smoking behavior. The results show that participants (smokers) assigned to nostalgia condition showed more negative attitude about smoking. Additionally, Hussain, Deng, and Alhabash (2017) tested the effects of nostalgia, in contrast to fear and disgust, for designing smoking prevention messages with both smokers and non-smokers. The results suggest that nostalgic PSA is effective in forming intentions to avoid smoking, as did fear and disgust; proposing nostalgia as an alternative mechanism to design smoking prevention messages.

Hussain and Alhabash (2017) examined the effects of nostalgia-themed PSAs vs. control PSA on its influence on attitude and intentions for help-seeking in depression. Participants exposed to nostalgic PSA expressed more positive emotions compared to the control condition. Serial mediation analyses showed that the higher positive emotions participants felt, the more positive attitude they expressed toward the counseling center, which in turn increased behavioral intention to contact the counseling center, thus providing initial evidence for designing nostalgia-themed PSAs to promote help-seeking in depression. Before delving further into the positive influence of nostalgia, I'll briefly discuss the basics of human emotions and elaborate on the role of emotional valence in the context of nostalgia.

Emotions, Moods, and Feelings

Appeal to emotions as a source has been used as a persuasive strategy by health communicators. Past research examined affective states for designing persuasion campaigns (Petty, DeSteno, & Rucker, 2001; Petty & Wegener, 1998). Generally, emotions are defined as a conscious experience (Clore, LeDoux, Zajonc, Davidson, & Ekman, 1994) representing internal mental states comprising of an evaluative reaction with varying levels of intensity (Ortony,

Clore, & Collins, 1988). Like attitudes, emotional states also help in evaluation of an object as good or bad, desirable or undesirable (Thurstone, 1931). Negative emotions are seen to increase susceptibility of an illness whereas positive emotions protect health, in addition to mitigating the effects of negative emotions (Boehm & Kubzansky, 2012). Emotional states may also be a type of feeling (Clore, Ortony, & Foss, 1987); derived from personal past experiences (Shouse, 2005) and may or may not concern objects or events (Berkowitz 2000).

Emotional Valence

Every emotion we experience can be categorized under some degree of valence (Feldman, 1995; Watson, & Tellegen, 1985). For example, riding a roller coaster could be dreadfully scary (negative valence) but one may still be happy and excited (positive valence). Similarly, one could feel angry on a rejection but still motivated to try again. The overall experience of life is made up of a mix of emotions manifested on a continuum. This pleasant or unpleasant dimension of an emotion is termed as valence. Valence is considered by many emotion theorists as one of the most important dimensions of emotions (Lewis, Haviland-Jones, & Barrett, 2010). It helps us distinguish good from bad, positive from negative, present from absent, and appealing from appalling. Appraisal tendency theory suggests that emotions with similar valence (e.g., empathy and compassion) may lead to differential judgments about possible outcomes and action tendencies (Lerner, & Keltner, 2000). Such differential behavioral patterns have important implications for processing of health messages because a change in valence may influence individuals' engagement or disengagement in the proposed behavior. To elaborate this phenomenon, I discuss below three hypotheses of valence: bipolarity hypothesis, bivalence hypothesis, and affective workspace hypothesis.

First, the bipolarity hypothesis states that valence of an emotion is like two ends of a string on a single dimension (Wundt, 1980). Barrett and colleagues found evidence for this hypothesis by showing negative correlations between positive and negative valence (2009). Second, the bivalence hypothesis of valence suggests negative and positive as two separate but codependent dimensions; one each for positive and negative valence (Cacioppo, Gardner, & Berntson, 1999). Third, affective workspace hypothesis states that both positive and negative emotions are product of a valenced-general system within which neurons combine in a probabilistic and context-dependent fashion so that instances of positive and negative experience are modeled as a brain-state rather than as an activity in a specific region of brain. (Barrett, 2009; Lindquist, Wager, Kober, Bliss-Moreau, & Barrett, 2012).

For the present study, the affective workspace hypothesis is particularly relevant because of two reasons. First, it provides the flexibility required to study the positive/negative or the bittersweet nature of nostalgic emotions. As these two categories of valence are fuzzy, thus multiple possibilities may exist. Second, the affective workspace hypothesis is suitable because it treats brain as a more plastic and dynamic organism, as opposed to the rigid descriptions of bipolar and bivalence hypothesis.

Emotional Valence of Nostalgia

Nostalgia is a bittersweet emotion (Sedikides et al., 2015). If nostalgia was a bitter feeling only, it wouldn't have been extensively used by advertisers as a marketing strategy, nor would people have purchased the nostalgic products to relive the past. The positive and negative feelings evoked from nostalgia serve an essential psychological function. Given that individuals, in general, tend to remember more positive than negative memories (Harmer, Shelley, Cowen, &

Goodwin, 2004; Routledge, 2015), it is expected that such pleasant emotional experiences may also exhibit positive impact on peoples' psychological wellbeing.

Several reasons exist to justify the study of nostalgic valence. First, based on the emotional see-saw or roller-coaster effect, Dolinski and Nawrat (1998) examined the emotional see-saw effect through the fear-then-relief procedure, in which subjects were first exposed to a fear condition which caused them to react in a certain way and then exposed to a relief condition to gain compliance. The fear condition leaves the subject in a state of disorientation which is capitalized by the persuasion message at the break-point when it is replaced by a relief condition. For example, people were more willing to complete surveys when they saw a parking ticket on their car which was illegally parked (fear condition), only to find out later that it's a flyer (relief condition) (Dolinski, 2007).

Second, negative emotions, such as sadness, are seen to be associated with greater intentions to improve one's emotional state (Frijda et al., 1986; Wohl & Thompson, 2011). For example, drug addicted inmates who reported distress were more motivated to be treated for their addiction than were inmates who reported less distress (Hiller et al., 2009). Similarly, women having fear of breast cancer were more likely to take preventive measures against developing cancer, such as requesting screening procedures, than women who were less worried (McCaul et al., 1998). These studies suggest that negative emotions help individuals to both be aware of the problem and directly assess those problems for a possible resolution.

Third, nostalgia is about the "memories we hold dear and these memories are typically social in nature" (Routledge, 2015; p.17). The sequence is often redemptive i.e., first negative feelings of loss emerge which give way to positive affect and emotionally positive conclusions, i.e., a sense of happiness and reliving of most cherished memories. This swing of emotional

valence may influence the way a message is processed and stored in the memory. For example, affect-as-information framework suggests that the way we feel changes the way we process information (Clore, Wyer, Dienes, Gasper, Gohm, & Isbell, 2001). The bittersweet nature of nostalgic emotions may induce a similar (see-saw) effect in subjects to first experience feelings of distress that in turn may motivate them to act to reduce the bitterness. Said differently, people are more motivated to resolve problems that cause negative emotions than problems that cause less negative emotions. In this way, nostalgia may hold promise to design persuasive messages to promote help-seeking by depressed individuals.

Although, nostalgia is found to improve pleasant memories by idealizing the past, much work is needed to explore whether it's the positive, negative or co-active aspects of nostalgia that are more effective. For example, negative affect increases attention (Bless, Fiedler, & Forgas, 2006), as opposed to positivity that results in less effort in processing information (Sinclair & Mark, 1992) and makes persuasiveness arguments more effective (Forgas, 2007), and more alertness when processing information (Schwarz & Bless, 1991).

Based on this discussion, I propose to investigate the influence of bittersweet effects of nostalgia and examine them separately. To answer this question, I will explore the valence of nostalgic message (positive, negative, coactive) on the dependent variables. As such I propose:

H4: Participants exposed to a coactive nostalgic message will express more favorable attitude (H4a), more favorable perceived norms (H4b), greater perceived behavioral control (H4c), and higher behavioral intentions (H4d) to seek help; relative to positive and negative nostalgic messages, respectively.

Role of Emotions in TPB

TPB parsimoniously tests the relation between intentions and cognitions (Armitage & Conner, 2001). However, several researchers have argued to include the role of emotions in predicting intentions (Bagozzi, 1988; Zanna & Rempel, 1988). Historically, the disconnect between rationality and emotion is referred to the dual process theory that considers emotions, and reason as two competing factors in decision making (Roser, 2012). Intuitive decision making is generally considered as non-rational and emotional (Simon, 1987). But this may not be entirely true as emotions may also facilitate in decision making through a feedback loop of incorporating past experiences and learning, thereby transforming emotional influence into current decision process (Baumeister, 2007). Small et al. (2007) supported this argument by finding that subjects were more likely to donate for starving children when a picture of child is shown compared with an informational PSA. The MGB (or model of goal-directed behavior) was introduced in Great Britain to extend TPB and account for positive and negative affect in the model (Perrugini & Bagozzi, 2001).

Attitude formation comprise of both cognitive and affective elements (Batra & Ahtola, 1990). The cognitive components of an attitude consist of beliefs, judgments, and associated thoughts. The affective components of attitude consist of emotions associated with the attitude object (McGuire, 1969). For example, Bae (2008) found better ability of TPB to predict organ donation intentions by adding positive emotions like sympathy and empathy in the model. Arvola et al (2008) also found similar effects of adding emotions in the TPB model for predicting intentions to consume organic foods. Parker et al (1995), found that negative emotion of regret, influenced the way subjects perceived to commit violations during car driving. Negative post-behavioral anticipated emotions (scale items: “worried, not-worried, regret, no-

regret”) influenced the use of contraceptives during casual sexual encounters (Richard et al., 1995). The role of emotions is also advocated for designing pro-environmental campaigns (Hipolito, 2011). Anticipation of positive and negative emotions is also found as an important determinant for decision making because people often make decisions based on how they may feel after enacting in the behavior (Bagozzi et al., 1998).

Additional reasons to study emotions is to better explain how intentions are activated (Bagozzi, 1992; Calder & Ross, 1973; Fazio, 1995). As TPB focuses on cognitive factors only, thereby attitude, perceived norms and PBC may result in an intention, but not the motivational drive to act on the intention. For instance, when one is convinced about the benefits of seeking help for depression, the emotions help an individual to form an intention, also known as the connection condition for intentions (Davis, 1984a). In this way, emotions function alongside attitude and other TPB constructs to derive motivation to act, while overlapping with other TPB constructs. Overall, emotions may predict and influence decision making (Lerner et al 2015). Help seeking behavior for depression goes beyond rational decision making to include emotional, social, cultural factors as well as personality differences such as level of depression, ability to locate help, and self-confidence to seek help from social others. Thus, in the context of present study on nostalgia, it is important to understand what effect is expected on behavioral intentions to seek help by means of adding nostalgia to the TPB model.

Individuals with depression often face barriers toward seeking help (Alonso, Angermeyer, Bernert, Bruffaerts, 2004). These barriers include beliefs that help seeking may not be helpful (Stallman, 2011), stigma in seeking help (Eisenberg, Downs, Golberstein, & Zivin, 2009), negative attitude toward seeking help (Reavley & Jorm, 2010), and lack of information about available services (Rickwood et al., 2006). Consequently, depressed individuals evaluate

their ability to respond to these emotions. If the emotional tax exceeds personal ability (i.e., low behavioral control), then negative emotions emerge; such as sadness, anxiety, loneliness, negative mood, and meaninglessness; which in turn obstructs help seeking behavior.

This phenomenon can also be explained in terms approach and avoidance motivations to seek help. To elaborate, in the next section, I will present two models of emotions; dimensional and discrete, and then connect with approach and avoidance motivational functions of human behavior. Finally, I will propose how approach and avoidance systems may influence help seeking intentions.

Discrete and Dimensional Models of Emotion

The dimensional model of emotions suggests that the way individuals experience emotions is through the activation of appetitive (approach) and/or aversive (withdrawal) motivational systems. Affective responses are characterized by a bi-dimensional system of emotional valence (positive, negative), and arousal (high, low) (Lang, Greenwald, Bradley, & Hamm, 1993). The dimensional view treats valence and arousal as representations of different activation levels along with approach and avoidance motivational subsystems (Cacioppo & Gardner, & Berntson, 1999). Proponents of the dimensional view consider this model as a more nuanced perspective because it provides communication researchers the flexibility to study complex and diverse nature of emotions. For example, research on neural processing of emotions shows distinct neural circuitry to process positive and negative messages (Cacioppo, Larsen, Smith, & Berntson, 2004). The dimensional view of emotions posits that when exposed to a stimulus, our brains respond with an embodied affect system, that results in more attention to message aspects which are motivationally relevant while responding with pleasantness or

unpleasantness at different arousal levels. This may also explain how nostalgic experiences differ depending on one's personal experience and memories evoked.

The discrete model proposes two basic motivational processes (positive or negative) underpinning all emotional states (Lazarus, 1991). As per this model, cognitions play an important role in emotions (Frijda & Zeelenberg, 2001). The cognitive appraisal generates emotional response and, help in differentiating specific emotions from each other. The resulting action tendencies (such as crying in sadness, escape in fear) coupled with physiological changes, results in an adaptive response including cognitive outcomes (thoughts), as well as behavioral outcomes (intentions) (Izard, 2009).

Proponents of discrete model assert that this perspective not only capture the valence and arousal dimensions of emotions but goes further to explain the onset and outcome of an emotional experience. For example, discrete emotions evoked by PSAs (Dillard, Plotnick, Godbold, Freimuth, & Edgar, 1996) and media messages predict persuasion (Dillard & Peck, 2001) indicating the ways emotions could be used to enhance our understanding of persuasion in a communication context (DeSteno et al., 2004). By knowing the emotional state, targeted interventions could be designed to address the problems.

Researchers considering dimensional perspective of emotions give importance to the motivational processes, whereas those considering discrete perspective give importance to the cognitive appraisal of the stimuli. In the context of present study, the bittersweet nature of nostalgia poses a complex phenomenon and thus require an equally complex and dynamic emotional system to understand its workings. Although, discrete view of emotions provides insights about neural processes, the dimensional model explains the motivational forces and its impact on behavioral intentions, which is closely linked to understanding the cause and

consequence of human thoughts, and actions. Thus, the dimensional view of emotions provides a clearer understanding of nostalgia and its ability to explain help-seeking motivations.

Generally, people are motivated to approach emotional experiences which reflect positively on the self and avoid negative experiences (Lang, Bradley, & Cuthbert, 1990). The approach system generates positive emotions such as joy and empathy (Depue & Collins, 1999). Such behaviors are usually generated for moving toward a goal, also called pre-goal attainment positivity affect (Lazarus, 1991). For example, as people with depression realize the problem, they are more likely to seek help (Thompson, Hunt, & Issakidis, 2004). Individuals with more social support (Friedson, 1961; Rickwood & Braithwaite, 1994), and those who expect counseling to be beneficial, are also more positively responsive (Vogel, Wade, & Hackler, 2008).

The avoidance system facilitates withdrawal from aversive stimulus and generates a negative effect. The aversive state of subjective feeling indicates that the person is faced by a challenge; thereby motivating a response (Frijda, 1986). In the context of depression, avoidance factors such as stigma, negative feelings, and high cost of treatment are shown to inhibit help-seeking behavior (Deane & Chamberlain, 1994; Komiya, Good, & Sherrod, 2000; Vogel & Wester, 2003).

Fischer and Turner (1970) proposed a model of depression related help-seeking. The model proposes four factors: 1) acceptance of personal need to seek help, 2) enduring the stigma related with psychotherapy, 3) openness to accept one's illness, and 4) belief that psychological assistance will result in positive outcomes. To study the barriers to help-seeking, Sawyer et al., (2012) examined the use of stories to assess help seeking when experiencing a depressive episode. Results show that 80 percent of adolescents reported intention to seek help. Lueck (2017), further explored the message effects by looking at loss and gain framing of messages.

The study employed eye-tracking procedure with participants assigned to gain and loss framed help-seeking messages ($n = 75$, and $n = 78$ respectively). The results show that depressed participants paid more attention to loss-framed messages, thus providing evidence for the risk avoidance motivation commonly expressed by individuals with depression.

Another study tested the EPPM, or extended parallel process model, to examine the effectiveness of a theater intervention called Let's Talk to promote communication about suicidal ideation (Keller, Austin, & McNeill, 2017). Briefly, EPPM is a theory proposed by Witte (1992) that attempts to explain how people respond to fear inducing messages. In-depth interviews with small groups ($n = 27$) were conducted before and after theatre performance to measure the impact. Results point toward the potential to educate people with depression about suicide and increase conversation through personal narratives.

Nostalgia and TPB Variables

Nostalgia's relationship with the perceived norms is not explicitly discussed in the existing literature. However, case studies on country's histories and recollections may suggest how nostalgic recollection could result in establishment of social norms. For example, in every nation, the community elders and religious leaders reminisce the past in a glorified way. They recollect stories from times gone by and narrate them to young generation as a standard that must be preserved and followed. Because these are not individual but collective memories, passed on by generations, thus they form a collective and shared nostalgia. All people of certain color, geographic proximity, and language could associate themselves to that shared nostalgic feeling. They feel pride and honor as a descendent of past and feel obliged to preserve it. They strive to relive the past and bring back the good old days when everything was better. In this way, the collective nostalgizing starts to establish a set of normative influence or pressure. Community

leaders evoke these narratives through their sermons and speeches to remind people of their glorified past and urge them to re-establish those practices. This, in a way, is the enactment of social norms i.e., approved and endorsed by social others, labeled as “cultural-life-script events” (Berntsen and Rubin, 2004, p. 28). These scripts provide individuals a sense of authenticity by assuring that they are part of a group and have meaning in life. No wonder, people like to preserve their family ancestry records and artifacts. They display them in their living rooms to express how important it is for them to adhere to those norms.

Several researchers have explored the connection between nostalgia and its effects on attitudes. Advertisement arousing nostalgia resulted in increased positive attitude and behavioral intention to purchase that brand (Pascol, Sprott and Muehling 2002). Specifically, for mental health, Turner et al (2013) found that nostalgizing reduces discriminatory attitudes towards mentally ill patients. The study found that participants exposed to nostalgia condition expressed more positive attitudes mediated by an increased feeling of social connectedness. Nostalgia is shown to increase empathy and altruism (Zhou, Wildschut, Sedikides, Shi, & Feng, 2012). People who perceive past as positive also exhibit better psychological health (Bryant, Smart & King, 2005).

The literature on nostalgia mostly use the term efficacy instead of perceived behavioral control. Studies have shown that nostalgia increase people’s self-confidence and efficacy in forming new relationships and maintaining them by avoiding conflicts (Stephan et al., 2014). Additionally, participants exposed to nostalgia show more efficacy while interacting with out-group members (Abeyta, Routledge, & Juhl, 2015).

Based on the evidence presented above, I propose that effects of message valence on behavioral intention will be mediated by the intermediary variables of TPB. Similar mediation

analysis has been explored earlier as well in psychological studies to study the impact of cognitive behavior therapy intervention channeled by multiple mediating variables (Vincent & Walsh, 2013; Arch, 2014). As such I propose:

H5: The effect of message valence on help-seeking behavioral intentions will be mediated by perceived norms, perceived behavioral control, and attitude toward help seeking; from counselor, friends, and family members, respectively.

Chapter Summary

So far, I have discussed TPB as a model to examine the behavioral intention to seek help during depression through attitude, perceived norm, and PBC, and the association of these variables with constructs of beliefs (behavioral, normative, and control beliefs). Then, I discussed the emotional states, specifically the bittersweet experience of nostalgia, followed by a dimensional view of emotions. Next, I introduced the approach and avoidance motivations in seeking help.

Even though emotions evoked from the triggering of approach and avoidance systems exhibit an action tendency, people may not always act on these urges. This is because antecedents and consequences of emotions vary due to environmental demands, resources, constraints, uncertainty of events, and by personal beliefs and motivations (Lazarus, 1991). To address this concern, in the next section, I introduce three additional variables which may facilitate the help seeking intentions. These variables are perceived social support, stigma to seek help, and depression symptomology. These variables effect the way a PSA may be perceived and is transferred into action.

CHAPTER 4: ADDITIONAL PREDICTORS

In this section, I will introduce additional predictors that may influence the path to help seeking intention through TPB variables. The additional variables are perceived social support, stigma in seeking help, and depression symptomology.

Social Support

In early 2018, the United Kingdom appointed a minister of loneliness to deal with social exclusion experienced by 1 in 10 citizens. This is more than 9 million Britons out of a population of 65.6 million. Prince Harry recently shared his struggle with mental illness saying “I can safely say that losing my mum at the age of 12, and therefore shutting down all of my emotions for the last 20 years has had a quite serious effect on not only my personal life but my work as well.” (“All of this grief,” 2017).

Nostalgia improves feelings of social connection (Sedikides, Wildschut et al., 2015). In Hertz’s words, when feeling nostalgic the “mind is peopled” (Hertz, 1990, p.195). In this way, nostalgia is a positively valenced emotion rich with social interactions and community connectedness. A content analysis of nostalgic narratives showed that people are a central theme of nostalgia, followed by other themes including personally treasured life events involving social gatherings etc (Wildschut, Sedikides, Arndt, & Routledge, 2006). This explains why feelings of loneliness may trigger nostalgia. For example, in a study testing high vs. low loneliness, experimentally induced loneliness triggered feelings of nostalgia in which participants feeling lonelier also reported more nostalgia (Wildschut et al., 2006).

Several health communication researchers have explored the role of social support for depression. A study on adolescents ($n = 254$, age 15-17 years) reported a positive relationship between social support perceptions and help seeking when depressed (Sheffield, Fiorenza, &

Sofronoff, 2004. Sawyer and colleagues (2012) employed TPB to explore intentions to seek help among high schoolers (age 12-14, $n = 5362$) with high, low, and moderate levels of depression. The study used vignettes of a person describing his experience of living with minor depressive disorder. Results show that as participants' level of depression increased, their intention to seek help either decreased to the extent of not seeking help at all. But they did express interest in seeking help online or call a telephone helpline. Participants at mild level of depression, expressed a need to seek help from friends and then family. However, participants, with low levels of depression, didn't express intentions to call helplines and similar online sources. Participants with high perceived social support didn't prefer online sources as well. Thus support from friends and family is a preferred type of help seeking among mild and moderate levels of depression whereas online sources are preferred only as an alternative.

Overall, perceived social support has shown to reduce depression and stress, and increase sense of well-being (Wills & Shinar, 2000; Lett et al., 2007). Building on these evidence, the role of friends and family members' in influencing help seeking will be examined separately while testing the hypotheses. Considering these findings, I will separately explore each source of help (friends, family and counselor) during hypothesis testing.

Stigma

Stigma, is a significant problem faced by individuals living with depression (Herek & Glunt, 1988). It is conceptualized as a mark of shame perceived by an individual about his or her health condition (Goffman, 1963). It is a social construct and is created through the interactions of the stigmatized and stigmatizers over time (Meisenbach, 2010; Smith, 2007). Stigma is a serious public health issue and is considered a "leading barrier to health promotion, treatment,

and social support for those facing health challenges” (Smith, 2011; p.455), resulting in social withdrawal and social rejection (Smith, 2007).

An individual with mental health problem is often considered violent, acting childlike, and not competent (Wahl, 1995). Because of such discriminatory attitudes, even if an individual develops intention to seek help, stigma interferes to further weaken this relationship (Gulliver, Griffiths, & Christensen, 2010). Although stigmatizing attitudes are observed in physical disabilities as well, such attitudes are more severe for individuals with a mental illness (Corrigan, 2000; Socoll & Holtgraves, 1992). Overall, depression is found to be associated with stigma (Vanable et al., 2006). For the present study, stigma plays an important role specifically from the standpoint of injunctive norms that pertains to the approval and endorsement of social important others for seeking help in depression.

Depression Symptomology

Depressed people tend to recall generalized autobiographical memories, compared with non-depressed people who recall specific memories (Williams et al., 2007). This phenomenon of recalling generalized memories is also associated with inability to imagine possible events in the future. In a study, depressed people were trained to recall specific past events, resulted in reduced generalized thinking and higher depression (Watkins, Baeyens, & Read, 2009). Based on the role of differential effects of levels of depression, the depression symptomology will be treated as an additional predictor.

Depression has a strong association with memories from the past (Wenzlaff & Eisenberg, 2001). While non-depressed people exhibit a memory related bias for positively valenced stimuli, depressed people on the contrary, show a recall bias for negatively valenced information (Bradley, Mogg, Millar, & White, 1995). For example, in facial recognition tasks, depressed

people showed higher memory recall for faces which were sad (Ridout, Astell, Reid, Glen, & O'Carroll, 2003). Additionally, more depressed people also tend to recall negative mood recall more than the those with low levels of depression (Wenze, Gunthert, & German, 2012).

Overall, the perceived social support, stigma in seeking help and depression symptomology are important factors that need to be considered while designing a persuasive message to improve help-seeking intentions. Based on the literature discussed above, these variables are considered additional predictors influencing the path to help seeking through attitude, PBC and perceived norms.

CHAPTER 5: SUMMARY OF HYPOTHESES

Given the pervasive role of nostalgic emotions in the advertising literature, it is surprising that the influence of nostalgia on depression related help-seeking has received little prior attention. To contribute to this literature, current study proposes to examine the relationship between nostalgic emotions and depression in the context of depression-related help seeking intentions among younger populations. These questions are investigated using the TPB as theoretical framework. Eventually, this study aims to gain a more refined conceptual understanding of how differently valenced nostalgic message (positive, negative, coactive) may influence help-seeking intentions. Studies in the past have also manipulated content valence of the story (Cachón and Igartua, 2016; Yan, Dillard, & Shen, 2012). This present study treats stigma, social support, and depression symptomology as additional predictors to determine help seeking intentions, examined separately for counselor, friends and family members. Before discussing the study methodology and data analysis plan, I reiterate the study hypotheses:

- H1: Attitude toward help-seeking behavior will be positively associated with help-seeking intentions from counselor, friends, and family member.
- H2: Perceived descriptive and injunctive norms toward help-seeking will be positively associated with help-seeking intentions from counselor, friends, and family member.
- H3: Perceived behavioral control to seek help will be positively associated with help-seeking behavioral intentions from counselor, friends, and family member.
- H4: Participants exposed to a coactive nostalgic message will express more favorable attitude (H4a), more favorable perceived norms (H4b), greater perceived behavioral control (H4c), and higher behavioral intentions (H4d) to seek help; relative to positive and negative nostalgic messages, respectively.

H5: The effect of message valence on help-seeking behavioral intentions will be mediated by perceived norms, perceived behavioral control, and attitude toward help seeking; from counselor, friends, and family members, respectively.

CHAPTER 6: METHOD

Study Design and Independent Variable

The study uses a single between-subjects factor (valence of nostalgic appeal: positive vs. negative vs. coactive). Participants were randomly assigned to view a video PSA (see Stimuli for more details) that focused on evoking nostalgia through positive, negative, or coactive (both positive and negative) memories. Positive PSA consisted of only positive images, music, and text. Negative PSA consisted of only negative images, music and text. Coactive PSA consisted of a blend of both positive and negative images, music and text.

Operationalization of Emotional Valence

Affective valence refers to the value of emotional response (positive/negative) and is recognized as a primary and core dimension of emotion (Bolls, 2017). Emotional valence is operationalized in three ways: self-report, physiological, and behavioral (Lang, 1979). Self-report measures include verbal reports by participants after exposure to stimuli. Physiological measures include measuring facial reactions, heart rate, and skin conductance. Behavioral measures include facial and other emotional responses such as crying, laughing, and fidgeting etc. The present study focuses only on the self-report measures to assess valence of the nostalgic messages.

The self-reported responses to an emotionally valenced stimuli can be achieved in three ways. First method is examining viewer's attention to the emotional message (Reeves, Lang, Thorson, & Rothchild, 1988). Second method is to rate the responses in terms of its message valence by independent coders, to assess the emotional content of messages. Third method, used in this study, is to manipulate the message at different levels of emotional valence i.e., positive, negative, and coactive.

Stimuli Design Pretests

Pretest 1. To initiate message design, an online pretest (Pretest 1) was administered to assess emotional response to images and text which were later used to produce the video PSAs. Participants ($n = 86$) were recruited from an online student subject pool; participation was voluntary and students received course credit in exchange of participation. The images included a diverse mix to represent all ethnicities. Overall, 32 negative images, 42 positive images, and 31 counseling-related images were gathered from Google images and nostalgia related blogs. After providing consent, participants were randomly presented a mix of 50 images from a pool 105 images. Participants rated each image on a seven-point scale including items anchored by: not at all positive/extremely positive, not at all negative/extremely negative, not at all arousing/extremely arousing, and not at all nostalgic-extremely nostalgic.

A repeated measures ANOVA with a Huynh-Feldt correction determined that positivity, negativity, nostalgia and arousal differed statistically significantly within participants (Table 2). In terms of positivity, participants rated positive images as more positive than negative images. Similarly, the negative images were scored as more negative, than positive images. Post hoc tests using the Bonferroni correction revealed significant differences among all factors.

Table 2.

Summary evaluation of positive, negative and counseling images.

	Positive Images ^a	Negative Images ^b	Counseling Images ^c	Total	
Factors	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F
Positivity	5.34 (.74) ^{abc}	2.15 (.72) ^{abc}	4.01 (.74) ^{abc}	3.83 (0.73)	546.97 ***
Negativity	2.06 (.83) ^{abc}	5.28 (.79) ^{abc}	3.20 (.74) ^{abc}	3.51 (0.79)	503.84 ***
Nostalgia	4.56 (1.14) ^{abc}	2.82 (1.20) ^{abc}	3.17 (.95) ^{abc}	3.52 (1.1)	87.47 ***
Arousal	3.60 (1.56) ^{abc}	2.86 (1.37) ^{abc}	3.32 (1.27) ^{abc}	3.23 (1.4)	21.90 ***

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .001$.

^{a,b,c} For each factor, means with different superscripts differ significantly from each other: a = positive images; b = negative images; c = counseling images.

After rating the images, participants were randomly assigned to read one of three text essays differing on their level of valence i.e., positive, negative and coactive (see Scripts in Appendix 1). The script for these essays was written after reviewing narratives of nostalgia and depression from online blogs using the search key words like nostalgia and depression (e.g., www.reddit.com/r/depression; reddit.com/r/nostalgia). The narratives were downloaded and reviewed to pick statements which appeared relevant to design of a depression-related nostalgic PSA. From that list, a set of statements were further shortlisted and themed together to form a text essay. Participants were asked to rate the essay on a seven-point scale anchored by: not at all positive-extremely positive, not at all negative-extremely negative, not at all arousing-extremely arousing, and not at all nostalgic-extremely nostalgic.

Results show that difference in negativity across three conditions approached significance ($p = .051$). Post hoc analysis showed that positive essay differed significantly from both negative and coactive essays in terms of negativity ($p < .05$). The coactive essay was consistently rated at the mid-point of positive and negative essays in terms of both positivity, and negativity. Based on these results, the text essay didn't require any further alteration. Summary statistics on essay evaluation are summarized in Table 3.

Table 3.
Summary evaluation of positive, negative and coactive text essays.

	Positive Condition ^a (<i>n</i> = 14)	Coactive Condition ^b (<i>n</i> = 22)	Negative Condition ^c (<i>n</i> = 16)	Total	
Factors	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	<i>F</i>
Positivity	4.50 (1.74)	4.14 (1.42)	4.06 (1.76)	4.21 (1.50)	.312
Negativity	3.43 (1.34) ^{ab}	3.95 (1.13)	4.69 (1.70) ^{ca}	4.04 (1.44)	3.16
Nostalgia	4.57 (2.24)	5.50 (1.68)	5.00 (2.06)	5.13 (1.79)	.239
Arousal	3.50 (1.50)	3.77 (1.69)	3.00 (1.86)	3.46 (1.69)	.389

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .001$.

^{a,b,c} For each condition, means with different superscripts differ significantly from each other: a = positive; b = coactive; c = negative.

Based on Pretest 1 results; images and text essay were combined to design three video PSAs differing on their level of valence: positive, negative, and coactive. To design the positive nostalgic PSA, only positive images, no negative image, and same number of nostalgic and arousing images were used. Similarly, to design the negative PSA, only negative images were used, and no positive image. In both conditions, the combination of arousing and nostalgic images remained the same. The co-active PSA comprised of a mix of both positive and negative images, as well as similar arousing and nostalgic images. In this way, the use of images was standardized in all three conditions. The video PSAs were created using Adobe Premiere video editing software, had equal duration (1:58 minutes) ending with a standard help seeking message. PSAs are available on a YouTube playlist: <http://bit.ly/2Ifv4uN>.

Pretest 2. Upon designing the three nostalgic PSAs, a second pretest was designed to ensure the valid manipulation of valence in each of the three conditions. Participants ($n = 50$) were recruited from an online subject pool as well as from classes in the College of Communication Arts and Sciences, and then randomly assigned to view one of three videos: Positive PSA ($N = 16$), Negative PSA ($N = 19$), and Coactive PSA ($N = 15$). Upon watching the video, participants were asked to evaluate it on a seven-point scale anchored by: not at all positive/extremely positive, not at all negative/extremely negative, not at all arousing/extremely arousing, and not at all nostalgic/extremely nostalgic. Additionally, participants were asked to report three positive and three negative emotions; happy, sad, relief, regret, hopeless, hopeful, on a seven-point scale.

Results show that PSAs were significantly different in terms of the happy and sad feelings evoked while comparable in terms of nostalgia. The positive PSA resulted in more positivity among participants, followed by coactive PSA, and then sad PSA. Participants exposed

to positive and coactive PSAs also expressed greater hopefulness and relief compared with the participants exposed to the negative PSA. Results are summarized in Table 4.

Table 4.

Feelings related to happiness, sadness, positivity, negativity, nostalgia, hopefulness, hopelessness, relief and regret; evoked from positive, negative and coactively nostalgic PSAs.

	Positive ^a (n = 19)	Coactive ^b (n = 15)	Negative ^c (n = 14)	Total	
Factors	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F
Positivity	4.52 (1.17) ^{ac}	3.62 (1.54)	3.20 (.95) ^{ca}	3.85 (1.37)	5.10*
Negativity	4.35 (1.39)	3.26 (1.32)	4.20 (1.89)	3.87 (1.59)	2.50
Happy	4.42 (1.07) ^{ac}	4.20 (1.52)	3.21 (1.42) ^{ca}	4.00 (1.39)	3.57*
Sad	3.00 (1.52) ^{ac}	4.00 (1.46)	4.64 (1.00) ^{ca}	3.79 (1.51)	5.99**
Relief	3.52 (1.72)	4.20 (1.14)	3.07 (1.38)	3.60 (1.28)	3.11
Regret	2.37 (1.60)	2.80 (1.47)	2.86 (1.56)	2.65 (1.54)	.51
Hopelessness	2.74 (1.59)	2.53 (1.40)	2.79 (1.37)	2.69 (1.44)	.12
Hopefulness	4.63 (1.49)	4.93 (1.16) ^{bc}	3.57 (1.55) ^{cb}	4.42 (1.49)	3.69
Nostalgia	4.53 (1.54)	4.80 (1.32)	4.43 (1.28)	4.59 (1.38)	.28

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .001$

^{a,b,c} For each condition, means with different superscripts differ significantly from each other: a = positive; b = coactive; c = negative.

Main Study

Measures

The experiment included scales to measure TPB constructs; attitudes, perceived norms, perceived behavioral control, and behavioral intentions to seek help from counselor, friends and family members. Additional scales were used to assess message induction, depression symptoms, perceived social support, and stigma followed by demographics. Scales to measure TPB constructs are adapted from the TPB questionnaire construction guidelines provided by Aizen's (2013). The target behavior of interest was intention to seek help from a counselor, friends, and family members when feeling depressed in the future. All measures were repeated thrice to represent each group of social influence. All items and reliabilities are reported in Appendix 2.

Attitude toward help-seeking was measured on a seven-point semantic differential scale in which participants rated their attitude towards help seeking. Items to measure help seeking

attitude from a counselor included: Seeking help from a counselor, when I feel depressed in the future is; Bad-Good, Dislike-Like, Unpleasant-Pleasant, Not Beneficial-Beneficial. The same four items were used to measure help seeking attitude from friends and then family members adapted from Park and Smith (2007).

Perceived Norms were measured as injunctive norms and descriptive norms. Participants responded to each item on a seven-point scale ranging from Strongly Disagree to Strongly Agree (Park & Smith, 2007). Measure of descriptive norms toward help seeking included three items: “Most people who are important to me have sought help from a counselor when they felt depressed”, “Most people whose opinion I value have sought help from a counselor when they felt depressed”, “Most people who are important to me have initiated seeking help from a counselor when they felt depressed.” The same scale was used to measure perception of descriptive norms related to friends and then family members.

The measures of injunctive norms included three items: “Most people whose opinion I value would approve of my seeking help from a counselor when feeling depressed”, “Most people who are important to me would endorse my seeking help from a counselor when feeling depressed”, “Most people who are important to me would support that I seek help from a counselor when feeling depressed.” The same scale was used to measure perception of injunctive norms related to friends and then family members. Participants responded to each item on a seven-point scale ranging from Strongly Disagree to Strongly Agree (Park & Smith, 2007).

Perceived behavioral control was measured by five items on a seven-point scale ranging from Strongly Disagree to Strongly Agree (Park & Smith, 2007). Example items included: “I have access to a counselor for seeking help when I am feeling depressed”, “It’s easy for me to seek help from a counselor when I am feeling depressed”, “I have the confidence to

seek help from a counselor when I am feeling depressed”, “I can afford to seek help from a counselor when feeling depressed”, and “My decision to seek help from a counselor is completely up to me.” The scale was repeated to measure perceived behavioral control to seek help from friends and then family members.

Behavioral Intention to seek help was measured using four-items on a seven-point Likert-scale with response options ranging from Strongly Disagree to Strongly Agree (Park & Smith, 2007). Scale items included: “I intend to seek help from a counselor, when I feel depressed in the future”, “I am willing to seek help from a counselor, when I feel depressed in the future”, “I will seek help from a counselor, when I feel depressed in the future”, “I plan to seek help from a counselor, when I feel depressed in the future.” The scale was repeated to measure intention to seek help from friends and then family members.

Message Valence Induction Check. The central manipulation in this study is valence of a nostalgic message. To check the valence induction, participants were asked to evaluate the video PSA on a seven-point scale including items: not at all positive/extremely positive, not at all negative/extremely negative, and not at all arousing/extremely arousing. Finally, valence of PSAs was measured by asking about emotions evoked while watching the video PSA. For that purpose, a list of ten positive and ten negative emotions were adopted from the study by Van Tilburg (2018) measured on a seven-point scale ranging from Strongly Disagree to Strongly Agree. The list of emotions included: anger, joy, guilt, pride, gratitude, self-pity, disappointment, relief, contentment, regret, longing, despair, loneliness, bitter, enthusiasm, sadness, love, relaxation, nostalgia, and beloved. Each item was rated on a seven-point scale ranging from Strongly Disagree to Strongly Agree. Higher score indicates more emotion evoked.

Nostalgia Induction Check. Feelings of nostalgia were measured using six-items on a seven-point personal nostalgia scale (Marchegiani & Phau, 2013) with response options ranging from Strongly Disagree to Strongly Agree. Participants responded to the instruction: The video I watched above reminds me of, “times from my past”, “when I was young”, “my childhood days”, “memories of being a kid”, “a reminder of past”, and “memories of times from my past.” Higher scores indicate more nostalgic feelings.

Depression Symptoms. The patient health questionnaire (PHQ-9) was administered to assess depressive symptoms. PHQ-9 is a widely-used scale for screening depression whose diagnostic validity has been established in primary care and obstetrical clinics (Kroenke, Spitzer, & Williams, 2001). The scale has nine items. Participants rated each item on a four-point scale: 0 = not at all to 3 = nearly every day; for the depressive symptoms, they have experienced in the past two weeks. Example items included: “little interest or pleasure in doing things”, “feeling tired or having little energy”, “feeling bad about yourself – or that you’re a failure or have let yourself or your family down.” The sum of all items indicates the depression symptoms ranging from a score of 0 to 27. The score distribution is as follows: 1–4 = minimal, 5–9 = mild, 10–14 = moderate, 15–19 = moderately severe, and 20–27 = severe depression (American Psychiatric Association, n.d.).

Perceived Social Support. A 24-item scale used to measure perceived social support (Cutrona & Russell, 1987). The scale comprises of 3 sub-scales: social support from family, friends, and significant others. Sample items include: “There are people I can depend on to help me if I really need it,” and “I feel that I do not have close personal relationships with other people.” Participants rate each item on a seven-point scale with higher scores indicating more perceived social support.

Stigma. Stigma can be broadly categorized as self-stigma and public stigma. Self-stigma is a mark of fault due to a physical or personal inability (Blaine, 2000). Public stigma is how social others perceive an individual negatively. For this study, stigma associated with help seeking is measured using the self-stigma of seeking help (SSOSH) scale to measures participants' level of comfort or concern about seeking psychological help (Vogel, Wade & Haake, 2007). The scale consists of ten items measured on a seven-point scale with high score indicating more stigma. Example items included: "If I went to a therapist, I would be less satisfied with myself," and "I would feel inadequate if I went to a therapist for psychological help."

Finally, participants' demographics were measured including age, gender, ethnicity, marital status, educational status, income, past counseling experience and any friend or family member with mental illness (Appendix 2).

Power Analysis

Before collecting data, a power analysis was conducting to assess the adequate sample size for finding significant effects in the main study. The G-Power 3.1 software was used to conduct power analysis and detect significant effects from the sample. The estimated effect size was based on the findings reported in a recent meta-analysis published by Rainer, Levine and Weber (2018). The meta-analysis summarizes results reported in other meta-analyses from year 1984 to 2015. Specifically, for health communication interventions, the authors report small effect sizes for media-based health campaigns ($r_{\text{range}} = .05$ to $.09$). However, the effect sizes for studies on psychological and social problems were higher ($r_{\text{range}} = .36$ to $.47$). Overall, the authors report a mean effect of $r = .21$, and median effect of $r = .18$ in communication related research in past sixty years. Based on this review, the power analysis was conducted using the following

parameters: effect size of 0.18; alpha of .05 level, and power of 0.9, yielding to a sample size of 400 participants.

Recruitment

Participants for the main study were recruited from Amazon Mechanical Turk (MTurk) which is an online marketplace consisting of a diverse set of human participants required to complete a range of tasks. Inclusion criteria comprised of male and female respondents, age 18 years and above, location US, and MTurk approval rating of 90% and above. All participants received \$1.5 compensation to complete a 30-minutes online survey.

Past studies have shown MTurk as a reliable and valid source to collect data for social and behavioral research (Goodman, Cryder, & Cheema, 2013) and are generally representative of a diverse and broad population (Buhrmester, Kwang, & Gosling, 2011; Hitlin, 2016). The data quality is maintained by MTurkers' approval rating which incentivizes them to pay attention and perform the job (survey) as instructed (Goodman & Paolacci, 2017). Overall, MTurk has been shown as a reliable source for academic research.

In total, 482 participants were recruited (266 males, 215 females, one gender unidentified) with a mean age of 37 years. Among these participants, 40% identified as single, and mostly white (77%). In terms of family household income, participants' median income was from \$10,000 to \$49,000. Details of participant demographics are presented in Table 5.

Table 5.
Participant demographic characteristics.

	Sample ($n = 482$)
Age, in years, Mean (SD), Range	36.82 (11.71), 70
Education, n (%)	
Freshman	24 (5%)
Sophomore	35 (7.3%)
Junior	38 (7.9%)
Senior	69 (14.3%)
Masters student	86 (18.8%)

Table 5 (cont'd)

PhD student	18 (3.7%)
Others	195 (40.5%)
Race/Ethnicity, <i>n</i> (%)	
American Indian or Alaska Native	14 (2.9%)
Asian	40 (8.3%)
Black or African American	64 (13.3%)
White	375 (77.8%)
Arab (middle eastern)	3 (.6%)
Others	11 (2.1%)
Marital Status, <i>n</i> (%)	
Single	192 (39.8%)
Married	197 (40.9%)
Living with a domestic partner	54 (11.2%)
Divorced	26 (5.4%)
Separated	3 (0.6%)
Widowed	5 (1%)
Others	5 (1%)
Household Income, <i>n</i> (%)	
Less than \$10,000	17 (10.5%)
\$10,000 to \$49,999	214 (44.4%)
\$50,000 to \$79,000	137 (28.4%)
\$80,000 to \$99,000	62 (12.9%)
\$100,000 to \$149,000	38 (7.9%)
\$150,000 or more	14 (2.9%)

The sample included participants from all levels of depression (Fig 2) including no depression (24%), minimal depression (23%), mild depression (19%), moderate depression (13%), moderately severe depression (15%), and severe depression (6%).

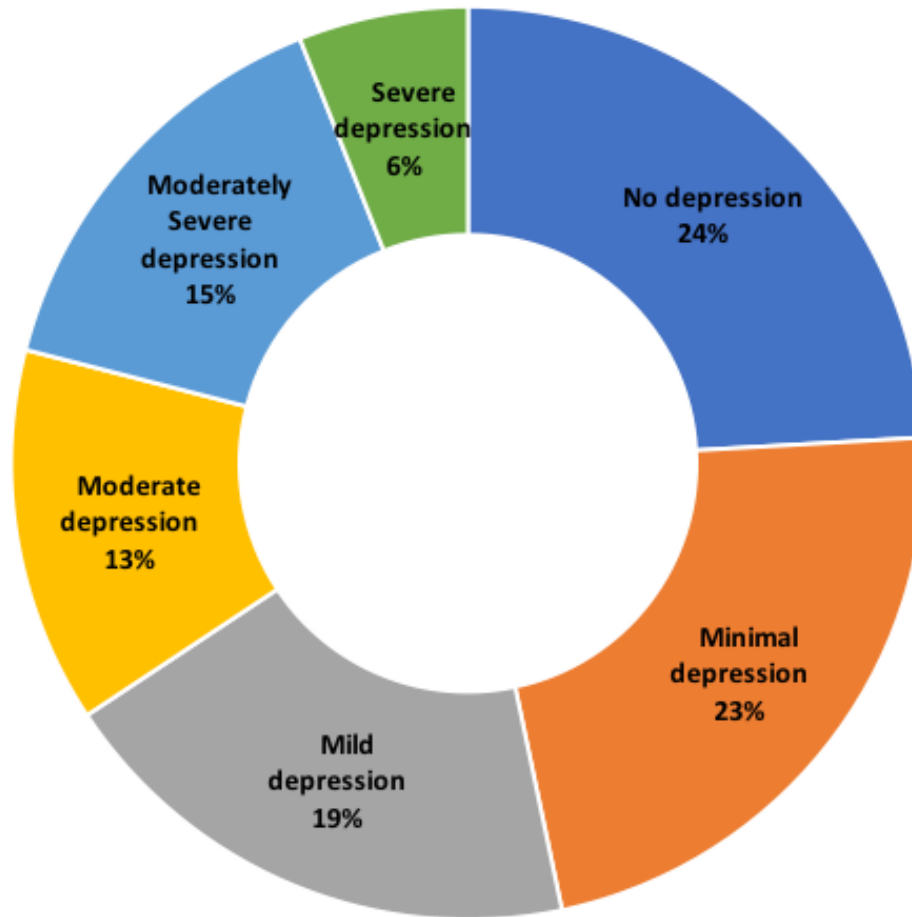


Figure 2. Distribution of participants as per depression symptomology.

In terms of gender distribution across depression status, more males reported higher in depression symptomology, relevant to females, except for minimal depression category in which more females reported feeling depressed. The statistics are summarized in the figure below.

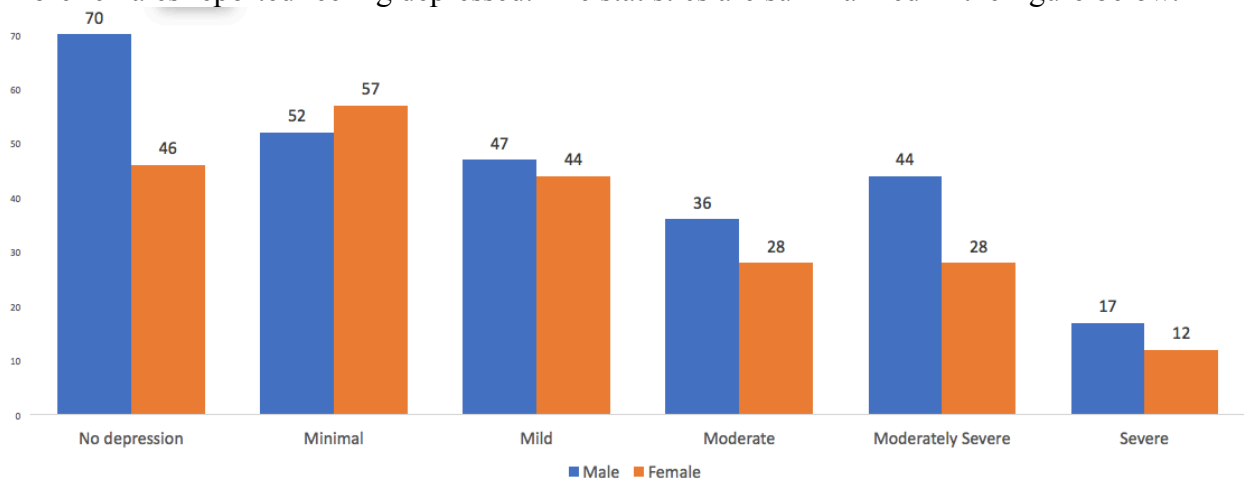


Figure 3. Distribution of depression symptomology across gender

Procedure

For the main study, an experimental between-group design was employed to test the hypotheses. The study was administered using Qualtrics online software. After signing up on MTurk, participants received a web link to the online survey on Qualtrics. Participants were then given the consent form and upon providing consent, were randomly assigned to one of the three message conditions: positive, negative, or coactive. After watching the video PSA, participants were asked an open-ended question to write down all thoughts they had while watching the PSA.

Next, participant responded to dependent variables including attitude toward help seeking, descriptive and injunctive norms, perceived behavioral control, and behavioral intentions to seek help, followed by an induction check to assess the nostalgic feelings, positive and negative emotions evoked from viewing the PSA. Then, participants completed a distractor task in which they were shown a block puzzle and asked “how many squares do you see in this picture” (Appendix 3). After the distractor task, additional predictors were assessed including participants’ level of depression, perceived social support, and stigma. Finally, participants provided information about demographics including age, gender, ethnicity, marital status, educational status, income, past counseling experience and any friend or family member with mental illness. At the end of survey participants were presented a debriefing form in which the purpose of study was detailed along with helpful resources about seeking help for depression (Appendix 4). At the end of survey, a random ID number was generated that participants provided on the MTurk website to receive compensation. The survey on average took 23 minutes to complete.

Data Analysis

Reliability of all measures was assessed and in case of non-homogeneity of variance, as assessed by Levene's Test for Equality of Variances, an independent t-test will be run on the data with a 95 percent confidence interval for the mean difference using the adjusted degrees of freedom. In case of violation of Mauchly's Test of Sphericity, the Huynh-Feldt correction estimates were used. To test hypothesis 1a, 1b and 1c, regression analysis is conducted to identify the strength of association between attitude, perceived behavioral control and perceived norms toward help-seeking intentions. To test hypothesis 2, univariate analysis of covariance (ANCOVA) test is run to assess the effects of message valence (IV) toward attitude, PBC, perceived norms, and behavioral intention to seek help, while controlling for the effects of covariates. To test hypothesis 3, a parallel serial multiple mediation analysis is run using SPSS Process Macro model 81 (Hayes, 2013). Message valence (positive, negative, coactive) is entered as an IV. PBC, descriptive norms (DN), injunctive norms (IN) and attitude toward help seeking from each source of help (counselor, friends and family members) were entered as mediators. Behavioral intention (BI) to seek help is entered as DV. Depression symptoms, social support and stigma are entered as covariates.

Scale Reliability

After screening the data, no outliers were identified. Using listwise deletion, the sample size of 482 participants was deemed appropriate for factor analysis, with 11 cases per variable. The measures were internally consistent as evidenced by a Principal Axis Factor (PAF) using Varimax rotation. The KMOs measure of sampling adequacy for all items was above 0.74, which is above the commonly accepted value of 0.6 and indicating the suitability of data for factor analysis. Bartlett's test of sphericity was significant ($p < .001$) thus confirming the assumption of

equal variance. Internal consistency for each of the scales was examined using Cronbach's alpha. No substantial increase in alpha for any of the scales could be achieved by eliminating more items. Descriptive statistics of scale reliability are presented in Table 6.

Table 6.
Eigenvalues, mean, SD, Cronbach's alpha, and % of total variance for each variable.

	Number of items	Mean (SD)	Eigenvalue	Cronbach Alpha	% of Total Variance
Attitude towards help-seeking:					
Counselor	4	5.42 (1.44)	3.113	.903	70.615
Friend	4	5.452 (1.35)	3.303	.929	76.790
Family	4	5.24 (1.56)	3.381	.939	79.406
Perceived behavioral control:					
Counselor ^a	5	4.74 (1.54)	3.243	.863	57.125
Friend	4	5.38 (1.45)	2.895	.872	64.133
Family	4	5.52 (1.41)	2.846	.864	62.248
Perceived descriptive norms:					
Counselor	3	4.04 (1.84)	2.733	.951	86.727
Friend	3	4.98 (1.55)	2.610	.925	80.548
Family	3	4.86 (1.60)	2.655	.935	82.816
Perceived injunctive norms:					
Counselor	3	5.43 (1.47)	2.595	.922	79.726
Friend	3	5.54 (1.36)	2.597	.922	79.914
Family	3	5.52 (1.41)	2.594	.921	79.742
Behavioral intention:					
Counselor	4	4.57 (1.79)	3.389	.940	79.988
Friend	4	4.93 (1.69)	3.418	.943	80.720
Family	4	4.81 (1.82)	3.498	.952	83.284

Notes. ^a The scale for PBC regarding help-seeking from a counselor included an additional variable "I can AFFORD to seek help from a counselor when feeling depressed," which was not applicable to the other two sources.

CHAPTER 7: RESULTS

Random Assignment and Message Valence Check

The success of random assignment was examined by testing whether participants were evenly distributed across three conditions. Result: positive ($n = 159$), negative ($n = 163$), and coactive ($n = 160$), provided evidence for the success of random assignment.

Message Valence Check. To perform message valence check, all participants were asked to evaluate the PSA on a seven-point scale anchored by: not at all positive-extremely positive, and not at all negative-extremely negative, not at all arousing and extremely arousing. One-way ANOVA analysis was conducted with message condition as an independent variable and positivity, negativity, arousal and nostalgia as dependent variable. Results show that positive, negative, and coactive PSAs were rated similar in terms of arousal and nostalgia, but different in terms of positivity and negativity. These results suggest that the message valence induction was successful. Descriptive statistics for message induction check are presented in Table 7.

Table 7.

Differences in arousal, positivity, negativity, and nostalgia across nostalgic valence conditions.

Factors	Message Conditions				F	P
	Positive ^a M (SD)	Negative ^b M (SD)	Coactive ^c M (SD)	Total M (SD)		
Arousal	4.09 (1.80)	3.69 (2.05)	4.05 (1.90)	3.94 (1.92)	2.122	.122
Positivity	4.91 (1.51) ^b	3.85 (1.82) ^{ca}	4.50 (1.43) ^a	4.42 (1.65)	17.92	.000
Negativity	3.37 (1.77) ^b	4.28 (1.68) ^a	3.69 (1.67) ^b	3.78 (1.74)	11.66	.000
Nostalgia	5.46 (1.57)	5.17 (1.67)	5.33 (1.67)	5.32 (1.64)	1.27	.282

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .001$

^{a,b,c} For each condition, means with different superscripts differ significantly from each other ($p < .05$).

Covariate Determination

Before testing hypotheses, one-way ANOVAs were conducted to examine whether

participants across conditions scored differently on additional predictors i.e., perceived social support, and stigma in seeking help. Results indicated no significant differences (Table 8).

Table 8.

Differences in stigma, perceived social support, and depression symptoms across nostalgia valence conditions.

Factors	Message Conditions				F	P
	Positive M (SD)	Negative M (SD)	Coactive M (SD)	Total M (SD)		
Stigma	2.90 (1.72)	2.97 (1.74)	2.96 (1.70)	2.93 (1.72)	.053	.95
Social Support	5.40 (1.27)	5.47 (1.22)	5.24 (1.24)	5.37 (1.24)	1.33	.26
Depression	6.82 (7.29)	7.34 (7.32)	7.66 (6.47)	7.27 (7.03)	.578	.56

Additionally, bivariate correlation analyses showed that perceived social support was significantly correlated with all TPB constructs (attitude, perceived norms, perceived behavioral control, and behavioral intention to seek help). Bivariate correlation analyses also indicated that stigma and depression symptomology were correlated with majority of the TPB constructs, thus included as a covariate while testing the hypotheses (Table 9).

Table 9.

Inter-correlations of TPB constructs with stigma, social support, and depression symptomology.

	Additional Predictors				
	Stigma	Social Support	Depression	Positive Emotions	Negative Emotions
Attitude:					
Counselor	-.293**	.302**	.009	.162 **	.033
Friend	-.096*	.475**	-.132**	.166 **	.120 **
Family	-.083	.533**	-.142**	.273 **	.025
Perceived behavioral control:					
Counselor	-.102*	.326**	-.015	.260 **	-.110 *
Friend	-.090*	.631**	-.262**	.143 **	.011
Family	-.173**	.643**	-.259**	.146 **	-.153 **
Descriptive Norms:					
Counselor	.043	.143**	.216**	.355 **	.120 **
Friend	.047	.408**	.015	.218 **	.257 **
Family	.017	.408**	-.016	.261 **	.096 *
Injunctive Norms:					
Counselor	-.257**	.342**	-.033	.038	.005

Table 9 (cont'd)

Friend	-.136**	.382**	-.069	.218 **	.021
Family	-.137**	.448**	-.137**	.068	-.037
Behavioral					
Intention:					
Counselor	-.186**	.197**	.118**	.270 **	.077
Friend	-.026	.494**	-.062	.218 **	.170 **
Family	-.045	.496**	-.079	.300 **	.042

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .001$

H1-3: Attitudes, Norms, and PBC predicting BI

Hypothesis 1,2 and 3 predicted that TPB constructs will be positively associated with help seeking intentions. Specifically, attitude toward help-seeking (H1), perceived norms toward help-seeking (H2), and perceived behavioral control (H3) will be positively associated with help-seeking behavioral intentions from counselor, friends, and family member. Ordinary least squares regressions were conducted to test these hypotheses.

BI to seek help from a Counselor. A multiple regression was run to predict BI to seek help from a counselor based on participants' attitude, PBC, DN, and IN about help seeking. The regression model statistically significantly predicted BI, $F(4, 476) = 210.93$, $p < .001$, $R^2 = .64$. All variables added were statistically significant, $p < .001$, except injunctive norms.

BI to seek help from a Friend. A multiple regression was run to predict behavioral intention to seek help from attitude, PBC, DN, and IN about help seeking from a friend. These variables statistically significantly predicted BI, $F(4, 477) = 223.78$, $p < .001$, $R^2 = .65$. All variables added were statistically significant, $p < .001$, except for injunctive norms.

BI to seek help from a Family Member. A multiple regression was run to predict behavioral intention to seek help from attitude, PBC, DN and IN about help seeking from a family member. These variables statistically significantly predicted BI, $F(4, 477) = 249.861$, $p < .001$, $R^2 = .66$.

.001, $R^2 = .677$. All variables added were statistically significant, $p < .001$, except for injunctive norms. Descriptive statistics for linear regression analysis are presented in Table 10.

Table 10.

Linear regression results for behavioral intention to seek help from counselor, friends and family members (DVs), predicted by attitude, perceived behavioral control (PBC), descriptive norms (DN), and injunctive norms (IN).

DV	Predictors	Beta	<i>t</i>	R^2	Adj- R^2	<i>F</i>
BI to seek help from counselor	Attitude	.312	9.008***	.639	.636	210.928***
	PBC	.409	12.34***			
	DN	.252	7.772***			
	IN	.042	1.285			
BI to seek help from friends	Attitude	.252	6.742***	.652	.649	223.780***
	PBC	.491	13.480*			
	DN	.123	3.541***			
	IN	.085	2.396***			
BI to seek help from family members	Attitude	.458	10.359***	.677	.674	249.861***
	PBC	.434	9.436***			
	DN	.263	7.107***			
	IN	-.005	-.106			

Note: Significant at * $p < .05$, ** $p < .01$, *** $p < .00$; PBC = Perceived behavioral control; DN = Descriptive norms; IN = Injunctive norms

H4: Effect of Nostalgic Valence

The fourth hypothesis posited that participants exposed to a coactive nostalgic message will express more favorable attitude (H4a), more favorable perceived norms (H4b), greater perceived behavioral control (H4c), and higher behavioral intentions (H4d) to seek help; relative to positive and negative nostalgic messages, respectively. A series of one-way ANCOVAs were run, with message condition as the independent variable and attitude, perceived norms, perceived behavioral control, and behavioral intention as the dependent variables, while controlling for the effect of perceived social support, stigma and depression symptoms. These ANCOVAs were run thrice to reflect the three sources of help (counselor, friends, family members). The results presented in Table 11, didn't reveal a significant difference among positive, negative and coactive experimental conditions in terms of help-seeking attitude, perceived norms, perceived

behavioral control and intentions to seek help from any of the three sources of help-seeking (counselor, friends, family members).

Table 11.

Means, SDs, and ANCOVA results for the effect of valence on TPB constructs, and the difference between sources of help.

Message Conditions					
	Positive Mean (SD)	Negative Mean (SD)	Coactive Mean (SD)	Total Mean (SD)	<i>F</i>
Attitude:					
Counselor ^a	5.40 (1.40)	5.58 (1.36)	5.25 (1.53)	5.42 (1.43) ^{ac}	1.68
Friends ^b	5.47 (1.28)	5.54 (1.34)	5.32 (1.42)	5.44 (1.35) ^{bc}	.327
Family ^c	5.28 (1.49)	5.38 (1.54)	5.03 (1.60)	5.23 (1.55) ^{cab}	.939
<i>F</i> (2, 475) = 9.09; <i>p</i> < .001, η^2 = .04					
Perceived behavioral control:					
Counselor ^a	4.83 (1.45)	4.68 (1.63)	4.71 (1.53)	4.74 (1.54) ^{abc}	.742
Friends ^b	5.41 (1.35)	5.43 (1.53)	5.27 (1.44)	5.37 (1.44) ^{ba}	.015
Family ^c	5.47 (1.40)	5.53 (1.53)	5.25 (1.41)	5.42 (1.45) ^{ca}	.529
<i>F</i> (2, 475) = 42.36; <i>p</i> < .001, η^2 = .15					
Perceived descriptive norms:					
Counselor ^a	3.97 (1.81)	4.08 (1.91)	4.05 (1.79)	4.04 (1.83) ^{abc}	.057
Friends ^b	4.91 (1.55)	5.04 (1.48)	4.97 (1.59)	4.97 (1.54) ^{ba}	.351
Family ^c	4.81 (1.62)	5.04 (1.54)	4.71 (1.63)	4.84 (1.60) ^{ca}	1.032
<i>F</i> (2, 475) = 56.85; <i>p</i> < .001, η^2 = .193					
Perceived injunctive norms:					
Counselor ^a	5.46 (1.37)	5.53 (1.49)	5.31 (1.52)	5.43 (1.46)	.489
Friends ^b	5.61 (1.29)	5.48 (1.45)	5.53 (1.33)	5.54 (1.36)	.872
Family ^c	5.58 (1.37)	5.55 (1.41)	5.42 (1.46)	5.52 (1.41)	.222
<i>F</i> (2, 474) = 1.51; <i>p</i> = .22, η^2 = .006					
Behavioral intention:					
Counselor ^a	4.72 (1.84)	4.64 (1.80)	4.43 (1.73)	4.56 (1.79) ^{abc}	.571
Friends ^b	4.95 (1.63)	4.99 (1.67)	4.84 (1.76)	4.93 (1.69) ^{ba}	.013
Family ^c	4.86 (1.81)	4.96 (1.75)	4.60 (1.87)	4.81 (1.82) ^{ca}	.660
<i>F</i> (2, 475) = 9.08; <i>p</i> < .001, η^2 = .037					

Note: Significant at * *p* < .05, ** *p* < .01, *** *p* < .001

^{a,b,c} For each source of help, total means with superscripts differ significantly from each other (*p* < .05).

H5: Mediation Analysis

The third hypothesis predicted that the effect of message valence on help-seeking behavioral intentions will be mediated by perceived norms, perceived behavioral control, and attitude toward help seeking; from counselor, friends, and family members, respectively. The hypotheses were examined using a parallel mediation analysis. In this analysis, all the TPB constructs are hypothesized to be influenced by the nostalgic PSAs (IV) to influence the help-seeking intentions (DV). Perceived social support, depression symptomology and stigma are treated as covariates. The parallel mediation analysis allows the calculation of indirect effects contributed by each mediator (Hayes, 2013) and has been used earlier as well in psychological studies to study the impact of cognitive behavior therapy interventions channeled by multiple mediating variables (Example: Vincent & Walsh, 2013; Arch, 2014).

I first conducted a mediation analysis for each mediator using the PROCESS macro for SPSS with message conditions as IV, behavioral intention to seek help as DV, and each of the TPB variables (attitude, perceived behavioral control, descriptive norms, and injunctive norms) as potential mediators (Preacher & Hayes, 2008). As shown in Fig 3, the message condition had no direct effect on attitude, perceived behavioral control and perceived norms, thus, hypothesis 3 was not supported as predicted.

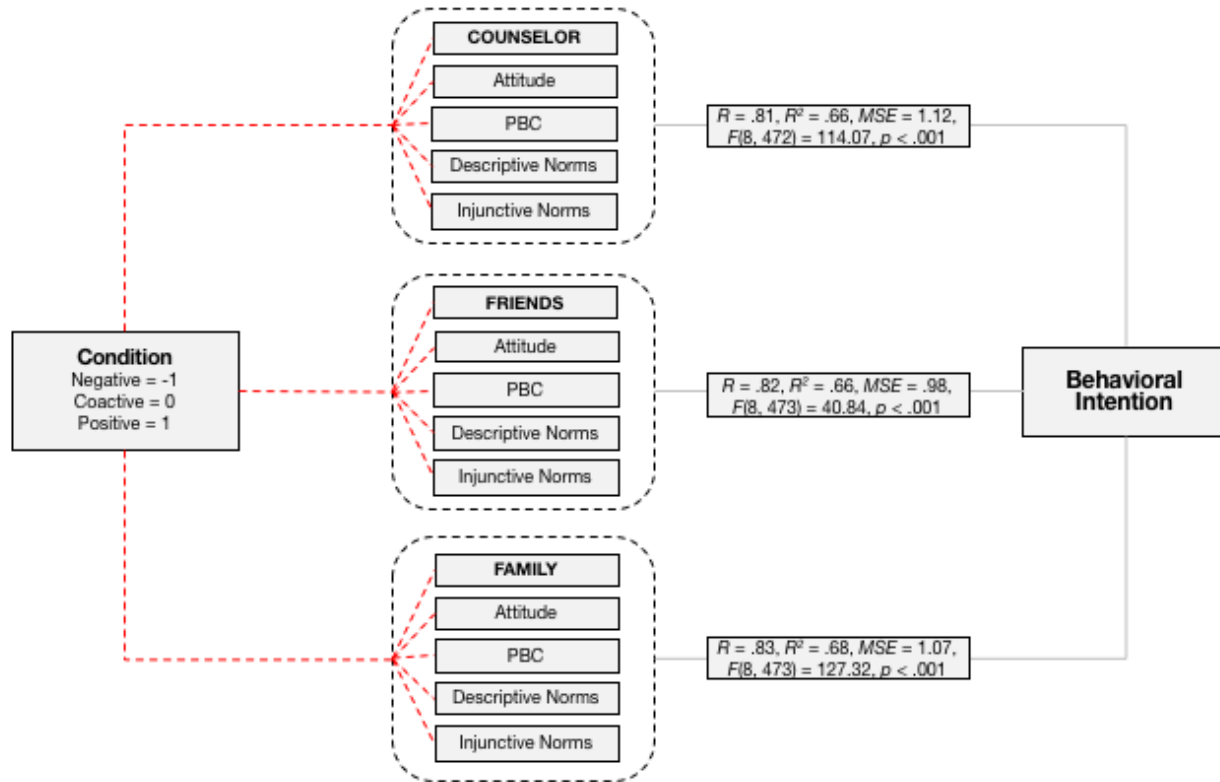


Figure 4. Mediation model for the relationship between message conditions, TPB constructs and behavioral intention to seek help from counselor, friends, and family members.

However, another possibility is that the emotions evoked from viewing the PSAs could function as a causal chain; another model referred to as serial mediation analysis by Hayes (2012). Such that viewing the nostalgic PSA could evoke → positive or negative emotions, which in turn influenced → attitude, perceived norms and perceived behavioral control → thereby predicting help-seeking intentions. This is plausible due to the tendency of nostalgia to evoke bittersweet feelings, which may have influenced the TPB constructs. Thus, even though a completely causal connection was not found in hypothesis 3, it is possible that TPB constructs influenced by emotions provide evidence for an underlying impact on the intentions.

Parallel Serial Mediation Analysis. To test this rationale, a serial parallel mediation analysis was run for the mediation effect of negative/positive emotions (serially), and TPB constructs (parallel) on the relationship between message conditions and help-seeking behavioral

intention. Mediators include attitude, perceived behavioral control, descriptive norms, and injunctive norms to seek help from a counselor. The mediation model 81 was run using Hayes' (2013) PROCESS macros. In the model, first positive emotions and then negative emotions were entered separately, preceding attitude, perceived behavioral control, descriptive norms and injunctive norms.

The independent variable (message condition), was treated as multicategorical variable (Hayes & Preacher, 2014) in the post-hoc analysis. Specifically, the indicator coding was used to examine the relative effects of coactive (X1), and positive (X2) conditions relative to the negative condition (i.e., reference group) (Table 12). Bootstrapping procedures (10000 re-samples) were used to test the significance of the indirect effects. Perceived social support, depression symptomology and stigma were treated as covariates. Behavioral intention to seek help from a counselor was entered as DV (Figure 4-6).

Table 12.
Coding of categorical X variable for analysis.

Condition	X1	X2
-1 = Negative	0	0
0 = Coactive	1	0
1 = Positive	0	1

Initial results show that message condition had a direct effect on positive emotions. However, message condition did not predict negative emotions. Thus, only the indirect effects of positive emotions on TPB variables and BI are reported and discussed next.

To examine whether positive emotions mediates the effects of message condition on TPB variables and behavioral intention to seek help, we examined the direct and indirect effects of message condition (coded as X1 for coactive vs negative; and X2 for positive vs negative) on changes in behavioral intention using Model 81 of the PROCESS macro for SPSS (Hayes, 2013). As shown in mediation models (Fig 4-6), path $c^{1,2}$ captures the direct effect of message condition

on behavioral intention to seek help. For indirect effects, path d captures the effect of message condition on positive emotions, and path $a^{1,2,3,4}$ captures the effect of positive emotions on TPB variables (Attitude, PBC, DN, and IN). The effect of positive emotions on BI is calculated as b^5 for both X1 and X2. The effect of message condition on TPB variables is calculated as $e^{1,2,3,4}$ for multicategorical variable X1, and as $f^{1,2,3,4}$ for X2. The effect of TPB variables on BI is calculated as $b^{1,2,3,4}$.

TPB Variables as Parallel Mediators. In a multiple mediator model, the indirect effects are referred to as *specific indirect effects*. The specific indirect effects are calculated by estimating $a^l b^l$, after controlling for all other mediators in the model. Thus, the specific indirect effect of $b_{\text{positive emotions}}$ on $BI_{\text{counselor}}$ through M^l_{attitude} ($b = .03$) means two cases that differ by one unit on positive emotions are estimated to differ on .03 units on BI to seek help from counselor because of the effects of positive emotions on attitude, which in turn affects BI to seek help, holding constant all other mediators. The total indirect effect in a parallel multiple mediator model is calculated as $a^l b^l + a^2 b^2 + a^3 b^3$ (Fig 4-6). The direct effect ($c^{1,2}$) of multicategorical variables X quantify how much two cases that differ by one unit on X are estimated to differ on BI, independent of all mediators in the model. Total effect is calculated as $c^{1,2} + a^l b^l + a^2 b^2 + a^3 b^3$. Estimation of indirect effects in a multiple mediator model with positive emotions (serial) and TPB variables (parallel) as mediators allowed for a simultaneous test of each mechanism while accounting for the association between them.

Parallel Serial Mediation Analysis: Help Seeking from a Counselor.

Across all analyses, results indicate a significant effect of message condition on predicting positive emotions; for X1 ($d^1: b = .35, SE = .15, p < .05$), and for X2 ($d^2: b = .59, SE = .15, p < .001$). This significant effect did not hold true in case of negative emotions. Likewise,

results indicate significant effects of positive emotions on predicting attitude toward help seeking ($a^1: b = .21, SE = .04, p < .001$), perceived behavioral control to seek help ($a^2: b = .26, SE = .04, p < .001$), and descriptive norms about help-seeking ($a^3: b = .38, SE = .06, p < .001$). However, this effect was not significant for injunctive norms about help seeking ($a^4: b = .04, SE = .04, p = .42$). Finally, results provide support for the hypothesized parallel mediation, revealing significant indirect effects of TPB variables on BI to seek help through attitude ($b^1: b = .35, SE = .04, p < .001$), perceived behavioral control ($b^2: b = .49, SE = .04, p < .001$), and DN ($b^3: b = .22, SE = .03, p < .001$). Again, this effect was absent for injunctive norms ($b^4: b = .06, SE = .04, p = .13$). The indirect effect of message condition (X1 and X2) on TPB variables were not significant as all confidence intervals contain zero, except one significant indirect path: Message condition > attitude > BI ($b = -.12, SE = .06, CI = -.2365, -.0172$). No other indirect effects emerged as significant (i.e., all other confidence intervals contained zero).

Addition of the TPB variables (Attitude > PBC > DN) significantly increased the magnitude of the coefficient for the effects of positive emotions (from $b = .21$ to $b = .38$). Overall, the coefficient of perceived behavioral control on predicting behavioral intention was the largest ($b = .35$), followed by Attitude ($b = .35$), and then DN ($b = .22$). Below, I discuss the results from each model, for each source of help, separately.

Table 13.

Path coefficients for multiple mediation model: Relative direct and indirect effects of message conditions on BI to seek help from counselor through serial mediation of positive emotions, preceded by attitude, PBC, DN and IN.

	Path coefficients (SE)						Indirect Effects (SE)	
	Behavioral Intentions (Y)	Positive Emotions (b)	Attitude (M ₁)	PBC (M ₂)	DN (M ₃)	IN (M ₄)	<i>a x b</i>	95% CI
X1: Coactive vs. Negative								
Constant	-.18 (.32) ***	-.06 (.35) ***	4.08 (.32) ***	2.40 (.36) ***	1.84 (.43) ***	3.67 (.34) ***		
Message Condition	c ¹ -.14 (.12) ^{ns}	d ¹ .35 (.15) *	e ¹ -.34 (.14) *	e ² .03 (.15)	e ³ -.12 (.18)	e ⁴ -.15 (.15)		
Positive Emotion (b)	b ⁵ .07 (.04)		a ¹ .21 (.04) ***	a ² .26 (.04) ***	a ³ .38 (.06) ***	a ⁴ .04 (.04)		
Attitude (M ₁)	b ¹ .35 (.04) ***							
PBC (M ₂)	b ² .49 (.04) ***							
DN (M ₃)	b ³ .22 (.03) ***							
IN (M ₄)	b ⁴ .06 (.04)							
Relative total indirect effect <u>Specific:</u>								
X1 > b > Y							.02 (.02)	-.0039, .0711
X1 > b > M ₁ > Y							.03 (.01)	.0033, .0529
X1 > b > M ₂ > Y							.05 (.02)	.0063, .0977
X1 > b > M ₃ > Y							.03 (.02)	.0039, .0659
X1 > b > M ₄ > Y							.01 (.001)	-.0020, .0049
X2: Positive vs. Negative								
Message Condition	c ² -.04 (.12)	d ² .59 (.15) ***	f ¹ .26 (.14)	f ² .04 (.16)	f ³ -.27 (.19)	f ⁴ -.05 (.15)		
Relative total indirect effect <u>Specific:</u>								
X2 > b > Y							.04 (.03)	-.0066, .1016
X2 > b > M ₁ > Y							.04 (.02)	.0150, .0798
X2 > b > M ₂ > Y							.08 (.03)	.0327, .1374
X2 > b > M ₃ > Y							.05 (.02)	.0204, .0923
X2 > b > M ₄ > Y							.01 (.002)	-.0030, .0078
Model Statistics	R ² = .66, F(10, 470) = 92.26, P < .001	R ² = .26, F(5, 475) = 33.07, P < .001	R ² = .25, F(6, 474) = 26.87, P < .001	R ² = .18, F(6, 474) = 12.25, P < .001	R ² = .18, F(6, 474) = 17.42, P < .001	R ² = .19, F(6, 474) = 18.89, P < .001		

Table 13 (cont'd)

Covariates						
Stigma	-.15 (.04) ***	.25 (.04) ***	-.37 (.04) ***	-.16 (.04) **	-.17 (.05) **	-.26 (.04) ***
Social Support	-.12 (.05) **	.34 (.05) ***	.29 (.05) ***	.35 (.06) ***	.21 (.07) **	.40 (.05) ***
Depression	.03 (.01) **	.07 (.01) ***	.05 (.01) ***	.02 (.01)	.06 (.01) ***	.04 (.01) ***

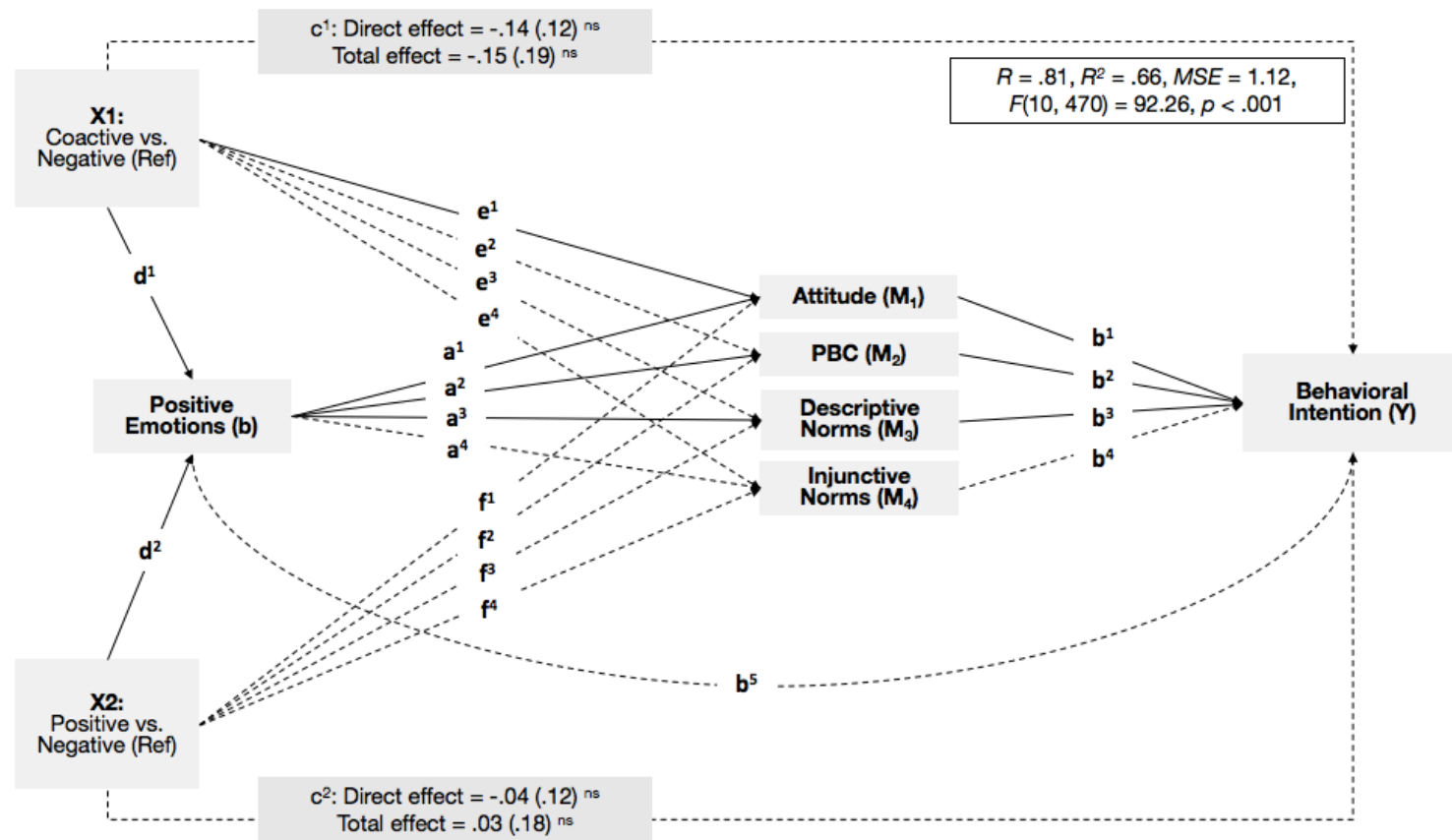


Figure 5. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from a counselor.

Parallel Serial Mediation Analysis: Help Seeking from a Friend

To examine whether positive emotions mediates the effects of message condition on TPB variables and BI to seek help from friends, we examined the direct and indirect effects of message condition (coded as X1 for coercive vs negative; and X2 for positive vs negative) on changes in BI using Model 81 of the PROCESS macro for SPSS (Hayes, 2013). Path notations of the model are same as described above for mediation model to seek help from counselor. Results of this parallel serial mediation analyses are presented in Table 14.

As shown in Fig 5, across all analyses, results indicate a significant effect of message condition on predicting positive emotions; for X1 ($d^1: b = .35, SE = .15, p < .05$), and for X2 ($d^2: b = .59, SE = .15, p < .001$). This significant effect did not hold true in case of negative emotions. Likewise, results indicate significant indirect effects of positive emotions on predicting attitude toward help seeking ($a^1: b = .12, SE = .04, p < .01$), perceived behavioral control to seek help ($a^2: b = .09, SE = .03, p < .05$), and descriptive norms about help-seeking ($a^3: b = .13, SE = .05, p < .01$). However, this effect was not significant for injunctive norms about help seeking ($a^4: b = -.06, SE = .04, p = .14$). Results provide support for the hypothesized parallel mediation, revealing significant indirect effects of TPB variables on BI to seek help through attitude ($b^1: b = .31, SE = .05, p < .001$), perceived behavioral control ($b^2: b = .62, SE = .05, p < .001$), DN ($b^3: b = .10, SE = .04, p = .01$), and IN ($b^4: b = .12, SE = .05, p = .01$). The indirect effect of message conditions (X1 and X2) on TPB variables were not significant (Table 14) and no other indirect effects from X1 or X2 emerged as significant in predicting the TPB variables (i.e., all confidence intervals contained zero).

Magnitude of the TPB coefficients for the effects of positive emotions increased significantly by addition of each TPB variable (Attitude > PBC > DN) from $b = .12$ to $b = .13$.

Overall, the coefficient of perceived behavioral control on predicting BI was the largest ($b = .62$), followed by Attitude ($b = .31$), DN ($b = .12$), and then IN ($b = .10$).

Table 14.

Path coefficients for multiple mediation model: Relative direct and indirect effects of message conditions on BI to seek help from friends through serial mediation of positive emotions, preceded by attitude, PBC, DN, and IN.

	Path coefficients (SE)						Indirect Effects (SE)	
	Behavioral Intentions (Y)	Positive Emotions (b)	Attitude (M ₁)	PBC (M ₂)	DN (M ₃)	IN (M ₄)	<i>a x b</i>	95% CI
X1: Coactive vs. Negative								
Constant	-1.5 (.28) ***	-.06 (.35) ***	2.7 (.34) ***	1.5 (.29) ***	1.51 (.35) ***	3.19 (.32) ***		
Message Condition	c ¹ -.01 (.11) ^{ns}	d ¹ .35 (.15) *	e ¹ .15 (.13)	e ² -.03 (.12)	e ³ .002 (.15)	e ⁴ .17 (.14)		
Positive Emotion (b)	b ⁵ .06 (.03)		a ¹ .12 (.04) **	a ² .09 (.03) *	a ³ .13 (.05) **	a ⁴ -.06 (.04)		
Attitude (M ₁)	b ¹ .31 (.05) ***							
PBC (M ₂)	b ² .62 (.05) ***							
DN (M ₃)	b ³ .10 (.04) **							
IN (M ₄)	b ⁴ .12 (.05) **							
Relative total indirect effect <u>Specific:</u>								
X1 > b > Y							.02 (.02)	-.0034, .0612
X1 > b > M ₁ > Y							.01 (.01)	.0012, .0313
X1 > b > M ₂ > Y							.02 (.01)	.0007, .0509
X1 > b > M ₃ > Y							.01 (.01)	-.0001, .0145
X1 > b > M ₄ > Y							-.01 (.01)	-.0101, .0011
X2: Positive vs. Negative								
Message Condition	c ² -.03 (.11)	d ² .59 (.15) ***	f ¹ -.11 (.13)	f ² -.04 (.12)	f ³ .16 (.16)	f ⁴ .21 (.14)		
Relative total indirect effect <u>Specific:</u>								
X2 > b > Y							.03 (.02)	-.0049, .0874
X2 > b > M ₁ > Y							.02 (.01)	.0058, .0460
X2 > b > M ₂ > Y							.03 (.02)	.0050, .0716
X2 > b > M ₃ > Y							.01 (.01)	.0001, .0201
X2 > b > M ₄ > Y							-.01 (.01)	-.0154, .0018
Model Statistics								
	R ² = .66, F(10, 471) = 94.17, P < .001	R ² = .26, F(5, 476) = 33.27, P < .001	R ² = .24, F(6, 475) = 25.32, P < .001	R ² = .42, F(6, 475) = 56.21, P < .001	R ² = .21, F(6, 475) = 20.78, P < .001	R ² = .17, F(6, 475) = 15.72, P < .001		
Covariates								
Stigma	-.02 (.03)	.25 (.04) ***	-.04 (.04)	.05 (.04)	.04 (.04)	-.06 (.04)		
Social Support	-.01 (.05)	.34 (.05) ***	.48 (.05) ***	.68 (.05) ***	.53 (.06) ***	.46 (.05) ***		

Table 14 (cont'd)

Depression	.02 (.01) *	.07 (.01) ***	-.003 (.01)	-.03 (.01) *	.02 (.01)	.03 (.01) *
------------	-------------	---------------	-------------	--------------	-----------	-------------

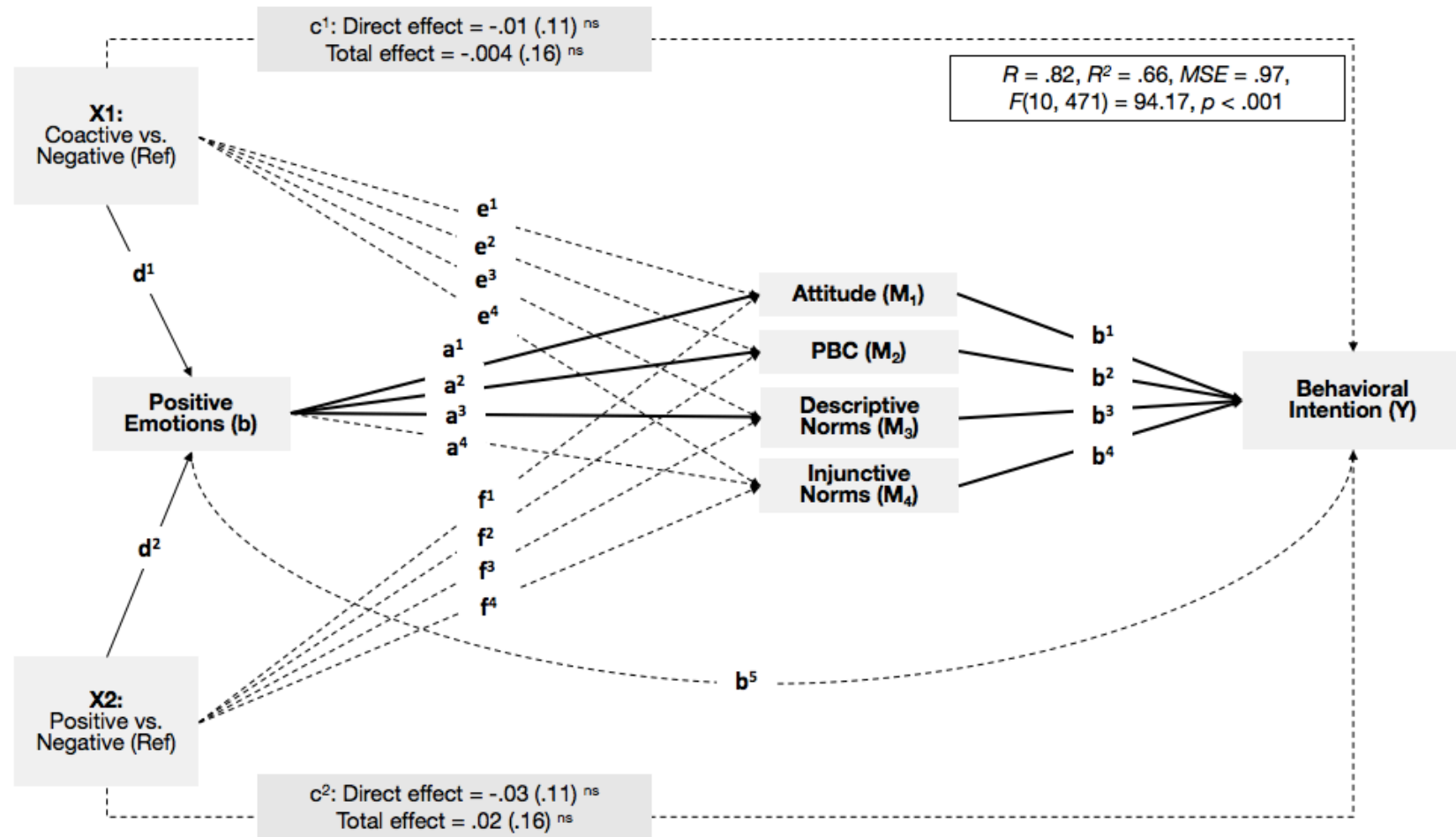


Figure 6. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from friends.

Parallel Serial Mediation Analysis: Help Seeking from a Family Member

To examine whether positive emotions mediates the effects of message condition on TPB variables and BI to seek help from family members, we examined the direct and indirect effects of message condition (coded as X1 for coactive vs negative; and X2 for positive vs negative) on changes in BI using Model 81 of the PROCESS macro for SPSS (Hayes, 2013). Path notations of the model are same as described in above mediation models. Results of this parallel serial mediation analyses are presented in Table 15.

As shown in Fig 6, across all analyses, results indicate a significant effect of message condition on predicting positive emotions; for X1 ($d^1: b = .35, SE = .15, p < .05$), and for X2 ($d^2: b = .59, SE = .15, p < .001$). This significant effect did not hold true in case of negative emotions. Likewise, results indicate significant indirect effects of positive emotions on predicting attitude toward help seeking ($a^1: b = .27, SE = .04, p < .001$), perceived behavioral control to seek help ($a^2: b = .12, SE = .04, p < .01$), and descriptive norms about help-seeking ($a^3: b = .22, SE = .05, p < .001$). However, this effect was not significant for injunctive norms about help seeking ($a^4: b = .03, SE = .04, p = .52$). Results provide support for the hypothesized parallel mediation, revealing significant indirect effects of TPB variables on BI to seek help through attitude ($b^1: b = .43, SE = .05, p < .001$), perceived behavioral control ($b^2: b = .48, SE = .05, p < .001$), and DN ($b^3: b = .24, SE = .04, p < .001$). However, this effect was not significant for IN ($b^4: b = .02, SE = .05, p = .06$). All indirect effects of message condition on TPB variables were not significant (Table 15), except for X1 one significant indirect path was found: Message condition > attitude > BI ($b = -.12, SE = .06, CI = -.2576, -.0007$). Additionally, one significant indirect path was found for X2: Message condition > attitude > DN ($b = -.08, SE = .04, CI = -.1670, -.0037$). No other indirect effects emerged as significant (i.e., all other confidence intervals contained zero).

Magnitude of the TPB coefficients for the effects of positive emotions did not increase by addition of each TPB variable (Attitude > PBC > DN) from $b = .27$ to $b = .22$. Overall, the coefficient of perceived behavioral control on predicting BI was largest ($b = .48$), followed by Attitude ($b = .43$), and DN ($b = .24$).

Table 15.

Path coefficients for multiple mediation model: Relative direct and indirect effects of conditions on BI to seek help from family through mediation of positive emotions, preceded by attitude, PBC, DN and IN.

Family Members	Path coefficients (SE)						Indirect Effects (SE)	
	Behavioral Intentions (Y)	Positive Emotions (b)	Attitude (M ₁)	PBC (M ₂)	DN (M ₃)	IN (M ₄)	<i>a x b</i>	95% CI
X1: Coactive vs. Negative								
Constant	-1.4 (.29) ***	-.06 (.35) ***	1.65 (.33) ***	1.73 (.28) ***	1.6 (.36) ***	2.88 (.32) ***		
Message Condition	c ¹ -.03 (.12) ^{ns}	d ¹ .35 (.15) *	e ¹ .29 (.14) *	e ² -.16 (.12)	e ³ -.29 (.16)	e ⁴ -.02 (.14)		
Positive Emotion (b)	b ⁵ .10 (.04) *		a ¹ .27 (.04) ***	a ² .12 (.04) **	a ³ .22 (.05) ***	a ⁴ .03 (.04)		
Attitude (M ₁)	b ¹ .43 (.05) ***							
PBC (M ₂)	b ² .48 (.05) ***							
DN (M ₃)	b ³ .24 (.04) ***							
IN (M ₄)	b ⁴ .02 (.05)							
Relative total indirect effect <u>Specific:</u>								
X1 > b > Y							.03 (.02)	.0025, .0778
X1 > b > M ₁ > Y							.04 (.02)	.0053, .0836
X1 > b > M ₂ > Y							.02 (.01)	.0022, .0479
X1 > b > M ₃ > Y							.02 (.01)	.0021, .0418
X1 > b > M ₄ > Y							.0002	-.0019, .0032
							(.0012)	
X2: Positive vs. Negative								
Message Condition	c ² -.02 (.12)	d ² .59 (.15) ***	f ¹ -.20 (.14)	f ² -.09 (.12)	f ³ -.32 (.16) *	f ⁴ .06 (.14)		
Relative total indirect effect <u>Specific:</u>								
X2 > b > Y							.06 (.03)	.0127, .1120
X2 > b > M ₁ > Y							.07 (.02)	.0297, .1174
X2 > b > M ₂ > Y							.03 (.02)	.0106, .0691
X2 > b > M ₃ > Y							.03 (.01)	.0108, .0591
X2 > b > M ₄ > Y							.0003	-.0031, .0050
							(.0019)	

Table 15 (cont'd)

Model Statistics	$R^2 = .69, F(10, 471) = 103.52, P < .001$	$R^2 = .26, F(5, 476) = 33.27, P < .001$	$R^2 = .34, F(6, 475) = 40.86, P < .001$	$R^2 = .43, F(6, 475) = 60.19, P < .001$	$R^2 = .22, F(6, 475) = 22.48, P < .001$	$R^2 = .21, F(6, 475) = 20.54, P < .001$
Covariates						
Stigma	-.01 (.03)	.25 (.04) ***	-.06 (.04)	-.05 (.04)	-.001 (.05)	-.06 (.04)
Social Support	-.06 (.05)	.34 (.05) ***	.58 (.05) ***	.68 (.04) ***	.50 (.06) ***	.50 (.05) ***
Depression	-.01 (.01) *	.07 (.01) ***	-.01 (.01)	-.02 (.01) *	.01 (.01)	.006 (.01)

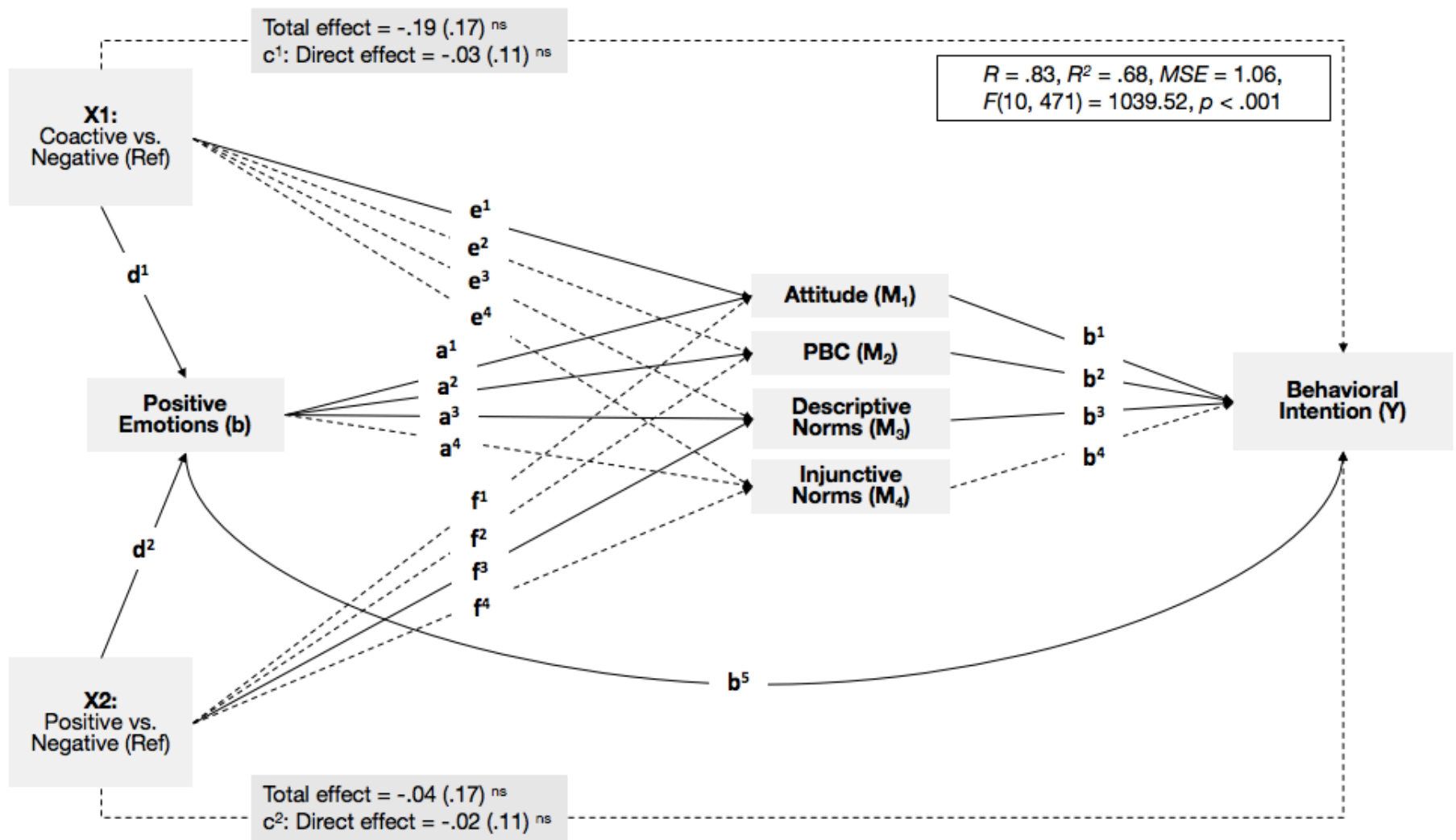


Figure 7. Serial and parallel mediation model for the relationship between message conditions, positive emotions, TPB constructs and behavioral intention to seek help from family members.

CHAPTER 8: DISCUSSION

This study aims to gain a refined conceptual understanding of how differently valenced nostalgic messages (positive, negative, coactive) may influence help-seeking intentions of individuals with depression. Help-seeking is examined separately for three sources: counselor, friends, and family members. Stigma, social support, and depression symptomology are treated as additional predictors.

Hypothesis 1-3

Hypothesis 1 to 3 posited that attitude toward help-seeking, descriptive norms, injunctive norms, and perceived behavioral control will be positively associated with help-seeking intentions. This hypothesis was explored separately for each source of help; counselor, friends and family members. Overall, attitude toward help seeking and perceived behavioral control appeared as the strongest predictors across all sources of help, after controlling for depression symptomology, stigma and perceived social support. The multiple regression summary (Table 10) shows that TPB variables together explained 67% variance in BI to seek help from family members, followed by 64% from friends, and 64% from counselors. These findings support the proposition that a positive attitude, perceived behavioral control, and descriptive norms can contribute to help-seeking intentions.

Although, results show that attitude, perceived behavioral control and descriptive norms were found significantly associated with behavioral intention to seek help; injunctive norms were found significantly associated with help-seeking from friends only, but not from counselor or family members. This non-significant association between injunctive norms and intentions to seek help has been discussed by Manning (2009) in a review of social norms. The review finds a significant relation between behavior and descriptive norms, but not with injunctive norms. One

explanation is that while participants rated high descriptive norms associated with higher intentions, they may not have perceived simultaneous injunctive expectations from social others. Said differently, the direct effect of descriptive norms on intention, may have suppressed the direct effect of injunctive norms. Manning suggests that a negative association between intentions and injunctive norms is more apparent for socially approved and useful behaviors. In the case of help-seeking for depression, it is evident that due to stigma, help-seeking may not be a socially motivated or approved behavior.

Hypothesis Four

Fourth hypothesis posited that participants exposed to coercive nostalgic message will express more favorable attitude, more favorable perceived norms, greater perceived behavioral control, and higher behavioral intentions toward help-seeking from counselor, friends and family; relative to the positive and negative nostalgic messages, respectively. The results presented in Table 11, did not reveal a significant difference among positive, negative, and coercive experimental conditions, thus not supporting the hypothesis. However, on further exploration, significant differences were observed within sources of help in pairwise comparison. As shown in Table 11, perceived behavioral control ($\eta^2 = .15$), and descriptive norms ($\eta^2 = .19$) showed the largest effect sizes. In terms of attitude, there was significant difference in help seeking between counselor-family, as well as friends-family. However, no difference in attitude was found between counselor-friends. Perceived behavioral control to seek help from counselor was significantly different from both friends and family members. Similarly, for descriptive norms, perceived behavioral control to seek help from counselor was significantly different from both friends and family. Behavioral intention to seek help was also significantly different across

help sources ($\eta^2 = .04$). Specifically, behavioral intention to seek help from counselor ($M = 4.56$) was significantly different from both friends ($M = 4.93$) and family members ($M = 4.81$).

Despite that this hypothesis about difference between message conditions was not supported, results show that the role of each source of help vary across message conditions. Fig 7 below provides more information about the total mean values of each source of help for each TPB variable (from Table 11). Notice that perceived behavioral control, descriptive norms and behavioral intention to seek help from counselor are the lowest. But the attitude toward counselor as well as injunctive norms to seek help from counselor are high. These results suggest that a depressed individual may express positive attitude toward seeking professional psychological help, but lack of financial resources, non-availability of a counselor (low PBC), and low descriptive normative influence may result in reduced intentions to seek help from a counselor.

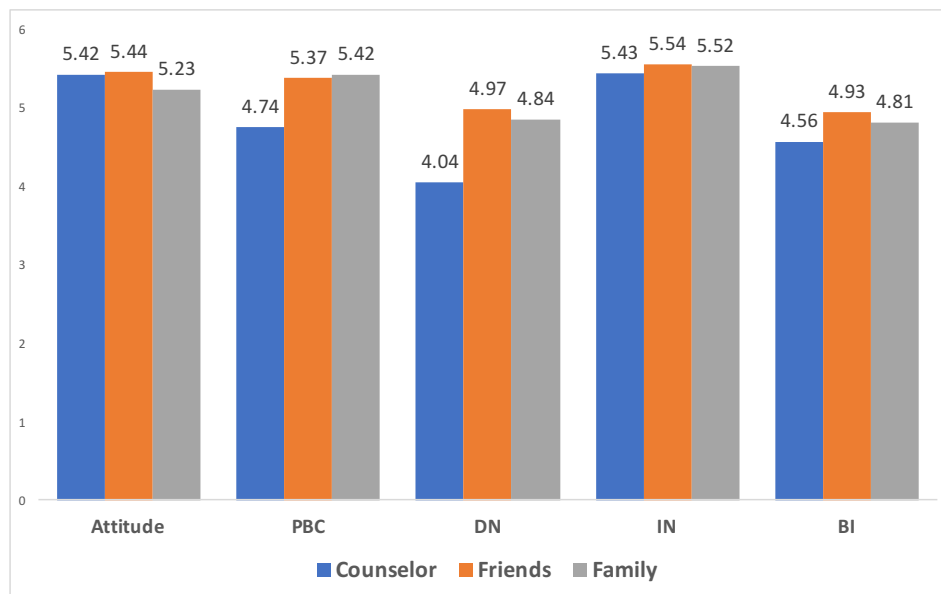


Figure 8. Total mean scores of TPB variables for each source of help, across message conditions.

Another finding emerging from these results (as shown in Fig 7) is a relatively high and stable response in help seeking from friends. Across all message conditions, friends appeared as

the preferred source of help-seeking. On the other hand, a mixed response was seen for family members. While family appeared to be high in perceived behavioral control and injunctive norms to seek help, they were rated low for attitude and descriptive norms. Overall, these results suggest that a depressed individual may have a positive attitude about counselor but still not seek help due to reduced affordability, low confidence and less access to a counseling center. Similarly, a depressed individual may hold positive attitude about friends and family, as well as higher confidence and easy access to seek help, but may still abstain from talking with them due to social stigma or shame.

Hypothesis Five

Fifth hypothesis posited that the effect of message valence on help-seeking behavioral intentions from counselor, friends, and family members will be mediated by perceived norms, perceived behavioral control, and attitude toward help seeking, while controlling for depression symptomology, stigma and perceived social support. To test this hypothesis, two forms of multiple mediation models were explored: *parallel* mediation and *serial* mediation. Both types were blended together to form a multiple serial mediation model. The goal was to investigate the direct and indirect effects of message conditions on positive emotions, which in turn may influence the TPB variables, resulting in a behavioral intention to seek help as the main outcome. In case of parallel mediation, our study comprised of four mediators i.e., attitude, perceived behavioral control, descriptive and injunctive norms, wherein positive emotions preceded the TPB variables.

As shown in Figures 4, 5 and 6, mediating variables are not modeled as influencing one another. This is shown by the absence of unidirectional arrows linking the mediators with each other, which allowed us to compare the size of the indirect effects through different mediators.

The psychological logic is: “participants exposed to nostalgic positive and coactive message conditions will feel more positive emotions, which will influence their attitude, perceived behavioral control, descriptive norms, and injunctive norms about help seeking, in turn influencing their behavioral intentions to seek help from friends, family or counselor.” Inclusion of multiple mediators between positive emotions and intention to seek help, allowed us to compare the size of indirect effects for each TPB variable. This helped us determine which TPB variable has a stronger effect in determining help-seeking intentions.

Positive Emotion as Serial Mediator. Establishing an indirect effect of message condition (X) on behavioral intention (Y) through TPB variables (M), does not imply that TPB variables as mediators comprise the only mechanism at work (Rucker, Preacher, Tormala, & Petty, 2011). Hayes (2017) suggest that “the indirect effect could be due to an epiphenomenal (or confounding) association between mediator (M) in a simple mediation model and the true mediators causally between X and Y” (p. 154). In this situation, a variable correlated with TPB variables, and affected by the experimental manipulation of the message condition could be the actual mediator transmitting the effect of nostalgia on behavioral intention to seek help. In the present study, positive emotions appeared to be that variable. The correlation analysis (Table 9) revealed that positive emotions were significantly correlated with all TPB variables except injunctive norms. Participants who felt more positive, were also more likely to have a positive attitude toward help seeking, that in turn may influenced intention to seek help. Thus, it is conceivable that TPB variables only appears to be functioning as a mediator of the effect of message conditions on participants’ intention to seek help and positive emotion was the real mediator. Based on this rationale, this study includes positive emotions as a serial mediator preceding TPB variables.

Serial mediation analysis of positive emotions on TPB variables show several interesting results. First, recall that this study categorized the independent variable into two multicategorical variables i.e., X1 is coactive vs. negative and X2 is positive vs. negative. Results show that effect of X2 on positive emotions was stronger ($b = .59$), than the effect of X1 ($b = .35$). In other words, participants assigned to positive nostalgic PSA expressed more positive emotions compared with the coactive nostalgia PSA, followed by the negative PSA.

Another aspect of using positive emotions as a serial mediator is to examine its indirect effect on behavioral intentions to seek help. Examining this effect for each source of help reveals that the effect size of positive of emotions on intentions was the strongest ($b = .10$), followed by counselor ($b = .07$), and then friends ($b = .06$). Said differently, participants' intention to seek help from family members, was most strongly predicted by the positive emotions elicited from the nostalgic PSAs, compared with intention to seek help from friend or counselor.

Finally, the serial mediation analysis provides us the indirect effect of positive emotions to predict TPB variables (mediators) for help seeking from friends, family and counselor. Results show that positive emotions most significantly predicted perceived behavioral control ($b = .26$) to seek help from a counselor, followed by family ($b = .12$), and then friends ($b = .09$). Similarly, positive emotions most significantly predicted descriptive norms ($b = .38$) to seek help from a counselor, followed by family ($b = .22$), and then friends ($b = .13$). However, in case of attitude toward help seeking, positive emotions most significantly predicted attitude to seek help from family members ($b = .10$), followed by counselor ($b = .07$), and then friends ($b = .06$). It is worth noting that in all cases, help seeking from friends was the least predicted by positive emotions. These results suggest that positive emotions play a very important role in building perceived behavioral control to seek help such as perceptions in one's ability to contact counseling center,

ability to afford counseling and perceived ease and access to seek help from a counselor. Additionally, positive emotions boost one's perceived descriptive norms about help-seeking i.e., perception that important social others seek help when feeling depressed. Below, I discuss in detail the indirect effects of multiple mediation model for friends, family members and counselor for each message condition.

Help-Seeking from Counselor. For help-seeking from counselor, a quarter of the variance in positive emotions ($R^2 = .26$), and attitude ($R^2 = .25$) is explained by message conditions. Additionally, more than half of the variance in intention to seek help ($R^2 = .66$) is accounted for by both positive emotions and TPB variables. In terms of indirect effects of positive emotions, two cases that differ by one unit on message condition, are estimated to differ by .025 units (for X1: coactive vs. negative), and .42 units (for X2: positive vs. negative), in their intention to seek help, with those assigned to positive and coactive nostalgic condition having higher intentions, because the indirect effect is positive.

A second indirect effect of message conditions on intentions to seek help is modeled through attitude, descriptive norms, and perceived behavioral control to seek help from counselor. For X1 (coactive vs. negative) and X2 (positive vs. negative) message conditions, participants expressed roughly similar effects (Table 13). Overall, those assigned to the positive and coactive condition show stronger intentions to seek help because of positive emotions, positive attitude, higher perceived behavioral control, and positive descriptive norms than those exposed to the negative condition, which in turn was positively associated with help seeking intentions. This effect was considerably small in case of injunctive norms.

The direct effect (c) quantifies the effect of nostalgic valence on the intentions to seek help independent of the effect of the proposed mediators on those intentions. Irrespective of the

differences in positive emotions and TPB variables, those exposed to coactive nostalgic PSA, expressed weaker intentions to seek help from a counselor ($c = -.04$), than those exposed to the positive nostalgic PSA ($c = -.14$).

Help-seeking from Friends. For help-seeking from friends, a quarter of the variance in positive emotions ($R^2 = .26$), and attitude ($R^2 = .24$) is explained by the message conditions. Roughly half of the variance in intention to seek help ($R^2 = .42$) is accounted for by the perceived behavioral control to seek help from friends. Like help seeking from counselor, more than half of the variance in intention to seek help ($R^2 = .66$) is accounted for by both positive emotions and TPB variables. In terms of indirect effects of positive emotions, two cases that differ by one unit on message condition, are estimated to differ by .02 units (for X1: coactive vs. negative), and .03 units (for X2: positive vs. negative), in their intention to seek help, with those assigned to positive and coactive nostalgic condition having higher intentions, because the indirect effect is positive.

A second indirect effect of message conditions on intentions to seek help is modeled through attitude, descriptive norms and perceived behavioral control to seek help from friends. For both X1 (coactive vs. negative) and X2 (positive vs. negative) message conditions, participants expressed roughly similar effects (Table 14). Overall, those assigned to the positive and coactive condition have stronger intentions to seek help because of positive emotions, positive attitude, higher perceived behavioral control, and positive descriptive norms than those exposed to the negative condition, which in turn was positively associated with the help seeking intentions. This effect was considerably small in case of injunctive norms.

In case of the direct effect (c), irrespective of the differences in positive emotions and TPB variables, those exposed to coactive nostalgic PSA, expressed weaker intentions to seek help from a friend ($c = -.14$), than those exposed to the positive nostalgic PSA ($c = -.04$).

Help-seeking from Family Members. For help-seeking from family members, considerable variance in perceived behavioral control ($R^2 = .43$), and attitude ($R^2 = .34$) is explained by the message conditions. Over two-thirds of the variance in intention to seek help ($R^2 = .69$) is accounted for by both positive emotions and TPB variables. In terms of indirect effects of positive emotions, two cases that differ by one unit on message condition, are estimated to differ by .03 units (for X1: coactive vs. negative), and .06 units (for X2: positive vs. negative), in their intention to seek help, with those assigned to positive and coactive nostalgic condition having higher intentions, because the indirect effect is positive.

A second indirect effect of message conditions on intentions to seek help is modeled through attitude, descriptive norms and perceived behavioral control to seek help from friends. For both X1 (coactive vs. negative), and X2 (positive vs. negative) message conditions, participants expressed roughly similar effects (Table 15). Overall, those assigned to the positive and coactive condition have stronger intentions to seek help because of the positive emotions, positive attitude, higher perceived behavioral control and positive descriptive norms than those exposed to the negative condition, which in turn was positively associated with the help seeking intentions. This effect was considerably small in case of injunctive norms.

In case of the direct effect (c), irrespective of the differences in positive emotions and TPB variables, those exposed to positive nostalgic PSA, expressed slightly weaker intentions to seek help from family members ($c = -.02$), than those exposed to the positive nostalgic PSA ($c = -.03$).

Summary of Mediation Analysis. Although model 81 was beneficial in terms of simultaneously examining a multiple and serial mediator model, it is not without risks. For instance, the results may appear to be contradicting when compared with a simple mediation model with few mediators.

The specific indirect effect measures the influence of nostalgic valence on behavioral intentions to seek help through a particular TPB mediator while holding other mediators constant. Thus, it is possible that a simple mediation analysis using only one mediator may produce evidence of an indirect effect of message conditions on intentions, but no such effect is produced when attitude is entered in the model along with other TPB variables. This may happen even more so because the TPB variables were highly correlated with each other. Due to the increased collinearity, the sampling variance may increase, resulting in widening of confidence intervals and increased *p* values (Darlington & Hayes, 2017). In this situation, Hayes (2018) suggests that results of a simple mediation model should not be compared with multiple serial mediation model because they are estimating different things. The inclusion of multiple and correlated mediator variables allows for testing of spurious and epiphenomenal associations which is not possible to estimate through routine causal associations examined in a simple mediation model. To sum, the total indirect effect is a combination of all specific indirect effects, including both large or small, positive or negative effects. However, this should not be a cause of concern, because the main purpose of using a multiple mediator model was to examine the underlying TPB and emotional mechanisms at work, and not the aggregate effect.

Limitations

The study is not without limitations. First, as discussed in other PSA-based studies for health communication, a one-shot PSA may not be enough to speculate how much intention will

be transformed into real behavior or action in future. Due to the complex nature of help seeking in depression, a nostalgia PSA may encourage an individual to think about seeking help but other factors need to be in place for the individual to complete the decision-making process. To that end, this study offers practical implications for practitioners with established care systems to include nostalgia-themed PSAs to boost the effectiveness of their existing interventions.

Second, although the study included a diverse and large sample of participants who described their depression symptomology and help-seeking intentions in response to the messages, still the use of Amazon Mechanical Turk cannot be fully generalized to a student population. As presented in the demographics, the participants included non-student population as well. Thus, the study is limited in this sense that warrants additional data collection with student population only. Overall, although MTurk is increasingly being accepted as a representative for experimental research, still, I think there is a need to closely monitor the process to increase the validity and reliability of responses. This study provides a step in that direction and proposes a need to conduct the study with more targeted audiences using other recruitment platforms such as Qualtrics.

In terms of message design, nostalgic stimuli were produced with three levels of valence i.e., positive, negative, and coactive. The message design required considerable pretesting of images, and essays. During the message design, I found that coactive nostalgic images and essay always appeared to be bending towards the negative and away from the positive. Another explanation is that when people feel nostalgia, they reminisce the good old days but with a realization that the past is gone and cannot be relived except in memories. Although, the message valence induction check (Table 7) shows a significant difference in positivity and negativity among three message conditions and established the success of message valence

operationalization, I still believe there is room for improvement and further message testing to design nostalgia PSAs with even more distinct levels of message valence.

Conclusion and Future Research

Four implications arise from the present study. First, it is important that mental health interventions include a focus on positive emotions and improving perceived behavioral control when designing health messages to boost help seeking intentions. Second, help-seeking interventions need to encourage all sources of help including friends, family and counselor to actively engage with depressed individuals rather than any one source of help. This is particularly important for individuals who are experiencing high levels of depression and not seeking help due to stigma. For example, practitioners at senior centers may incorporate activities for older adults about nostalgizing and talking about the good old days. Third, the nostalgia themed discussion topics could be incorporated in the routine cognitive behavior therapy sessions to evoke memories from past in a controlled and positive manner. For example, counselors could design a therapy session in which a depressed individual is asked to write down a happy memory from childhood and then talk about it. In this way, eliciting happy nostalgic memories could be elicited in a controlled way to promote positivity and improve emotional well-being. Fourth, the study has implications for health and medical journalism. Depression is an illness which is often discussed in print and TV media with a negative connotation. The results of present study provide journalists an alternative to produce press releases, soundbites, and TV PSAs based on a nostalgia-themed message. This will allow them to talk about the public health aspects of depression in a positive aspect.

For future, three aspects of this study will be explored. First, I will explore the male and female differences in help seeking intentions based on a sizeable existing evidence that females

are more likely to seek help than men. It will be informative to see these differences across message conditions and sources of help. Second, I will explore the differences across levels of depression and its moderating effect on help seeking intentions. Past studies have shown that as the level of depression increases from mild to severe, the intention to seek help reduces. I will explore this phenomenon across message conditions and for different sources of help. Third, I will collaborate with experts in the department of psychiatry, psychology and social work to examine the effects of nostalgia themed PSAs. Including a multidisciplinary perspective will help me design and implement a more robust and in-depth study with more insights about improving help-seeking intentions of individuals living with depression.

APPENDICES

Appendix 1: SCRIPTS

Negative Script

My childhood days were the best days of my life. I Miss those days!

Thinking about my past life comforts me, but at the same time makes me very sad that I can't have them back. At times, I wish I could go back to fifth grade. Things were so simple back then.

I often go back to places I used to have good times at, and I just sit there and think about the good times spent with my friends and family. I say to myself. 'Right here is where some great times happened, and now they are gone.' Sometimes it brings tears to my eyes.

It's nice to visit places like our childhood town, our parents' house, which somehow always provides a sense of calm, or that movie theater we used to go in high school. The grind of adult life can make us long for childhood again — a time when there were no bills to pay, no bosses to report to, no groceries to buy and no hour-long commutes to endure.

Although my childhood was far from being perfect, things back then were still far better than today. And that breaks my heart because time just seems to keep slipping away.

The past has been both bitter and sweet!

Now a' days those kinds of things are definitely long gone. Life is full of challenges and hardships but the truth is that every bad memory is going to fade with time.

It depresses me when I can't remember the last time I was genuinely happy. I've been messed up for so long that I forgot what it's like to smile and not be so bitter and insecure about everything.

Sometimes I wish I could go back in time and stay there. Then I realize, the good old days may not be coming back. But there are great new days to come.

I trust myself and have many reasons to live. I am recovering slowly - every day. I have come this far, and I will survive whatever is coming. I have decided to look for help!

Living with depression is hard. It's okay to ask for help!

Positive Script

My childhood days were the best days of my life. I love those days!

I remember how simple everything was around my birthday. There was no hassle of trying to compare schedules with my friends and select a time when everyone could be together. I didn't have to worry about having to clean my room or spend hours on the phone negotiating any of those things that we do now.

This is when life was simpler. The very color of the air was different; the smell of the earth was special, scented with memories of our home. I miss the simplicity of life, being outside on a warm summer night, the dreams and imaginary friends. I miss watching the clouds drifting by on a beautiful day. I miss chasing butterflies and watching birds fly. I miss the feeling that life would go on and on. LIFE was beautiful.

Looking at my parents' wedding album with my mom and sisters and wondering what my own wedding would be like someday. Laying outside and staring up at the clouds, wondering why time moved so slowly. I miss my classmates, my old backpack, my lunch box, and my favorite teachers. Our world was so simple and fun.

The past has been both bitter and sweet!

Now a' days those kinds of things are definitely long gone. Life is full of challenges and hardships but the truth is that every challenge is going to fade with time.

It depresses me when I can't remember the last time I was genuinely happy. I've been messed up for so long that I forgot what it's like to smile and not be so bitter and insecure about everything. Sometimes I wish I could go back in time and stay there. Then I realize, the good old days may not be coming back. But there are great new days to come.

I trust myself and have many reasons to live. I am recovering slowly - every day. I have come this far, and I will survive whatever is coming. I have decided to look for help!

Living with depression is hard. It's okay to ask for help!

Coactive Script

My childhood days were the best days of my life. I love those days!

I often go back to places I used to have good times at, and I just sit there and think about good times spent with my friends and family. I say to myself. 'Right here. Right here is where some great times happened, and now they are gone.' Sometimes it brings tears to my eyes.

I often go back to places I used to have good times at, and I just sit there and think about the good times spent with friends and family. I say to myself. Right here is where some great times happened, and now they are gone. There are so many things in my life that feel like just happened yesterday.

I miss not having to worry so much about how I looked. I miss having life so simple that the only thing I would care about is how long I could play outside. I miss my classmates, my old backpack, my lunch box, and my favorite teachers.

Our world was simple and innocent. Although my childhood was far from being perfect, things back then were still far better than today. Wandering down memory lane, life seems so much richer.

The past has been both bitter and sweet!

Now a' days those kinds of things are definitely long gone. Life is full of challenges and hardships but the truth is that every bad memory is going to fade with time.

It depresses me when I can't remember the last time I was genuinely happy. I've been messed up for so long that I forgot what it's like to smile and not be so bitter and insecure about everything.

Sometimes I wish I could go back in time and stay there. Then I realize, the good old days may not be coming back. But there are great new days to come.

I trust myself and have many reasons to live. I am recovering slowly - every day. I have come this far, and I will survive whatever is coming. I have decided to look for help!

Living with depression is hard. It's okay to ask for help!

Appendix 2: SCALES

Randomly present one of the three PSAs

Positive nostalgia, negative nostalgia, coactive nostalgia

Thought Listing

Please write down the thoughts you had while watching the video. Please write in as much as detail as possible.

Attitude

Seeking help from a Counselor, when I feel depressed in the future is:

Bad 1 : 2 : 3: 4 : 5 : 6 : 7 Good
Dislike 1 : 2 : 3: 4 : 5 : 6 : 7 Like
Unpleasant 1 : 2 : 3: 4 : 5 : 6 : 7 Pleasant
Not Beneficial 1 : 2 : 3: 4 : 5 : 6 : 7 Beneficial

Seeking help from a Family Member, when I feel depressed in the future is:

Bad 1 : 2 : 3: 4 : 5 : 6 : 7 Good
Dislike 1 : 2 : 3: 4 : 5 : 6 : 7 Like
Unpleasant 1 : 2 : 3: 4 : 5 : 6 : 7 Pleasant
Not Beneficial 1 : 2 : 3: 4 : 5 : 6 : 7 Beneficial

Seeking help from a Friend, when I feel depressed in the future is:

Bad 1 : 2 : 3: 4 : 5 : 6 : 7 Good
Dislike 1 : 2 : 3: 4 : 5 : 6 : 7 Like
Unpleasant 1 : 2 : 3: 4 : 5 : 6 : 7 Pleasant
Not Beneficial 1 : 2 : 3: 4 : 5 : 6 : 7 Beneficial

Descriptive Norms

Counselor

1. Most people who are important to me have sought help from a counselor when they felt depressed.
2. Most people whose opinion I value have sought help from a counselor when they felt depressed.
3. Most people who are important to me have initiated seeking help from a counselor when they felt depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Friends

1. Most people who are important to me have sought help from a friend when they felt depressed.
2. Most people whose opinion I value have sought help from a friend when they felt depressed.
3. Most people who are important to me have initiated seeking help from a friend when they felt depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Family

1. Most people who are important to me have sought help from a family member when they felt depressed.
2. Most people whose opinion I value have sought help from a family member when they felt depressed.
3. Most people who are important to me have initiated seeking help from a family member when they felt depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Injunctive Norms**Counselor**

1. Most people whose opinion I value would approve of my seeking help from a counselor when feeling depressed.
2. Most people who are important to me would endorse my seeking help from a counselor when feeling depressed.
3. Most people who are important to me would support that I seek help from a counselor when feeling depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Friends

1. Most people whose opinion I value would approve of my seeking help from a friend when feeling depressed.
2. Most people who are important to me would endorse my seeking help from a friend when feeling depressed.
3. Most people who are important to me would support that I seek help from a friend when feeling depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Family

1. Most people whose opinion I value would approve of my seeking help from a family member when feeling depressed.
2. Most people who are important to me would endorse my seeking help from a family member when feeling depressed.

3. Most people who are important to me would support that I seek help from a family member when feeling depressed.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Perceived behavioral control

Counselor

1. I have ACCESS to a COUNSELOR for seeking help when I am feeling depressed
2. It's EASY for me to seek help from a COUNSELOR when I am feeling depressed
3. I have the CONFIDENCE to seek help from a COUNSELOR when I am feeling depressed
4. I can AFFORD to seek help from a COUNSELOR when feeling depressed
5. My decision to seek help from a COUNSELOR is completely up to me.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Friend

1. I have ACCESS to a FRIEND for seeking help when I am feeling depressed
2. It's EASY for me to seek help from a FRIEND when I am feeling depressed
3. I have the CONFIDENCE to seek help from a FRIEND when I am feeling depressed
4. My decision to seek help from a FRIEND is completely up to me.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Family

1. I have ACCESS to a FAMILY MEMBER for seeking help when I am feeling depressed
2. It's EASY for me to seek help from a FAMILY MEMBER when I am feeling depressed
3. I have the CONFIDENCE to seek help from a FAMILY MEMBER when I am feeling depressed
4. My decision to seek help from a FAMILY MEMBER is completely up to me.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Behavioral Intention

Counselor

1. I INTEND to seek help from a COUNSELOR, when I feel depressed in the future.
2. I AM WILLING to seek help from a COUNSELOR, when I feel depressed in the future.
3. I WILL seek help from a COUNSELOR, when I feel depressed in the future.
4. I PLAN to seek help from a COUNSELOR, when I feel depressed in the future.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Friend

1. I INTEND to seek help from a Family Member, when I feel depressed in the future.
2. I AM WILLING to seek help from a Family Member, when I feel depressed in the future.
3. I WILL seek help from a Family Member, when I feel depressed in the future.
4. I PLAN to seek help from a Family Member, when I feel depressed in the future.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Family

1. I INTEND to seek help from a Friend, when I feel depressed in the future.
2. I HAVE IT IN MY MIND to seek help from a Friend, when I feel depressed in the future.
3. I WILL seek help from a Friend, when I feel depressed in the future.
4. I PLAN to seek help in the future from a Friend, when I feel depressed in the future.

Strongly Disagree: 1 : 2 : 3: 4 : 5 : 6 : 7 : Strongly Agree

Positive and Negative Emotions

While going through the video, I felt these emotions:

1 = Strongly Disagree- - - - - - *7 = Strongly Agree*

1. Anger
2. Joy
3. Guilt
4. Pride
5. Gratitude
6. Self-Pity
7. Disappointment
8. Relief
9. Contentment
10. Regret
11. Longing
12. Despair
13. Loneliness
14. Bitter
15. Enthusiasm
16. Sadness
17. Love
18. Relaxation
19. Nostalgia
20. Beloved

Nostalgia Check

While going through the video I remembered:

1 = Strongly Disagree- - - - - - *7 = Strongly Agree*

1. Good times from my past.
2. When I was young
3. My childhood days.
4. Memories of being a kid.
5. A pleasant reminder of my past.
6. Memories of good times from my past.

Please share how you felt while going through the video:

1 = Strongly Disagree - - - - - *7 = Strongly Agree*

1. I relived an event from past
2. I was transported to the past
3. It was like a flashback
4. It was a dreamlike experience
5. I remembered a specific event
6. The memories were in bits and pieces

Induction Check

The video I watched in the beginning of this study was

- | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---------------------|
| 1. Not at all Arousing | - | - | - | - | - | - | Extremely Arousing |
| 2. Not at all Positive | - | - | - | - | - | - | Extremely Positive |
| 3. Not at all Negative | - | - | - | - | - | - | Extremely Negative |
| 4. Not at all Nostalgic | - | - | - | - | - | - | Extremely Nostalgic |

Distractor

How many squares do you see in this picture (See Appendix 3)?

Stigma

Instructions: People at times find that they face problems in seeking help. Using the scale below, please describe how you might react in such a situation.

Strongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

1. I would feel inadequate if I went to a therapist for psychological help.
2. My self-confidence will be threatened if I sought professional help.
3. Seeking psychological help would make me feel less intelligent.
4. My self-esteem would decrease if I talked to a therapist.
5. My view of myself would change just because I made the choice to see a therapist.
6. It would make me feel inferior to ask a therapist for help.
7. I would not feel okay about myself if I made the choice to seek professional help.

8. If I went to a therapist, I would be less satisfied with myself.
9. My self-confidence would decrease if I sought professional help for a problem I could not solve.
10. I would feel worse about myself if I could not solve my own problems.

PHQ-9 scale

Instructions: Over the past 2 weeks, how often have you been bothered by any of the following problems?

Not at all (1) Several days (2) More than half the days (3) Nearly everyday (4)

1. Little interest or pleasure in doing things
2. Feeling down, depressed or hopeless
3. Trouble falling asleep, staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual
9. Thoughts that you would be better off dead or of hurting yourself in some way

Social Support

Instructions: In answering the following questions, think about your current relationships with friends, family members, co-workers, community members, and so on. Please indicate to what extent each statement describes your current relationships with other people. Use the following scale to indicate your opinion:

Strongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4)

1. There are people I can depend on to help me if I really need it.
2. I feel that I have close personal relationships with other people.
3. I have someone to whom I can turn to for guidance in times of stress.
4. There are people who depend on me for help.
5. There are people who enjoy the same social activities I do.
6. Other people view me as competent.
7. I feel personally responsible for the well-being of another person.
8. I feel part of a group of people who share my attitudes and beliefs.
9. I think other people respect my skills and abilities.
10. If something went wrong, someone would come to my assistance.
11. I have close relationships that provide me with a sense of emotional security and well-being.
12. There is someone I could talk to about important decisions in my life.

13. I have relationships where my competence and skills are recognized.
14. I know someone who share my interests and concerns.
15. There is someone who rely on me for well-being.
16. There is a trustworthy person I could turn to for advice if I were having problems.
17. I feel a strong emotional bond with at least one other person.
18. There is someone I can depend on for aid if I really need it.
19. There is someone I feel comfortable talking about problems with.
20. There are people who admire my talents and abilities.
21. I have a feeling of intimacy with another person.
22. There is someone who likes to do the things I do.
23. There are people I can count on in an emergency.
24. I have someone who needs me to care for him/her.

Do you have a family member with any mental illness?

Yes (1)

No (2)

Do you have a Friend with any mental illness?

Yes (1)

No (2)

Are you currently attended Counseling?

Yes (1)

No (2)

Have you ever attended Counseling in the Past?

Yes (1)

No (2)

This is the last part of the study. Please answer the following demographic questions.

What is your sex?

Male (1)

Female (2)

No Answer (3)

What year were you born? ____

Marital status

Are you currently...?

Single (1)

Married (2)

Living with a Domestic Partner (3)

Divorced (4)

Separated (5)

Widowed (6)

Other, please specify (7) _____

Education

Not including kindergarten, how many years of formal education have you completed?

Class

Freshman (1)

Sophomore (2)

Junior (3)

Senior (4)

Masters Student (5)

PhD Student (6)

Other, please specify: (7) _____

Hispanic

1. No, I'm not Hispanic or Latino
2. Yes, I'm Hispanic or Latino

Is English your first language?

Yes (1)

No (2)

Ethnicity

Choose one or more races that you consider yourself to be:

White (1)

Black or African American (2)

Hispanic or Latino (3)

American Indian or Alaska Native (4)

Asian (5)

Native Hawaiian or Pacific Islander (6)

Arab or Middle Eastern (7)

Other (8)

Income

What is your family household income?

Less than \$10,000 (1)

\$10,000 to \$49,999 (2)

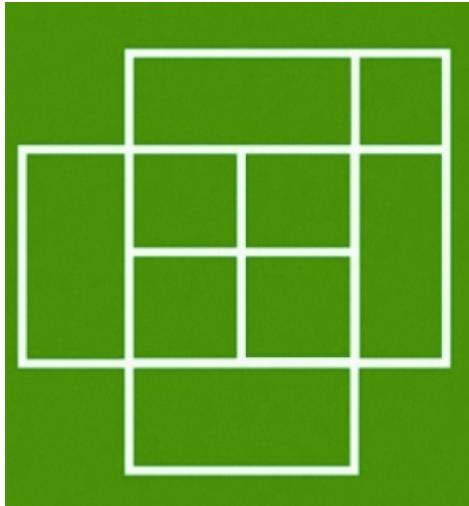
\$50,000 to \$79,999 (3)

\$80,000 to \$99,999 (4)

\$100,000 to \$149,999 (5)

\$150,000 or more (6)

Appendix 3: DISTRACTOR TASK



Instructions: How many squares do you see in this picture?

Response: Dropdown options ranging from 1 to 20.

Appendix 4: DEBRIEF FORM

Thank you for taking part in our study. The study aimed to investigate the effectiveness of different emotional appeals in nostalgic message promoting help seeking behavior during depression. Throughout the experiment, your identity was anonymous. None of the information you provided will affect you in any way. None of the information you provided during the experiment will be traced back to your name or identity.

Due to the nature of our study and its focus on depression, we would like to draw your attention to some helpful resources, in case you feel the desire to talk to someone about some of the answers you provided today. If it's an emergency in which you or someone you know is suicidal, you should immediately call the National Suicide Prevention Lifeline at 1-800-273-8255, call 911 or go to a hospital emergency room.

If you can wait a few days, make an appointment with your primary healthcare provider or pediatrician if you think your condition is mild to moderate. If your symptoms are moderate to severe, make an appointment with a specialized doctor such as a psychiatrist. You may need to contact your community mental health center or primary health care provider for a referral. Seek out support groups in your community and educate yourself about your symptoms and diagnosis. Social support and knowledge can be valuable tools for coping. If you have any questions about this procedure **or wish to be removed from the study**, please contact the primary investigator:

Dr. Saleem Alhabash
404 Wilson Road, CAS 313
Michigan State University
East Lansing MI 48824-1212
Tel: 517-432-2178
Email: sa@msu.edu

Thank you again for your time and effort spent in our study!

Best regards,
Dr. Saleem Alhabash
Assistant Professor
Michigan State University

REFERENCES

REFERENCES

1. Abeyta, A. A., Routledge, C., Roysance, C., Wildschut, T., & Sedikides, C. (2015). Attachment-related avoidance and the social and agentic content of nostalgic memories. *Journal of Social and Personal Relationships*, 32(3), 406-413.
2. Abeyta, A. A., Routledge, C., & Juhl, J. (2015). Looking back to move forward: Nostalgia as a psychological resource for promoting relationship goals and overcoming relationship challenges. *Journal of Personality and Social Psychology*, 109(6), 1029.
3. Agapidaki, E., Souliotis, K., Christogiorgos, S., Leonardou, A., Kolaitis, G., Giannakopoulos, G., ... & Tountas, Y. (2013). A theory-based educational intervention to pediatricians in order to improve identification and referral of maternal depression: a quasi-experimental study. *Annals of general psychiatry*, 12(1), 37.
4. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer Berlin Heidelberg.
5. Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
6. Ajzen, I. (1998). Models of human social behavior and their application to health psychology. *Psychology and Health*, 13(4), 735-739.
7. Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European review of social psychology*, 11(1), 1-33.
8. Allan, J. L., Johnston, D. W., Johnston, M., & Mant, D. (2007). Depression and perceived behavioral control are independent predictors of future activity and fitness after coronary syndrome events. *Journal of Psychosomatic Research*, 63(5), 501-508.
9. Aloia, L. S., & Brecht, D. (2017). Psychological Well-Being as a Function of Affectionate Communication and Emotional Intelligence. *Communication Research Reports*, 34(4), 297-306.
10. Alonso, J., Angermeyer, M. C., Bernert, S., Bruffaerts, R., Brugha, T. S., Bryson, H., ... & Haro, J. M. (2004). Prevalence of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta psychiatrica scandinavica*, 109(s420), 21-27.
11. American College Health Association. (2009). American College Health Association-National College Health Assessment Spring 2008 Reference Group Data Report (abridged): the American College Health Association. *Journal of American college health: J of ACH*, 57(5), 477.

12. An, S. (2008). Antidepressant direct-to-consumer advertising and social perception of the prevalence of depression: Application of the availability heuristic. *Health communication*, 23(6), 499-505.
13. Arch, J. J. (2014). Cognitive behavioral therapy and pharmacotherapy for anxiety: treatment preferences and credibility among pregnant and non-pregnant women. *Behaviour research and therapy*, 52, 53-60.
14. Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta analytic review. *British journal of social psychology*, 40(4), 471-499.
15. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behavior. *Appetite*, 50, 443-454.
16. Bae, H-S. (2008). Entertainment-education and recruitment of cornea donors: The role of emotion and issue involvement. *Journal of Health Communication*, 13, 20-36.
17. Bagozzi, R. P. (1988). The rebirth of attitude research in marketing. *Journal of the Market Research Society*, 30(2), 163-195.
18. Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly*, 55, 178-204.
19. Bagozzi, R. P., & Dholakia, U. M. (2006). Antecedents and purchase consequences of customer participation in small group brand communities. *International Journal of Research in Marketing*, 23, 45-61. doi:10.1016/j.ijresmar.2006.01.005
20. Baker, S. M., & Kennedy, P. F. (1994). Death by nostalgia: A diagnosis of context-specific cases. *ACR North American Advances*.
21. Baldwin, M., & Landau, M. (2014). Exploring nostalgia's influence on psychological growth: Evidence for mediation by positive emotion and consequences for self-perceptions and behavioral intentions, *Self and Identity*, 13, 162-177. DOI: 10.1080/15298868.2013.772320
22. Baldwin, M., & Landau, M. J. (2014). Exploring nostalgia's influence on psychological growth. *Self and Identity*, 13(2), 162-177.
23. Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122.
24. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.
25. Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

26. Bandura, A., Pastorelli, C., Barbaranelli, C., & Caprara, G. V. (1999). Self-efficacy pathways to childhood depression. *Journal of Personality and social Psychology*, 76(2), 258.
27. Barney, L. J., Griffiths, K. M., Jorm, A. F., & Christensen, H. (2006). Stigma about depression and its impact on help-seeking intentions. *Australian & New Zealand Journal of Psychiatry*, 40(1), 51-54.
28. Barrett, L. F. (2009). Variety is the spice of life: A psychological construction approach to understanding variability in emotion. *Cognition and Emotion*, 23(7), 1284-1306.
29. Barrett, L. F., & Bliss-Moreau, E. (2009). Affect as a psychological primitive. *Advances in experimental social psychology*, 41, 167-218.
30. Batra, R., & Ahtola, O. T. (1991). Measuring the hedonic and utilitarian sources of consumer attitudes. *Marketing letters*, 2(2), 159-170.
31. Baumeister, R. F., Vohs, K. D., Nathan DeWall, C., & Liqing Zhang. (2007). How Emotion Shapes Behavior: Feedback, Anticipation, and Reflection, Rather Than Direct Causation. *Personality and Social Psychology Review*, 11(2), 167–203.
32. Baumgartner, H. (1992). Remembrance of things past: Music, autobiographical memory, and emotion. *ACR North American Advances*.
33. Baumgartner, H. (1992). Remembrance of things past: Music, autobiographical memory, and emotion. *ACR North American Advances*.
34. Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression. 1979. *New York: Guilford Press Google Scholar*.
35. Belk, R. W. (1990). The role of possessions in constructing and maintaining a sense of past. *ACR North American Advances*.
36. Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science*, 6(1), 3-5.
37. Bell, D. W., & Esses, V. M. (2002). Ambivalence and response amplification: A motivational perspective. *Personality and Social Psychology Bulletin*, 28(8), 1143-1152.
38. Berkowitz, P. (2000). *Virtue and the making of modern liberalism*. Princeton University Press.
39. Berntsen, D., & Rubin, D. C. (2004). Cultural life scripts structure recall from autobiographical memory. *Memory & cognition*, 32(3), 427-442.
40. Blaine, B. E. (2000). *The psychology of diversity: Perceiving and experiencing social difference*. Mountain View, CA: Mayfield Publishing.

41. Bless, H., Fiedler, K., & Forgas, J. P. (2006). Mood and the regulation of information processing and behavior. *Affect in social thinking and behavior*, 6584.
42. Boym, S. (2001). *The Future of Nostalgia* (New York: Basic). *Google Scholar*.
43. Bradley, B. P., Mogg, K., Millar, N., & White, J. (1995). Selective processing of negative information: Effects of clinical anxiety, concurrent depression, and awareness. *Journal of abnormal psychology*, 104(3), 532.
44. Brehm, S. S., & Brehm, J. W. (2013). *Psychological reactance: A theory of freedom and control*. Academic Press.
45. Bryant, F. B., Smart, C. M., & King, S. P. (2005). Using the past to enhance the present: Boosting happiness through positive reminiscence. *Journal of Happiness Studies*, 6(3), 227-260.
46. Brown, A. D., & Humphreys, M. (2002). Nostalgia and the narrativization of identity: A Turkish case study. *British Journal of Management*, 13(2), 141-159.
47. Cachón, D., & Igartua, J. J. (2016, November). Impact of the narrative formats on the behavior improvement in relation to the socially stigmatized groups: The effect of empathy and similarity in terms of social identity. In *Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality* (pp. 1197-1199). ACM.
48. Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond bipolar conceptualizations and measures: The case of attitudes and evaluative space. *Personality and Social Psychology Review*, 1(1), 3-25.
49. Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond bipolar conceptualizations and measures: The case of attitudes and evaluative space. *Personality and Social Psychology Review*, 1(1), 3-25.
50. Cacioppo, J., Larsen, J., Smith, N., & Berntson, G. (2004, April). What Lurks below the Surface of Feelings. In *Feelings and emotions: The Amsterdam symposium* (pp. 223-242).
51. Calder, B. J., & Ross, M. (1973). *Attitudes and behavior*. Morristown, NJ: General Learning Press.
52. Carton, S. T., & Goodboy, A. K. (2015). College students' psychological well-being and interaction involvement in class. *Communication Research Reports*, 32(2), 180-184.
53. Cascio, C. N., Dal Cin, S., & Falk, E. B. (2013). Health communications: Predicting behavior change from the brain. In *Social neuroscience and public health* (pp. 57-71). Springer, New York, NY.
54. Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich.

55. Chang, H. (2007). Depressive symptom manifestation and help-seeking among Chinese college students in Taiwan. *International Journal of Psychology*, 42(3), 200-206.
56. Christopher Marchegiani & Ian Phau (2013) Development and validation of the Personal Nostalgia Scale, *Journal of Marketing Communications*, 19:1, 22-43, DOI: 10.1080/13527266.2010.542078
57. Cigularov, K., Chen, P. Y., Thurber, B. W., & Stallones, L. (2008). What prevents adolescents from seeking help after a suicide education program?. *Suicide and Life-Threatening Behavior*, 38(1), 74-86.
58. Clark, J. K., Wegener, D. T., & Fabrigar, L. R. (2008). Attitudinal ambivalence and message-based persuasion: Motivated processing of proattitudinal information and avoidance of counterattitudinal information. *Personality and social psychology bulletin*, 34(4), 565-577.
59. Clore, G. L., LeDoux, J. E., Zajonc, R. B., Davidson, R. J., & Ekman, P. (1994). Can emotions be nonconscious. *The nature of emotion: Fundamental questions*, 283-299.
60. Clore, G. L., Wyer Jr, R. S., Dienes, B., Gasper, K., Gohm, C., & Isbell, L. (2001). Affective feelings as feedback: Some cognitive consequences. *Lawrence Erlbaum Associates Publishers*.
61. Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of applied social psychology*, 28(15), 1429-1464.
62. Corrigan, P. W. (2000). Mental health stigma as social attribution: Implications for research methods and attitude change. *Clinical Psychology: Science and Practice*, 7(1), 48-67.
63. Darchuk, K. M., Townsend, C. O., Rome, J. D., Bruce, B. K., & Hooten, W. M. (2010). Longitudinal treatment outcomes for geriatric patients with chronic non-cancer pain at an interdisciplinary pain rehabilitation program. *Pain Medicine*, 11(9), 1352-1364.
64. Darlington, R. B., & Hayes, A. F. (2017). Regression analysis and linear models: Concepts, application, and implementation.
65. Davis, F. (1979). *Yearning for yesterday: A sociology of nostalgia*. Free Press.
66. Davis, W. A. (1984). The two senses of desire. *Philosophical Studies*, 45, 181-195.
67. Deane, F. P., & Chamberlain, K. (1994). Treatment fearfulness and distress as predictors of professional psychological help-seeking. *British Journal of Guidance & Counselling*, 22(2), 207-217.

68. Depue, R. A., & Collins, P. F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, 22(3), 491-517.
69. DeSteno, D., Petty, R. E., Rucker, D. D., Wegener, D. T., & Braverman, J. (2004). Discrete emotions and persuasion: the role of emotion-induced expectancies. *Journal of personality and social psychology*, 86(1), 43.
70. Dillard, J. P., & Peck, E. (2001). Persuasion and the structure of affect. *Human Communication Research*, 27(1), 38-68.
71. Dillard, J. P., Plotnick, C. A., Godbold, L. C., Freimuth, V. S., & Edgar, T. (1996). The multiple affective outcomes of AIDS PSAs: Fear appeals do more than scare people. *Communication Research*, 23(1), 44-72.
72. Doering, L. V., McGuire, A., Eastwood, J. A., Chen, B., Bodán, R. C., Czer, L. S., & Irwin, M. R. (2016). Cognitive behavioral therapy for depression improves pain and perceived control in cardiac surgery patients. *European Journal of Cardiovascular Nursing*, 15(6), 417-424.
73. Dolinski, (2007). Emotional see-saw. The science of social influence. *Advances and future progress*, 137-153.
74. Dolinski, D., & Nawrat, R. (1998). "Fear-then-relief" procedure for producing compliance: Beware when the danger is over. *Journal of Experimental Social Psychology*, 34(1), 27-50.
75. Dulin, P. L., Hanson, B. L., & King, D. K. (2013). Perceived control as a longitudinal moderator of late-life stressors on depressive symptoms. *Aging & mental health*, 17(6), 718-723.
76. Egbert, N., Miraldi, L. B., & Murniadi, K. (2014). Friends don't let friends suffer from depression: How threat, efficacy, knowledge, and empathy relate to college students'; intentions to intervene on behalf of a depressed friend. *Journal of health communication*, 19(4), 460-477.
77. 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.
78. Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. *Attitude strength: Antecedents and consequences*, 4, 247-282.
79. Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. *Attitude strength: Antecedents and consequences*, 4, 247-282.

80. Feldman, L. A. (1995). Valence focus and arousal focus: Individual differences in the structure of affective experience. *Journal of personality and social psychology*, 69(1), 153.
81. Field, D. (1976). The social definition of illness. *An introduction to medical sociology*.
82. Fischer, E. H., & Turner, J. I. (1970). Orientations to seeking professional help: Development and research utility of an attitude scale. *Journal of consulting and clinical psychology*, 35(1p1), 79.
83. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*.
84. Forgas, J. P. (2007). When sad is better than happy: Negative affect can improve the quality and effectiveness of persuasive messages and social influence strategies. *Journal of experimental social psychology*, 43(4), 513-528.
85. Freidson, E. (1962). The sociology of medicine. *Current Sociology*, 11(3), 123-140.
86. Frijda, N. H. (1986). The emotions: Studies in emotion and social interaction. *Paris: Maison de Sciences de l'Homme*.
87. Gallagher, R. P. (2012). Thirty years of the national survey of counseling center directors: A personal account. *Journal of College Student Psychotherapy*, 26(3), 172-184.
88. Glasman, L. R., & Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological bulletin*, 132(5), 778.
89. Goffman, E. (1963). *Stigma. Notes on the Management of Spoiled Identity*. New York: Simon and Shuster.
90. Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior research methods*, 48(1), 400-407.
91. Goodman, J. K., Cryder, C. E., & Cheema, A. (2013). Data collection in a flat world: The strengths and weaknesses of Mechanical Turk samples. *Journal of Behavioral Decision Making*, 26(3), 213-224.
92. Gonzalez, J. S., Shreck, E., Psaros, C., & Safren, S. A. (2015). Distress and type 2 diabetes-treatment adherence: A mediating role for perceived control. *Health psychology*, 34(5), 505.
93. Greene, K. (2015). 12 An Integrated Model of Health Disclosure Decision-Making1. *Uncertainty, information management, and disclosure decisions: Theories and applications*, 226.

94. Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC psychiatry*, 10(1), 113.
95. Harmer, C. J., Shelley, N. C., Cowen, P. J., & Goodwin, G. M. (2004). Increased positive versus negative affective perception and memory in healthy volunteers following selective serotonin and norepinephrine reuptake inhibition. *American Journal of Psychiatry*, 161(7), 1256-1263.
96. Hart, J., Shaver, P. R., & Goldenberg, J. L. (2005). Attachment, self-esteem, worldviews, and terror management: evidence for a tripartite security system. *Journal of personality and social psychology*, 88(6), 999.
97. Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
98. Hebl, M. R., Tickle, J., & Heatherton, T. F. (2000). Awkward moments in interactions between nonstigmatized and stigmatized individuals. *The social psychology of stigma*, 275-306.
99. Hepper, E. G., Ritchie, T. D., Sedikides, C., & Wildschut, T. (2012). Odyssey's end: Lay conceptions of nostalgia reflect its original homeric meaning. *Emotion*, 12(1), 102.
100. Herek, G. M., & Glunt, E. K. (1988). *An epidemic of stigma: Public reactions to AIDS* (Vol. 43, No. 11, p. 886). American Psychological Association.
101. Hertz, D. G. (1990). Trauma and nostalgia: New aspects on the coping of aging Holocaust survivors. *Israel Journal of Psychiatry and Related Sciences*.
102. Hiller, M. L., Narevic, E., Webster, J. M., Rosen, P., Staton, M., Leukefeld, C., ... & Kayo, R. (2009). Problem severity and motivation for treatment in incarcerated substance abusers. *Substance Use & Misuse*, 44(1), 28-41.
103. Hitlin, P. (2016). Research in the crowdsourcing age, a case study. *Pew Research Center*, 11.
104. Hipólito, J. (2011). The sensorial effect: dynamics of emotion in pro-Environmental behavior. *Applied Environmental Education & Communication*, 10(4), 189-200.
105. Holak, S. L., & Havlena, W. J. (1992). Nostalgia: An exploratory study of themes and emotions in the nostalgic experience. *ACR North American Advances*.
106. Holak, S. L., & Havlena, W. J. (1998). Feelings, fantasies, and memories: An examination of the emotional components of nostalgia. *Journal of Business Research*, 42(3), 217-226.
107. Holbrook, M. B. (1993). Nostalgia and consumption preferences: Some emerging patterns of consumer tastes. *Journal of Consumer research*, 20(2), 245-256.

108. Holbrook, M. B., & Schindler, R. M. (1991). Echoes of the dear departed past: Some work in progress on nostalgia. *ACR North American Advances*.
109. Holland, R. W., Verplanken, B., & Van Knippenberg, A. (2002). On the nature of attitude–behavior relations: The strong guide, the weak follow. *European Journal of Social Psychology*, 32(6), 869-876.
110. Houston, D. A., & Fazio, R. H. (1989). Biased processing as a function of attitude accessibility: Making objective judgments subjectively. *Social cognition*, 7(1), 51-66.
111. Hussain, S. A., & Lapinski, M. K. (2017). Nostalgic Emotional Appeals for Smoking Prevention. *Communication Research Reports*, 34(1), 48-57.
112. Hussain, S., Alhabash, S. (2017). Nostalgia increased help-seeking intentions to seek counseling when depressed. Paper presented in the DC Health Communication conference, Fairfax, Virginia, April 27-29, 2017.
113. Hussain, S., Davenport, L. (2017). *Visual Narratives of Depression*. Paper presented in the Visual Communication Division of the Association for Education in Journalism and Mass Communication, Chicago, August 9-12, 2017.
114. Hussain, S., Deng, T., & Alhabash, S. (2017). Feel-good smoking prevention messages – nostalgia vs. fear vs. disgust. Paper presented in the Communicating Science, Health, Environment, and Risk Division of the *Association for Education in Journalism and Mass Communication*, Chicago, August 9-12, 2017.
115. Imai, T. (2017). How You See Us Hurts Me! Influences of Metastereotypes That International Students Hold on Their Self-disclosure, Loneliness and Depression. *Journal of Intercultural communication research*, 46(4), 385-399.
116. Izard, C. E. (2009). Emotion theory and research: Highlights, unanswered questions, and emerging issues. *Annual review of psychology*, 60, 1-25.
117. Jensen, M. P., Turner, J. A., & Romano, J. M. (2001). Changes in beliefs, catastrophizing, and coping are associated with improvement in multidisciplinary pain treatment. *Journal of consulting and clinical psychology*, 69(4), 655.
118. Jin, Y., Zhang, Y., Lee, Y. I., & Tang, Y. (2018). Learn after reading: effects of news framing and responsibility attribution on Chinese college students' perceived efficacy in identifying others and themselves with depression. *Asian Journal of Communication*, 28(1), 55-73.
119. Johnson-Laird, P. N., & Oatley, K. (1989). The language of emotions: An analysis of a semantic field. *Cognition and emotion*, 3(2), 81-123.
120. Juhl, J., & Routledge, C. (2012). Turning to the past to make sense of the world: Exploring the epistemic utility of nostalgia. Paper presented at the *annual meeting of the Society for Personality and Social Psychology*, San Diego, CA.

121. Kaplan, K. J. (1972). On the ambivalence-indifference problem in attitude theory and measurement: A suggested modification of the semantic differential technique. *Psychological bulletin*, 77(5), 361.
122. Keller, M. B., & Boland, R. J. (1998). Implications of failing to achieve successful long-term maintenance treatment of recurrent unipolar major depression. *Biological psychiatry*, 44(5), 348-360.
123. Keller, S. N., Austin, C. G., & McNeill, V. (2017). A theater intervention to promote communication and disclosure of suicidal ideation. *Journal of applied communication research*, 45(3), 294-312.
124. Klin, A., & Lemish, D. (2008). Mental disorders stigma in the media: Review of studies on production, content, and influences. *Journal of health communication*, 13(5), 434-449.
125. Komiya, N., Good, G. E., & Sherrod, N. B. (2000). Emotional openness as a predictor of college students' attitudes toward seeking psychological help. *Journal of counseling psychology*, 47(1), 138.
126. Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The phq-9. *Journal of general internal medicine*, 16(9), 606-613.
127. Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (1990). Emotion, attention, and the startle reflex. *Psychological review*, 97(3), 377.
128. Lang, P. J., Greenwald, M. K., Bradley, M. M., & Hamm, A. O. (1993). Looking at pictures: Affective, facial, visceral, and behavioral reactions. *Psychophysiology*, 30(3), 261-273.
129. Larsen, J. T., McGraw, A. P., & Cacioppo, J. T. (2001). Can people feel happy and sad at the same time?. *Journal of personality and social psychology*, 81(4), 684.
130. Larsen, J. T., Peter McGraw, A., Mellers, B. A., & Cacioppo, J. T. (2004). The agony of victory and thrill of defeat: Mixed emotional reactions to disappointing wins and relieving losses. *Psychological science*, 15(5), 325-330.
131. Larsen, R. J., & Diener, E. (1992). Promises and problems with the circumplex model of emotion.
132. Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford University Press on Demand.
133. Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. S. (2015). Emotion and Decision Making. *Annual Review of Psychology*, 66(1), 799-823.
134. Lewin, T. (2011). Record level of stress found in college freshmen. *The New York Times*, 26, A1.

135. Lewis, M., Haviland-Jones, J. M., & Barrett, L. F. (Eds.). (2010). *Handbook of emotions*. Guilford Press.
136. Lienemann, B. A., & Siegel, J. T. (2016). State psychological reactance to depression public service announcements among people with varying levels of depressive symptomatology. *Health communication*, 31(1), 102-116.
137. Lienemann, B. A., Siegel, J. T., & Crano, W. D. (2013). Persuading people with depression to seek help: Respect the boomerang. *Health Communication*, 28(7), 718-728.
138. Lindquist, K. A., Wager, T. D., Kober, H., Bliss-Moreau, E., & Barrett, L. F. (2012). The brain basis of emotion: a meta-analytic review. *Behavioral and brain sciences*, 35(3), 121-143.
139. Lua, P. L., & Khairuzzaman, N. K. W. (2014). A brief review on multimedia-based health education applications: Current trend and future potential. *Education in Medicine Journal*, 6(4).
140. Lucas, M. S., & Berkel, L. A. (2005). Counseling needs of students who seek help at a university counseling center: A closer look at gender and multicultural issues. *Journal of College Student Development*, 46(3), 251-266.
141. Lueck, J. A. (2017). Matching message design and depressed cognition: an exploration of attention patterns for gain-and loss-framed depression help-seeking messages. *Journal of health communication*, 22(7), 593-603.
142. MacDonald, T. K., & Zanna, M. P. (1998). Cross-dimension ambivalence toward social groups: Can ambivalence affect intentions to hire feminists?. *Personality and Social Psychology Bulletin*, 24(4), 427-441.
143. Maio, G., & Haddock, G. (2014). *The psychology of attitudes and attitude change*. Sage.
144. Marchegiani, C., & Phau, I. (2010). Effects of personal nostalgic response intensity on cognitions, attitudes, and intentions. *Journal of Research in Interactive Marketing*, 4(3), 241-256.
145. McCaul, K. D., Branstetter, A. D., O'donnell, S. M., Jacobson, K., & Quinlan, K. B. (1998). A descriptive study of breast cancer worry. *Journal of behavioral medicine*, 21(6), 565-579.
146. Mechanic, D. (1962). Students under stress: A study of the social psychology of adaptation.
147. Mechanic, D. (1982). The epidemiology of illness behavior and its relationship to physical and psychological distress. *Symptoms, illness behavior, and help-seeking*, 1-24.

148. Meisenbach, R. J. (2010). Stigma management communication: A theory and agenda for applied research on how individuals manage moments of stigmatized identity. *Journal of Applied Communication Research*, 38(3), 268-292.
149. Meliema, A., & Bassili, J. N. (1995). On the relationship between attitudes and values: Exploring the moderating effects of self-monitoring and self-monitoring schematicity. *Personality and Social Psychology Bulletin*, 21(9), 885-892.
150. Mills, M. A., & Coleman, P. G. (1994). Nostalgic memories in dementia—a case study. *The International Journal of Aging and Human Development*, 38(3), 203-219.
151. NIMH, 2012. Leading Categories of Diseases/Disorders. Nimh.nih.gov. Retrieved from http://www.nimh.nih.gov/statistics/2LEAD_CAT.shtml
152. Park, H. S., & Smith, S. W. (2007). Distinctiveness and influence of subjective norms, personal descriptive and injunctive norms, and societal descriptive and injunctive norms on behavioral intent: A case of two behaviors critical to organ donation. *Human Communication Research*, 33(2), 194-218.
153. Park, H., Kim, E. J., Han, J., Han, J., & Kang, D. (2016). Effects of analgesics and antidepressants on TREK-2 and TRESK currents. *The Korean Journal of Physiology & Pharmacology*, 20(4), 379-385.
154. Park, J. S., Ju, I., & Kim, K. E. (2014). Direct-to-consumer antidepressant advertising and consumers' optimistic bias about the future risk of depression: the moderating role of advertising skepticism. *Health communication*, 29(6), 586-597.
155. Parker, D., Manstead, A. S. R., & Stradling, S. G. (1995). Extending the theory of planned behavior: The role of personal norm. *British Journal of Social Psychology*, 34, 127-137.
156. Pascal, V. J., Sprott, D. E., & Muehling, D. D. (2002). The influence of evoked nostalgia on consumers' responses to advertising: An exploratory study. *Journal of Current Issues & Research in Advertising*, 24(1), 39-47.
157. Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, 40(1), 79-98.
158. Perugini, M., & Conner, M. (2000). Predicting and understanding behavioral volitions: The interplay between goals and behaviors. *European Journal of Social Psychology*, 30(5), 705-731.
159. Petty, R. E., & Cacioppo, J. T. (1996). *Attitudes and Persuasion: Classic and Contemporary Approaches* Westview Press. Inc., Boulder, CO.
160. Petty, R. E., DeSteno, D., & Rucker, D. D. (2001). The role of affect in attitude change. *Handbook of affect and social cognition*, 212-233.

161. Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. *Attitude strength: Antecedents and consequences*, 4(93-130).
162. Pasupathi, M., Weeks, T., & Rice, C. (2006). Reflecting on life: Remembering as a major process in adult development. *Journal of Language and Social Psychology*, 25(3), 244-263.
163. Pleskac, T. J., Keeney, J., Merritt, S. M., Schmitt, N., & Oswald, F. L. (2011). A detection model of college withdrawal. *Organizational Behavior and Human Decision Processes*, 115(1), 85-98.
164. Pomerantz, E. M., Chaiken, S., & Tordesillas, R. S. (1995). Attitude strength and resistance processes. *Journal of personality and social Psychology*, 69(3), 408.
165. Priester, J. R., & Petty, R. E. (1996). The gradual threshold model of ambivalence: relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of personality and social psychology*, 71(3), 431.
166. Rains, S. A., Levine, T. R., & Weber, R. (2018). Sixty years of quantitative communication research summarized: lessons from 149 meta-analyses. *Annals of the International Communication Association*, 42(2), 105-124.
167. Rasmussen, E. E., & Ewoldsen, D. R. (2016). Treatment via television: The relation between watching Dr. Phil and viewers' intentions to seek mental health treatment. *Journal of health communication*, 21(6), 611-619.
168. Reavley, N., & Jorm, A. F. (2010). Prevention and early intervention to improve mental health in higher education students: a review. *Early intervention in psychiatry*, 4(2), 132-142.
169. Reeves, B., Lang, A., Thorson, E., & Rothschild, M. (1988). Hemispheric lateralization and the processing of emotional television scenes. *Human Communication Research*, 15, 493-508.
170. Rentz, A. L. (1996). *Student affairs practice in higher education*. Charles C Thomas, Publisher, 2600 South First Street, Springfield, IL 62794-9265 (cloth: ISBN-0-398-06658-2, \$69.95; paperback: ISBN-0-398-06675-2, \$54.95).
171. Richard, R., van der Pligt, J., & de Vries, N. (1995). Anticipated affective reactions and prevention of AIDS. *British Journal of Social Psychology*, 34, 9-21.
172. Rickwood, D. J., & Braithwaite, V. A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Social science & medicine*, 39(4), 563-572.
173. Rickwood, D., & Deane, F. (2006). Supporting young people to seek professional help for mental health problems. *In Psych.*

174. Rickwood, D., Thomas, K., & Bradford, S. (2012). Help-seeking measures in mental health: a rapid review.
175. Ridout, N., Astell, A., Reid, I., Glen, T., & O'Carroll, R. (2003). Memory bias for emotional facial expressions in major depression. *Cognition & Emotion*, 17(1), 101-122.
176. Roeser, S. (2012). Risk Communication, Public Engagement, and Climate Change: A Role for Emotions. *Risk Analysis*, 32(6), 1033–1040.
177. Rosen, G. (1975). Nostalgia: a 'forgotten' psychological disorder. *Psychological Medicine*, 5(4), 340-354.
178. Rosenstock, I. M., & Kirscht, J. P. (1979). Why people seek health care. *Health psychology*, 161-188.
179. Routledge, C. (2015). Nostalgia: A psychological resource. *Routledge*.
180. Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5(6), 359-371.
181. Rudd, M. D., Joiner, T. E., & Rajab, M. H. (1995). Help negation after acute suicidal crisis. *Journal of Consulting and Clinical Psychology*, 63(3), 499.
182. Sargeant, A., Ford, J. B., & West, D. C. (2006). Perceptual determinants of nonprofit giving behavior. *Journal of Business Research*, 59(2), 155-165.
183. Sawyer, M. G., Borojevic, N., Ettridge, K. A., Spence, S. H., Sheffield, J., & Lynch, J. (2012). Do help-seeking intentions during early adolescence vary for adolescents experiencing different levels of depressive symptoms?. *Journal of Adolescent Health*, 50(3), 236-242.
184. Sawyer, M. G., Borojevic, N., Ettridge, K. A., Spence, S. H., Sheffield, J., & Lynch, J. (2012). Do help-seeking intentions during early adolescence vary for adolescents experiencing different levels of depressive symptoms?. *Journal of Adolescent Health*, 50(3), 236-242.
185. Scherer, K. R., Schorr, A., & Johnstone, T. (Eds.). (2001). *Appraisal processes in emotion: Theory, methods, research*. Oxford University Press.
186. Schomerus, G., Matschinger, H., & Angermeyer, M. C. (2009). The stigma of psychiatric treatment and help-seeking intentions for depression. *European archives of psychiatry and clinical neuroscience*, 259(5), 298-306.
187. Schreiber, V., Renneberg, B., & Maercker, A. (2009). Seeking psychosocial care after interpersonal violence: An integrative model. *Violence and Victims*, 24(3), 322.

188. Sedikides, C., Wildschut, T., Arndt, J., & Routledge, C. (2006). Affect and the self. *Affect in social thinking and behavior: Frontiers in social psychology*, 197-215.
189. Sedikides, C., Wildschut, T., Routledge, C., Arndt, J., Hepper, E. G., & Zhou, X. (2015). To nostalgize: Mixing memory with affect and desire. In *Advances in experimental social psychology* (Vol. 51, pp. 189-273). Academic Press.
190. Schulster, J. R. (1989). Content and temporal structure of autobiographical knowledge: Remembering twenty-five seasons at the Metropolitan Opera. *Memory & Cognition*, 17(5), 590-606.
191. Shaffer, P. A., Vogel, D. L., & Wei, M. (2006). The mediating roles of anticipated risks, anticipated benefits, and attitudes on the decision to seek professional help: An attachment perspective. *Journal of Counseling Psychology*, 53(4), 442.
192. Sheffield, J. K., Fiorenza, E., & Sofronoff, K. (2004). Adolescents' willingness to seek psychological help: Promoting and preventing factors. *Journal of Youth and Adolescence*, 33(6), 495-507.
193. Shouse, E. (2005). Feeling, emotion, affect. *M/c journal*, 8(6), 26.
194. Simon, H. A. (1987). Making management decisions: The role of intuition and emotion. *The Academy of Management Executive* (1987-1989), 57-64.
195. Small, D. a., Loewenstein, G., & Slovic, P. (2007). Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims. *Organizational Behavior and Human Decision Processes*, 102(2), 143–153.
196. Smith, R. A. (2011). *Stigma, communication, and health*. In T. L. Thompson, R. Parrott, & J. F.
197. Soet, J., & Sevig, T. (2006). Mental health issues facing a diverse sample of college students: Results from the College Student Mental Health Survey. *NASPA journal*, 43(3), 410-431.
198. Sohn, L. (1983). Nostalgia. *International journal of psychological analysis.*, 203-211.
199. Stallman, H. M. (2011). Australian Psychologist: Psychological distress in university students: A comparison with general population data. *Youth Studies Australia*, 30(2), 62-63.
200. Stephan, E., Wildschut, T., Sedikides, C., Zhou, X., He, W., Routledge, C., ... & Vingerhoets, A. J. (2014). The mnemonic mover: Nostalgia regulates avoidance and approach motivation. *Emotion*, 14(3), 545.
201. Stephan, E., Sedikides, C., & Wildschut, T. (2012). Mental travel into the past: Differentiating recollections of nostalgic, ordinary, and positive events. *European Journal of Social Psychology*, 42(3), 290-298.

202. Stern, B. B. (1992). Historical and personal nostalgia in advertising text: The fin de siecle effect. *Journal of Advertising*, 21(4), 11-22.
203. ten Have, M., de Graaf, R., Ormel, J., Vilagut, G., Kovess, V., Alonso, J., & ESEMeD/MHEDEA 2000 Investigators. (2010). Are attitudes towards mental health help-seeking associated with service use? Results from the European Study of Epidemiology of Mental Disorders. *Social psychiatry and psychiatric epidemiology*, 45(2), 153-163.
204. Thompson, A., Hunt, C., & Issakidis, C. (2004). Why wait? Reasons for delay and prompts to seek help for mental health problems in an Australian clinical sample. *Social psychiatry and psychiatric epidemiology*, 39(10), 810-817.
205. Turner, R. N., Wildschut, T., Sedikides, C., & Gheorghiu, M. (2013). Combating the mental health stigma with nostalgia. *European Journal of Social Psychology*, 43(5), 413-422.
206. Unger, L. S., McConocha, D. M., & Faier, J. A. (1991). The use of nostalgia in television advertising: A content analysis. *Journalism Quarterly*, 68(3), 345-353.
207. Van Harreveld, F., Van der Pligt, J., & de Liver, Y. N. (2009). The agony of ambivalence and ways to resolve it: Introducing the MAID model. *Personality and Social Psychology Review*, 13(1), 45-61.
208. Van Tilburg, M. A., Vingerhoets, A. J., & Van Heck, G. L. (1996). Homesickness: A review of the literature. *Psychological medicine*, 26(5), 899-912.
209. Van Tilburg, W. A. P., Bruder, M., Wildschut, T., Sedikides, C., & Göritz, A. S. (2018). An appraisal profile of nostalgia. *Emotion*. DOI: 10.1037/emo0000417
210. Vanable, P. A., Carey, M. P., Blair, D. C., & Littlewood, R. A. (2006). Impact of HIV-related stigma on health behaviors and psychological adjustment among HIV-positive men and women. *AIDS and Behavior*, 10(5), 473-482.
211. Vess, M., Arndt, J., Routledge, C., Sedikides, C., & Wildschut, T. (2012). Nostalgia as a resource for the self. *Self and Identity*, 11(3), 273-284.
212. Vincent, N., & Walsh, K. (2013). Hyperarousal, sleep scheduling, and time awake in bed as mediators of outcome in computerized cognitive-behavioral therapy (cCBT) for insomnia. *Behaviour research and therapy*, 51(3), 161-166.
213. Visser, P. S., & Krosnick, J. A. (1998). Development of attitude strength over the life cycle: surge and decline. *Journal of personality and social psychology*, 75(6), 1389.
214. Vogel, D. L., & Wester, S. R. (2003). To seek help or not to seek help: The risks of self-disclosure. *Journal of Counseling Psychology*, 50(3), 351.

215. Vogel, D. L., Gentile, D. A., & Kaplan, S. A. (2008). The influence of television on willingness to seek therapy. *Journal of Clinical Psychology*, 64(3), 276-295.
216. Vogel, D. L., Wade, N. G., & Hackler, A. H. (2007). Perceived public stigma and the willingness to seek counseling: The mediating roles of self-stigma and attitudes toward counseling. *Journal of Counseling Psychology*, 54(1), 40.
217. Wahl, O. F. (1997). *Media madness: Public images of mental illness*. Rutgers University Press.
218. Watkins, E. R., Baeyens, C. B., & Read, R. (2009). Concreteness training reduces dysphoria: proof-of-principle for repeated cognitive bias modification in depression. *Journal of abnormal psychology*, 118(1), 55.
219. Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological bulletin*, 98(2), 219.
220. Wegener, D. T., Downing, J., Krosnick, J. A., & Petty, R. E. (1995). Measures and manipulations of strength-related properties of attitudes: Current practice and future directions. *Attitude strength: Antecedents and consequences*, 4, 455-487.
221. Wenze, S. J., Gunthert, K. C., & German, R. E. (2012). Biases in affective forecasting and recall in individuals with depression and anxiety symptoms. *Personality and Social Psychology Bulletin*, 38(7), 895-906.
222. Wenzlaff, R. M., & Eisenberg, A. R. (2001). Mental control after dysphoria: Evidence of a suppressed, depressive bias. *Behavior therapy*, 32(1), 27-45.
223. Werman, D. S. (1977). Normal and pathological nostalgia. *Journal of the American Psychoanalytic Association*, 25(2), 387-398.
224. WHO, 2014. Global Burden of Disease 2004. Who.int. Retrieved from http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_part4.pdf
225. Wildschut, T., Sedikides, C., Routledge, C., Arndt, J., & Cordaro, F. (2010). Nostalgia as a repository of social connectedness: the role of attachment-related avoidance. *Journal of personality and social psychology*, 98(4), 573.
226. Williams, J. M. G., Barnhofer, T., Crane, C., Herman, D., Raes, F., Watkins, E., & Dalgleish, T. (2007). Autobiographical memory specificity and emotional disorder. *Psychological bulletin*, 133(1), 122.
227. Wills, T. A., & Shinar, O. (2000). Measuring perceived and received social support. *Social support measurement and intervention: A guide for health and social scientists*, 86-135.

228. Wilson, C. J., & Deane, F. P. (2010). Help-negation and suicidal ideation: the role of depression, anxiety and hopelessness. *Journal of youth and adolescence*, 39(3), 291-305.
229. Wilson, C. J., Bushnell, J. A., & Caputi, P. (2011). Early access and help seeking: practice implications and new initiatives. *Early Intervention in Psychiatry*, 5(s1), 34-39.
230. Wilson, C. J., Deane, F. P., Ciarrochi, J., & Rickwood, D. (2005). Measuring help-seeking intentions: Properties of the general help-seeking questionnaire. *Canadian Journal of Counselling*, 39(1), 15.
231. Wilson, C. J., Deane, F. P., Ciarrochi, J., & Rickwood, D. (2005). Measuring help-seeking intentions: Properties of the general help-seeking questionnaire. *Canadian Journal of Counselling*, 39(1), 15.
232. Witte, K. (1994). Fear control and danger control: A test of the extended parallel process model (EPPM). *Communications Monographs*, 61(2), 113-134.
233. Wohl, M. J., & Thompson, A. (2011). A dark side to self-forgiveness: Forgiving the self and its association with chronic unhealthy behaviour. *British Journal of Social Psychology*, 50(2), 354-364.
234. Wundt, W. (1980). Outlines of psychology. In *Wilhelm Wundt and the making of a scientific psychology* (pp. 179-195). Springer, Boston, MA.
235. Yan, C., Dillard, J.P., & Shen, F. (2012). Emotion, motivation and the persuasion effect of message framing. *Journal of Communication*, 62, 682-700. Doi: 10.1111/j.1460-2466.2012.01655.x
236. Yaris, E. Y. (1996). Counseling. In A. L. Rentz (Ed.), *Student affairs practice in higher education* (pp. 143–174). Springfield, IL: Charles C. Thomas.
237. Zanna, M. P., & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In D. Bar-Tal & A. W. Kruglanski (Eds.), *The social psychology of knowledge* (pp. 315-334). New York, NY, US: Cambridge University Press; Paris, France: Editions de la Maison des Sciences de l'Homme
238. Zhou, X., Wildschut, T., Sedikides, C., Shi, K., & Feng, C. (2011). Nostalgia: The gift that keeps on giving. *Journal of Consumer Research*, 39(1), 39-50.
239. Zwaanswijk, M., Van Der Ende, J. A. N., Verhaak, P. F., Bensing, J. M., & Verhulst, F. C. (2003). Factors associated with adolescent mental health service need and utilization. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42(6), 692-700.