The Dissertation Committee for Andrea Ann Richards certifies that this is the approved version of the following dissertation:

Romantic Partner Communication about Weight Management: Impact of Personal and Relational Characteristics on Message Interpretation and Health Attitude Outcomes

Committee:

Rene M. Dailey, Supervisor

Anita L. Vangelisti

Erin Donovan-Kicken

Gayle M. Timmerman

Diane O. Tyler

Romantic Partner Communication about Weight Management: Impact of Personal and Relational Characteristics on Message Interpretation and Health Attitude Outcomes

by

Andrea Ann Richards, B.A.; M.A.

Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

May 2009

Acknowledgements

I am grateful to many people for their support and efforts during the completion of this manuscript. First, I would like to acknowledge my advisor, Dr. Rene Dailey, for the thoughtful direction she provided throughout all stages of this research. I sincerely appreciate her gracious guidance and timely encouragement. I consider myself extremely fortunate to have been able to learn from her during this research, and have benefitted immensely from her assistance and suggestions. She has truly provided for me an excellent model of scholarship to learn from. I am also indebted to Dr. Anita Vangelisti for her discerning feedback and wise advice during this research. I would also like to thank Dr. Erin Donovan-Kicken, Dr. Gayle Timmerman, and Dr. Diane Tyler for their careful edits of this research and useful suggestions.

I am also deeply grateful to my parents, John and Marsha Richards for instilling in me an appreciation for education, and for their many supportive efforts and prayers during my graduate education. Acknowledgement is also owed to my siblings, Heather Richards, Courtney Richards, Trevor Richards, and Drew Richards, for their prayers, encouragement, and for the models they set in their own work. I am very blessed to have been supported throughout this dissertation by my family.

Romantic Partner Communication about Weight Management: Impact of Personal and Relational Characteristics on Message Interpretation and Health Attitude Outcomes

Andrea Ann Richards, Ph.D.

The University of Texas at Austin, 2009

Supervisor: René M. Dailey

Guided by a conceptual framework regarding how supportive messages interpreted as negatively controlling are related to individuals' relational health and weight management efforts, this research explored participants' interpretations of their romantic partner's weight management messages in a two-phase study. In phase one, college students were presented with a sample of supportive weight management messages. Participants were asked to describe the degree to which each message communicated support and negative control as well as respond to items concerning their personal and relational characteristics. In phase two, participants were asked to report a

memorable weight management message they received from their current romantic partner. These messages were then assessed for their degree of support and negative control by the participant. Additionally, students responded to measures concerning how perceptions of their health attitude and relational qualities changed after receiving the message. Results from phase one indicated that readiness to change, body esteem, external and internal locus of control, history of received support, and level of relational distress were all significant predictors of interpreting a supportive weight management message as negatively controlling. Phase two results indicated that perceived negative control in a partner's weight management message is a significant predictor of perceived level of trust in their relationship, weight management commitment, exercise self-efficacy, diet self-efficacy, and perceived negative change in relational quality. The relevance of perceived negative control for relational functioning and health attitudes is discussed.

Table of Contents

List of Tables and Figures

Chapter One: Rationale

My husband is my "backbone" on dieting. But when he monitors every step I take, that's a little too much backbone! Encouraging me to stick to my diet all the time makes me defensive. When he remarks about the size of the portions I take, or notices when I don't have any "illegal" snacks, I feel he's intruding where he doesn't belong. My dieting is my business, and I wish he'd just leave me alone. (Stuart & Jacobson, 1987, female participant, p.164)

My husband nags me even when I'm doing well on a diet and want just one sweet. That makes me so mad that I go out and binge on candy because I hate being told what to do. I've told him how I feel and he says he is just trying to help. I believe he is sincere, but with his help, I've gained 135 pounds in 13 years. (Stuart & Jacobson, 1987, female participant, p.165)

My wife is very pretty, except for her weight. I offered to take her on a big shopping spree when she loses weight, but nothing much happened. I tried bringing home diet foods, but that only makes her angry. I'd like to learn how to be supportive without bringing up this painful subject all the time. I would gladly go out of my way to do whatever she

wanted, but I'm at my wit's end as to how to help. (Stuart & Jacobson, 1987, male participant, p.167)

As the above accounts regarding weight and relationships indicate, communication about weight management is a complex process, particularly within romantic relationships. Romantic partners play an important role in influencing each others' health in a variety of contexts such as: condom use (DeBro, Campbell, & Peplau, 1994), medical compliance (Doherty, Schrott, Metcalf, & Iasiello-Vailas, 1983), abstinence from smoking (Cohen & Lichtenstein, 1990), eating behaviors (Markey, Gomel, & Markey, 2008), and psychological well-being (Pistrang & Barker, 1995). Despite the well-documented influence of romantic relationships on health, and the extended history examining the influence of social bonds on health and well-being (Burgess, 1926; Durkheim 1897/1951), little empirical research has investigated the influence of romantic relationships on weight management and body image (Boyes, Fletcher & Latner, 2007). Even less research has examined how romantic partners *communicate* about issues related to weight management and physical health (Dennis, 2006). This lack of research is unfortunate as the number of people who are overweight or obese has reached epidemic proportions, and romantic relationships appear to be the one

relationship most consequential for physical health (Berkman & Syme, 1979; Pistrang & Barker, 1995; Waltz, Badura, Pfaff, & Schott, 1988).

The World Health Organization (1998) describes the prevalence of obesity in the developed world as a "global epidemic." In the United States, 65.7% of adult Americans are classified as overweight or obese, and almost a third of adults are classified as obese (Hedley et al., 2004). These statistics indicate that obesity, fueled by poor dietary habits and physical inactivity will soon become the largest threat to human life in the U.S. (Mokdad, Marks, Stroup, & Gerberding, 2004).

The growing rates of overweight and obesity are particularly alarming considering the significant medical, psychological, social, and financial difficulties associated with overweight and obesity (e.g., Koplan & Dietz, 1999; Mokdad et al., 1999; Sturm & Wells, 2001). Obesity is linked with a number of negative health consequences, including heart disease, diabetes, stroke, hypertension, osteoarthritis, sleep apnea, and certain cancers, (see Sarwer, Foster, & Wadden, 2004) as well as psychological difficulties including body dissatisfaction and low self-esteem (Neumark-Sztainer & Haines, 2004). Socially, obese individuals are still regarded as one of the last acceptable targets of stigmatization (Brownell, Puhl, Schwartz, & Rudd, 2005; Carr & Friedman, 2006) and are less likely to date or marry than their normal-

weight peers (Gortmaker et al., 1993; Sheets & Ajmere, 2005). From a financial perspective, the total cost attributable to obesity in the U.S. amounted to 99.2 billion dollars in 1995, with direct costs related with obesity representing 5.7% of our National Health Expenditure in the United States (Wolf & Colditz, 1998).

Weight management is an important issue for both normal-weight and under-weight individuals as well. Peters, Wyatt, Donahoo, and Hill (2002) argue that without substantial conscious effort to manage their weight, normal weight individuals are likely to gain weight. Further, eating disorders including anorexia, bulimia, and binge eating affect close to five million Americans a year (Hudson, Hiripi, Pope Jr., & Kessler, 2007) and are linked to a number of medical, psychological, and social difficulties including amenorrhea (Cachelin & Maher, 1998), cardiac manifestations (Kreipe & Harris, 1992), growth retardation (Levine, 2002), depression (Philips & Diaz, 1997), and withdrawal (Pomeroy, 2004) .

The well-documented physical, psychological, social, and financial difficulties associated with weight management problems have not been ignored, and health campaigns (e.g., *5 a Day for Better Health*, *Shapeup RI,* and *Slim Down America*), non-profit-organizations (e.g., *Calories Count* and *Shapeup America!*), and commercial weight management programs (e.g.,

Weight Watchers, *Jenny Craig*, and *LA Weight Loss*) geared towards addressing these issues have been implemented. However, the strategies used by such programs have experienced limited success (Kahn, Williamson, & Stevens, 1991; Larkey et al., 1990), leading former U. S. Department of Agriculture Secretary Ann Veneman to conclude that the U.S. is losing the "battle of the bulge" and observe that "public health messages are not getting through" (U.S. Department of Agriculture, 2004).

One explanation for the lack of efficacy exhibited by many health campaigns, non-profit organizations, and commercial programs is the lack of specificity these programs provide about the role of significant others—particularly romantic partners—in their target's weight management efforts. Specifically, a central component of many weight management programs is social support or the help and encouragement provided by other people (see Biddle & Fox, 1998; Nunn, Newton, & Faucher, 1992; Parham, 1993; Rieder & Ruderman, 2007). According to Consumer Reports (2005), *Weight Watchers* is the top-rated commercial weight-management program in terms of conforming to U.S. dietary guidelines and effectiveness. *Weight Watchers* attributes much of it success to the social support emphasis of its program, arguing that social support in general (via meetings, message boards, friendships, etc.) leads to better weight loss results

(www.weightwatchers.com). Specifically, they claim a supportive atmosphere is "one of the pillars of the Weight Watchers approach," their research department even goes so far as to propound, "the more support one gets, the better the weight-loss results" (www.weightwatchers.com). *Weight Watchers* is not alone in the emphasis it places on social support in weight management. *Jenny Craig*, for example, makes similar attributions, stating "support makes all the difference" and that personal attention and support are necessary to success in weight loss goals for their participants (www.jennycraig.com). Further, *Medical Weight Loss Clinic* guarantees participants will lose all the weight they want to, as long as they follow the organization's nutritional and support programs (www.mwlc.com).

Despite the popularity of general recommendations of social support regarding weight management, participants in weight management programs do not always acknowledge its value, nor are the specific means through which support is effective always clear. For example, Stuart and Mitchell (1980) found many female *Weight Watchers* participants did not want their husbands invited to join them in their program. Additionally, in Parham's (1993) review of literature on social support and weight loss, many of the participants were often hesitant to credit their partners as an influence in their weight loss, and in some instances even kept their weight loss efforts hidden from their partners

(although whether participants who kept their efforts secret from their partner were more or less successful is not known). Parham (1993) further notes that while reviews that have examined treatment strategies for overweight and obesity frequently promote social support, they tend to be non-specific in their explanations of how support can be effective.

Empirical research has also produced mixed support for the efficacy of programs that advocate social support, particularly from romantic partners (Dubbert & Wilson, 1984; Murphy, 1982). For example, in a meta-analysis of 12 studies that compared behavioral weight-control programs for couples to similar programs in which the individuals participated alone, couple programs were superior to the individual programs in terms of intervention effectiveness (Black, Gleser, & Kooyers, 1990). However, other reviews on the efficacy of social support document limited or null effects of social support concerning weight management (see Teixeira, Going, Sardinha, & Lohman, 2005). For example, Wing, Marcus, Epstein, and Jaward (1991) found that while weight maintenance was better for women treated with their spouse, men did better when treated alone. Conversely, Black and Lantz (1984) found that weight maintenance was better for women treated alone when compared to groups that included the spouse to provide support.

Perhaps one reason for these mixed results is due to the many ways in which support can be expressed. For example, in their meta-analysis of couple weight loss programs, Black et al. (1990) noted that comparing studies was problematic due to the various types of support examined (e.g., esteem, informational, and instrumental), the confounds of combinations of support with differing emphasis (e.g., esteem and informational), and the means of assessing support (e.g., questionnaires vs. diary methods). In a similar manner, combining different types of support in reviews can make it difficult to draw reliable conclusions regarding support. For example, in a review of psychosocial predictors of weight loss, Teixeira et al. (2005) combined studies examining perceived social support and enacted social support to conclude that the level of support, assessed prior to treatment for weight loss, does not predict weight loss outcomes. This is problematic as research has shown perceived and enacted support vary in their efficacy (see Helgeson, 1993). Other research assesses support by the presence of a supportive other (e.g., buddy systems; May & West, 2000) or by participation in activities with others of similar goals (e.g., group support; Lowe et al., 2008). Combining various forms of support in meta-analyses or assessing support without attending to important differences in support (e.g., perceived vs. enacted; message qualities, etc.) risks glossing over important nuances in the support process that may

account for the conflicting results found in studies that examine support in health and weight management contexts.

Some research has considered social support as a more complex construct. For example, a growing body of research distinguishes different types of support and suggests that messages perceived as ‘‘negative support’’—supportive messages that do not meet the needs of the recipient or behavior that is perceived as harmful, critical, hostile, etc.—can be counterproductive (Dakof & Taylor, 1990; Lehman & Hemphill, 1990; Ruelman & Karoly, 1991). Revenson (1990) notes that whether support is perceived as positive or negative is a function of numerous characteristics including the source of support, timing of support, the appropriateness of communication between the support-provider and the recipient, and whether or not an opportunity exists for reciprocity.

Along similar lines, messages that are interpreted as controlling can also yield counterproductive outcomes. Of interest in the current study, is the extent to which romantic partners interpret messages that are perceived as produced with supportive intent as controlling. Messages are perceived as controlling to the degree that they involve regulation, influence, and constraint (Lewis & Rook, 1999). When a pattern of messages is perceived as controlling,

this can have negative implications for the quality of the relationship (Rook, 1990).

The current study examines supportive message interpretation to further understand the conditions under which support may be maximally effective. This research suggests that it is how supportive messages are interpreted that helps explain the mixed results for social support previous research has noted. Understanding the conditions in which supportive messages are interpreted as controlling can help researchers increase their ability to predict when supportive messages will be beneficial.

In summary, weight management is a growing social problem. Numerous weight management programs have been developed to address weight management problems, many of which strongly advocate the implementation of social support. Despite the popularity of this recommendation, empirical research does not uniformly indicate that social support is strongly beneficial. In particular, this may be attributed to the varying interpretations receivers make of supportive messages. The purpose of the current study is to determine conditions under which individuals interpret potentially supportive messages as controlling, as well as to understand the health attitude and relational outcomes of messages concerning weight management. To this end, this research begins by identifying personal and

relational qualities that may predict how social support messages are construed by the recipient. Next, to better understand the implications of partner messages about weight management, this research examines relational and health attitude outcomes resulting from memorable messages regarding weight management that individuals receive from their romantic partners.

Conceptual framework

This research investigates the personal and relational factors that predict the interpretation of supportive messages as negatively controlling as well as the relational and health attitude outcomes influenced by this interpretation process. This interpretation process is conceptualized as cyclical in nature whereby the factors that predict the interpretation of supportive messages as negatively controlling are related to the relational and health attitude outcomes associated to this process (see Figure 1). Numerous other factors (e.g., context, message factors, history of health concerns, etc.) not of specific interest in the current study likely contribute to this interpretation process; however, the personal, relational, and health attitude factors examined in this study are likely some of the most potent as well as have the strongest associations.

While the over-arching framework that guides this research is cyclical in nature, the research discussed here focuses on two relationships within a

larger process: 1) examining the personal and relational factors that predict the interpretation of supportive messages as controlling, and 2) examining how this interpretation process is related to the relational and health-attitude factors.

In terms of the first goal, numerous studies have shown that personal factors influence how messages are interpreted (e.g., Wallace & Vaux, 1993). This research examines how three personal factors are related to the interpretation of messages perceived as being produced with supportive intent. These personal factors were selected on the basis of previous empirical work demonstrating their influence on health and weight management messages. Specifically, research suggests that readiness to change (Marcus et al., 1997; Marshall & Biddle, 2001), body esteem (Swann, 1987; Evans & Stukas, 2007), and weight locus of control (Holt, Clark, & Kreuter, 2001; Holt, Clark, Kreuter, & Scharff, 2000) are all factors that influence how health-related messages are interpreted, and thus likely play a significant role in influencing how a romantic partner interprets his or her partner's weight management messages.

In addition to personal factors, relational factors also play an important role in how partner weight management messages may be interpreted (e.g., Duck, 2002). Of the numerous relational characteristics that likely are associated with this process, this research focuses on how the messages

recipient's relational history of support and level of relational distress is related to this process. Both relational history of support and level of relational distress were selected as likely predictors of how partner messages might be interpreted due to the research supporting their influence on how messages are interpreted (Goldsmith & Fitch, 1997; Goldsmith, Lindholm, & Bute, 2006; Johnson et al., 2001; Johnson & Sims, 2000).

The second goal is related to understanding how relational and individual variables may be related to a partner's interpretation of a weight management message as controlling. This research focuses two relational factors (i.e., perceived trust and perceptions of change in relational quality) and three health-attitude factors (i.e., level of weight management commitment, diet self-efficacy, and exercise self-efficacy) that are related to this interpretation process. These variables were selected due to the extant research supporting their application to this context. Specifically, previous research has shown that the level of trust in a relationship may be related to controlling messages (Rempel et al., 1985) as well as the quality of the relationship (Afifi & Metts, 1998).

The interpretations of a partner's weight management message as controlling also likely correlates with the recipient's health attitudes. Specifically of interest in this research is the degree to which a negatively

controlling message is related to the recipient's weight management commitment, level of diet self-efficacy, and level of exercise self-efficacy. These individual factors were selected on the basis of previous studies noting their application to this context (Bloomston, Zervos, Camps, & Goode, 1997) as well as how they have been influenced by significant other's messages (Young, Fors, Fasha, & Hayes, 2004; Lackner et al., 1993).

In summary, this research examines two relationships within a larger recurring process. Specifically, this research focuses on the personal and relational factors that are related to the interpretation of messages as controlling. Additionally, this research examines the relationship of that interpretation process on relational and health attitude concepts. The researcher conceptualizes these relationships as smaller parts of a larger, cyclical process wherein many of the factors that predict the interpretation of supportive messages as controlling are also impacted by this interpretation process.

Chapter Two: Literature Review

Communication about weight management between romantic partners is a complex process. Social support and social control are two constructs that frequently emerge in this communication and subsequently have been the focus of much research. Of this research, some (including the present study) focuses on how supportive messages are interpreted, with this study aimed at instances in which supportive messages are interpreted as controlling. Basic definitions and distinctions between support and control are discussed below. These delineations are followed by a review of relevant literature on support, control, and the messages interpretation process in couple's communication about weight management.

This study examines support through a communicative lens (see Burleson, Albrecht, Goldsmith, & Sarason, 1994), and adopts the definition of supportive communication as "verbal and nonverbal behavior produced with the intention of providing assistance to others" (Burleson & MacGeorge, 2002, p. 374). Along similar lines, this research also focuses on perceived support (as opposed to the concept of enacted support). Broadly, perceived social support refers to the perception that support is available (and that the available support is adequate), whereas enacted or received support refers more specifically to the behavioral conception of support (Burleson & MacGeorge, 2002).

Although a frequently recommended component in weight management attempts, empirical research on support has produced mixed results for the efficacy of support. According to some researchers (Lewis & Rook, 1999; Rook, 1990), the lack of universal success of social support, particularly between romantic partners, is because although this communication has usually been designed to provide social support, it may have helped to develop ineffectual social control instead.

Social control refers to interactions between individuals that entail regulation, influence, and constraint of an undesired behavior (Lewis & Rook, 1999). Some research suggests that support and control may exhibit contradictory functions, for example an individual's social control efforts may corrupt the sense of support in the relationship (see Ryan & Solky, 1996). Research suggests that romantic partners experience high levels of control (Rook, Ryan, & Thuras, 1987, as cited in Rook, 1990).

Researchers who study control have differentiated between negative control and positive control (Lewis & Butterfield, 2005). Negative control tactics "reflect the expression of negative emotions by the agent (e.g., disapproval) or attempts at inducing negative emotions in the target (e.g., guilt)" (Lewis & Butterfield, 2005, p. 418). Conversely, positive control tactics "appear to be broader and reflect the use of persuasion, rational logic,

discussion, modeling, and positive reinforcement" (e.g., encouragement; Lewis & Butterfield, 2005, p. 418).

Social control differs from support in that control refers to the "controlling or regulating quality of social relationships," whereas support refers to "the positive, potentially health promoting or stress-buffering, aspects of relationships such as instrumental aid, emotional caring or concern, and information" (House et al., 1988, p. 302). From these definitions depending on the behaviors being controlled or regulated, control can serve either "a health promoting or a health damaging role" (p. 302; House et al., 1988). Conversely, "supportive relationships directly provide something that people need to stay healthy or adapt to stress" (p. 302; House et al., 1988). This research focuses on messages perceived as produced with supportive intent. As research suggests, issues of control are present in many romantic relationships (Olson, 2004), and this research focuses on instances in which these supportive messages are interpreted as negative control by the recipient. This research assumes supportive messages also have elements of control in them, and that controlling messages also may be supportive. Whether a message is interpreted as supportive or controlling depends on the message recipient.

Social Support

Definitions of support vary. Traditionally, social support is defined as the resources provided by other people (Cohen & Syme, 1985). More specific to the health context, social support has been defined as the "positive, potentially health-promoting or stress-buffering aspects of relationships" (House, Umberson, & Landis, 1988, p. 302), or as the exchange of resources (i.e., tangible aid, emotional support, or information) between two (or more) individuals perceived by the provider or recipient to be provided with the aim of promoting the recipient's well-being (Shumaker & Brownell, 1984). Researchers have delineated numerous categories of support including: informational, tangible, network, esteem and emotional support (Cutrona & Suhr, 1992). Other researchers have delineated support categories including status, esteem, information support and instrumental support (Pearlin, 1985). Of these categories, appraisal and emotional support receive the most focus in weight management research (Parham, 1993).

Perhaps one reason for these mixed results is due to the many ways in which support can be expressed, and the myriad ways in which researchers define and measure social support. For example, researchers have delineated various categories of supportive messages including: informational, tangible, network, esteem, and emotional support (Cutrona & Suhr, 1992). To the extent

that researchers do not incorporate the multiple ways in which support can be expressed into their study, or focus on one form(s) of support over another, this may preclude consistent findings regarding partner support of weight management. This is further evidenced by the multiple ways researchers define and measure social support.

For the purposes of this research, the focus is on perceived support, or an individual's personal assessment of satisfaction with support and their ability to foresee support from others (for a review, see Rhodes & Lakey, 1999). An individual's ability to foresee support from other's is important in this research as it may affect the way they both interpret supportive messages as well as the potential outcomes of that interpretation process.

The majority of early research on social support focused on a global conception of support, paying primary attention to perceptions of the availability of support and/or an individual's fulfillment of social roles (see, for a review, Burleson & MacGeorge, 2002). Scholars have long recognized that much of the merit of social support lies in its perception (Cohen, Mermelstein, Kamarck, & Hoberman, 1985; Sarason, Levine, Basham, & Sarason, 1983). In addition to taking a large-scale view of support, most early research also tended to focus on health concerns such as the reduction of stress (Albrecht & Goldsmith, 2003; Cohen & McKay, 1984).

Early research on supportive messages focused on matching models which suggested that for support to be effective the type of support must be relevant to the specific type of stressor (Cutrona, 1990**;** Lakey & Cohen, 2000). More recently, researchers have identified other processes that underlie effective supportive messages. Specifically, Burleson and MacGeorge (2002) argue that effective supportive messages are characterized by four causal mechanisms: supportive intentions, politeness and facework, informative message content, and person-centered message quality. Two of these mechanisms, supportive intentions and politeness and facework, are particularly pertinent to this study. First, supportive intentions refer to "helpers' underlying desires to provide aid or assistance to targets perceived as needing help" (Burleson & MacGeorge, 2002, p. 399). Clear expression and/or manifestation of supportive intent by the support provider are perceived as helpful (Lehman & Hemphill, 1990; see also Waters & Sroufe, 1983). In some messages, supportive intent may be the only aspect of helpers' behavior that is actually beneficial to the receiver (Lehman et al., 1986).

A second causal mechanism at the foundation of effective supportive messages is attention to facework or politeness strategies. Facework or politeness strategies refer to communicative strategies geared toward redressing face threats (positive and negative) inherent to supportive messages

(Burleson & MacGeorge, 2002). According to Goldsmith and MacGeorge (2000), perceived regard for positive face particularly, and to a lesser extent negative face, is associated with the perceived efficacy of advice messages, as well their perceived appropriateness, helpfulness and sensitivity to a distressed recipient. Politeness strategies may mitigate threats to face by using appropriate levels of politeness for the speaker-recipient relationship (see Brown & Levinson, 1987; Goldsmith, 1994; Goldsmith & MacGeorge, 2000). Burleson and MacGeorge (2002) suggest that facework accomplishes this by both communicating the supporter's positive regard and respect for the recipient and inhibiting behaviors that may communicate a lack of respect or regard.

Support and Weight Management

Support may be of particular importance in weight management contexts. For example, Rider and Ruderman (2007) argue that social support may be especially pertinent to weight loss because eating and many of the physical behavior activities linked with weight gain or loss are social in nature. Put another way, many social activities are centered around eating and food preparation, thus without support from one's network, people may feel as though they are missing out on social opportunities when engaging in certain weight management behaviors such as diet restriction. Rider and Ruderman

(2007) also note that long-term weight management requires life-long behavioral changes, and individuals may need more than their own personal resources in order to maintain these changes. Social support messages are routinely advocated and implemented in couple's communication about weight management (Biddle & Fox, 1998; Parham, 1993). Although numerous studies have examined support and weight loss (Kayman, Bruvold, & Stern, 1990; Perri, Sears, & Clark, 1993; Prochaska, Norcross, Fowler, Follick, & Abrams, 1992), research has yielded mixed support for the efficacy of support in weight management contexts, particularly between romantic partners (Dubbert & Wilson, 1984; Isreal & Saccone, 1979; Murphy, 1982; Wing, Marcus, Epstein, & Jaward, 1991).

Social Control

One line of theoretical reasoning that addresses research on couples' communication about health is social control theory (Umberson, 1987, 1992). Social control refers to interactions between individuals that entail regulation, influence, and constraint of an undesired behavior (Lewis & Rook, 1999). Of particular interest in the current study is the extent to which romantic partners interpret messages that are perceived as produced with supportive intent as controlling.

Researchers who study social control have differentiated between negative and positive social control tactics. This study adapts Lewis and Butterfield's (2005) means of differentiating between negative and positive social control tactics based on the means (negative or positive) through which control is exerted. Social control can occur through several channels. Control can be implemented via direct means, such as explicitly prompting someone to engage in health behaviors (e.g., a verbal request to start exercising), or indirect means such as through continuing responsibilities or social obligations (e.g., a wife who adopts a healthier lifestyle after observing her husband's lifestyle changes).

Messages that are interpreted as controlling can have a negative impact on an individuals' well-being when excessive because instead of providing affirmation they become a source of conflict (Rook, 1990). For example, Tucker and Mueller (2000) found that control strategies perceived by spouses as being ineffective were discussed as being motivated more from the partner's own desire to exert control than from a concern for their well-being. Once a pattern of controlling behavior is perceived, the nature of the relationship changes and the behavior may become a source of discomfort rather than support (Rook, 1990).

Message Interpretation

Central to this study is the process of message interpretation. In particular, this research is focused on instances in which memorable messages are interpreted as controlling. The study of messages interpretation in conjunction with support and control is not new. For example, Goldsmith, Lindholm, and Bute (2006) explored how communicating support for a lifestyle change can be interpreted by interviewing 25 myocardial infraction and/or coronary artery bypass graft patients as well as 16 of their romantic partners. From these in-depth interviews, Goldsmith et al. (2006) found that attempts at support and control were present in many communication episodes. Specifically, they noted that couple's communication about health potentially carries multiple positive relational qualities (e.g., support, caring, and closeness) and/or less desirable qualities (e.g., control and criticism), leading them to conclude that these multiple meanings can create interpretive dilemmas by partners such that "good intentions do not always translate into positive interpretations" (p. 2088). Goldsmith et al. (2006) further concluded that these communication dilemmas suggest an account for why extant research has not always yielded consistently positive effects of partner support in a health context.

Message interpretation may impact the efficacy of support. Early researchers distinguished between perceived social support and received or actual social support (e.g., Cohen & Syme, 1985; Heller, Swindle, & Dusenbury, 1986). More recently, other researchers have investigated the importance of message construal. For example, Helgeson (1993) illustrates the importance of the perceptions of support; after interviewing 64 patients, Helgeson (1993) found that perceived support had a greater impact on adjustment to a cardiac event than received support. Based on this reasoning, supportive messages may be beneficial to the extent that recipients perceive and interpret them as supportive. However, supportive messages received from one's partner about weight management are likely to be interpreted as controlling to the extent that weight management is perceived by the recipient as their own responsibility (see Brownell, Puhl, Schwartz, & Rudd, 2005; Crocker & Major, 1989). Additionally, supportive weight management messages may be interpreted as controlling if they are perceived as excessive or more as a function of agenda-setting (e.g., enforcing adherence to a weight management regimen) by the source of the message than as support for an individual's own weight management goals.

Interpretation is impacted by multiple factors such as cultural background (Callister, 1995), individual characteristics and expectations

(Lakey & Lutz, 1996; Vinokur et al., 1987), and mood (Burleson & Planalp, 2000). As such, different people might feel supported by different sets of behaviors (Lakey & Lutz, 1996). Although not pertaining to support directly, research by Gottman and colleagues (Gottman, Markman, & Notarius, 1977; Gottman, Notarius, Markman, Banks, Yoppi, & Rubin, 1976) emphasizes the role that relational characteristics play in the interpretation of behavior. For example, in two studies on decision-making in conflict situations by distressed and nondistressed couples, Gottman et al. (1976) found that level of distress impacted how behaviors were interpreted. Specifically, distressed couples behavior tended to be perceived more negatively than comparable nondistressed couple's behavior (when intent of behavior was the same). Thus, the perception and interpretation of behaviors may also depend on relational factors. As a consequence, the implementation of a uniform set of supportive behaviors might prove unsuccessful to the degree that individuals vary in their perceptions of supportive behaviors (see O'Mahen, Beach, & Banawan, 2001). To help understand the process of message interpretation, a goal of this research is to identify the conditions that predict when partners perceive supportive messages as controlling. To this end, this research explores how both personal characteristics and relational characteristics shape the interpretation of supportive messages as controlling.

Personal Characteristics

Research suggests that personal characteristics play a role in how individuals perceive specific types of supportive messages they receive from others (e.g., Sarason et al., 1991; Wallace & Vaux, 1993). The perception of social support depends on both individual characteristics and expectations (Connell & D'Augelli, 1990; Yopp Cohen, 1988). As an example of some of the personal factors research has examined, extroverted individuals are more likely to perceive that others are available to do activities, provide tangible aid, and enact support (Swickert, Rosentreter, Hittner, & Mushrush, 2002). Other research has found that self-directedness—the "ability of an individual to control, regulate, and adapt their behavior to fit the situation in accord with individually chosen goals and values" (Hansenne et al., 1999, p. 31)—is correlated with perceived support, and further, that satisfaction with perceived support is correlated with novelty seeking and low harm avoidance (Kitamura, Kijima, Watanabe, Takezaki, & Tanaka, 1999). Such findings have led these researchers to conclude that perceived social support may to some extent be explainable by personal variables. Three personal or individual difference variables that may be particularly relevant to interpretations of weight management messages are: readiness to change, body esteem, and locus of control.

Readiness to change. Prochaska and DiClemente's (1984) transtheoretical model of readiness to change examines the point at which an individual begins to change as a result of internal realizations and/or inconsistent external feedback. As such, this model is of predictive value when interpreting weight-related messages from a romantic partner. The transtheoretical model of readiness to change (Prochaska, 1994; Prochaska & DiClemente, 1984, 1985) includes the stages of: Precontemplation, Contemplation, Action, and Maintenance. In the Precontemplation stage, an individual is not intending to change within the next six months. The Contemplation stage is characterized by intent to change in the next six months. In the Action stage, individuals have engaged in observable behavior changes within the past six months. Last, the Maintenance stage is characterized by people who are no longer working to bring about a change, as it has already occurred.

Interventions based on the Transtheoretical Model (matching an individual's treatment to their stage of readiness for change) have been shown to be more effective than no treatments or than treatments not tailored to an individuals' motivational readiness (Marcus et al., 1998; Marcus et al., 1997). More specifically, in a study that examined the application of the stages of change model to the design of an exercise intervention for community

members, Marcus et al. (1992) found that while in general subjects were significantly more active after the intervention, 62% of participants in the Contemplation stage (as assessed at the beginning of the intervention) and 61% of participants in the Preparation stage (a stage used in some models situated in between Contemplation and Action stages) increased their activity levels. Thus, this study offers partial support for the use of the stages of change model in physical activity interventions as participants in the stages immediately preceding engagement in the target activity reported increased physical activity levels. Additionally, in a study designed to test the efficacy and plausibility of physician-delivered physical activity counseling (counseling was based on the stages of change model), Marcus et al. (1997) found that participants who received the most frequent number of stages-of-change tailored counseling messages also reported the greatest increase in physical activity. Although some research finds null effects for interventions utilizing the transtheoretical approach (e.g., Adams & White, 2005), the model has been used to predict a range of health behaviors such as alcohol and drug use (Prochaska, DiClemente, & Norcross, 1992), physical activity (Marshall & Biddle, 2001), and sexual risk behaviors (Grimley, Prochaska, & Prochaska, 1993).

Research in a variety of health contexts has identified social support as a necessary precursor to change (Emmons, Butterfield, Puleo, Park, Mertens,

Gritz, et al. 2003; Emmons & Rollnick, 2001) and found that social support is positively related to individuals' confidence in their ability to change. However, there has been limited research examining the effectiveness of supportive messages at various stages of readiness. One exception to this is a study conducted by Marcus and Simkin (1994), which found that individuals in the early stages of Precontemplation and Contemplation may benefit from content aimed at the cognitive processes of change (e.g., self-reevaluations, consciousness-raising) whereas those in later stages require information on behavioral processes and strategies (e.g., counter conditioning, stimulus control, and social support). Researchers who utilize the readiness to change framework tend to assess readiness to change by classifying individuals based on their stage of readiness (e.g., Marcus et al., 1992) or by using a more continuous measure to assess general readiness to change (e.g., Park, DePue, Goldstein, Niaura, Harlow, Wiley et al., 2003). Applied to the way in which participants interpret support messages, those in early stages of change may be more likely to interpret supportive messages as controlling while those further along in the progression of stages of change may benefit more from social support, and as such they may be more likely to perceive messages as supportive.

Body self-esteem. Partner communication about weight management may also be affected by the recipient's body self-esteem (Mendelson & White, 1982). Whereas global self-esteem can be defined as "the evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval" (Rosenberg, 1965, p. 5), body self-esteem refers to how individuals feel specifically about their bodies (Erickson & Gerstle, 2007). When applied to supportive messages, esteem can have impact in at least two ways. First, research suggests that supportive messages are helpful to increasing body self-esteem (Defrancisco & Chatham-Carpenter, 2000), and hence, interpreting messages as supportive may be important to improving a recipient's body esteem.

Second, and more pertinent to the current study's goals, an individual's self-esteem may influence how they interpret messages. Research by Swann and colleagues on self-verification theory (Swann, 1987; Swann, Pelham, & Krull, 1989) suggests once individuals form beliefs about themselves, they prefer that others see them in a manner consistent with their self-views (Swann et al., 1989; Swann, Rentfrow, & Guinn, 2002). Self-verification theory propounds that feedback that is incongruent with an individual's self-views (even if positive) challenges their sense of stability and is thus devalued (Swann, Wenzlaff, Krull, & Pelham, 1992). Evans and Stukas (2007)

examined partner communication regarding issues of appearance and weight and found that (as is consistent with self-verification theory) negative feedback was sought and received by those with negative self-concepts, suggesting that "partners in close relationships may create a tightly interconnected pattern of mutual influence on self-concept, particularly with regard to issues related to appearance and weight" (p. 1181). Thus, individuals with low self-esteem tend to prefer messages that are congruent with their low self-concept. As such, individuals with low self-esteem may be more likely to interpret supportive messages as controlling so these messages will coalesce with their self-views more completely.

Weight locus of control. Weight locus of control is defined as "the expectancy that one can affect or control, at least in part, one's own weight" (Stotland & Zuroff, 1990, p. 195). From this definition, the belief that one's own behavior or attributes serve to determine one's weight is labeled as a belief in internal weight locus of control (i.e., internality). Conversely, the belief that one's weight is due to factors outside one's own control (i.e., genes, luck, or social support) is described as a belief in external weight locus of control (i.e., externality) (Stotland & Zuroff, 1990).

In the context of partner communication about weight management, the degree to which individuals have an internal or external weight locus of control

may be related to the extent to which they interpret a socially supportive message as controlling. For example, Holt, Clark, and Kreuter (2001) used weight locus of control to predict weight-related attitudes and behaviors of overweight individuals, as well as their reactions to health education materials on weight loss. Holt et al. (2001) found that externality is positively related to citing external causes of being overweight, and having a negative view of social support. Conversely, internality was positively related to favorable ratings of health education materials on weight loss that contained information on diet and exercise, as well as information on motivation, social support, diet tips, calorie and fat reduction, and physical activity as a lifestyle. Further, Holt, Clark, Kreuter, and Scharff (2000) examined differences in cognitive responses to tailored and non-tailored weight-loss materials. Tailored materials entailed messages determined by a computer program as appropriate for an individual based on their psychosocial and behavioral information, and non-tailored materials included mass-produced messages. They found support for their hypothesis that individuals with an internal weight locus of control would respond more favorably to tailored materials than non-tailored materials, and that externals would respond more favorably to non-tailored than tailored materials. Holt et al. (2000) explained that as externals believe their outcomes are attributable to situational factors, it is reasonable that they would react

negatively to materials that directly addressed their own lifestyle, or perceived competence to carry out the behaviors needed to lose weight. From this, it also follows that externals would also respond to tailored, supportive messages that may imply personal responsibility negatively, potentially interpreting these messages as controlling because they address specific self-characteristics as opposed to situational variables. It is also reasonable that internals who believe their outcomes are due to self-behaviors, such as information seeking (Lefcourt & Wine, 1969) or autonomous decision making (Sherman, 1973), would react positively to materials designed to their own individual characteristics. Such materials would be likely interpreted as supportive in that they promote individual work towards health goals.

As the above research suggests, the perception of support is related to individual characteristics (Cohen & Willis, 1985; Lakey & Cohen, 2000; Lakey et al., 1996). Personal variables such as readiness to change and weight locus of control have been found to relate to the types of messages participants perceive as helpful, while general self-esteem has been shown to impact perceptions of and responses to messages. More specifically, an individual's readiness to change is related to the type of support material they find helpful, with research suggesting earlier stages of change may be associated with a liklihood to interpret supportive messages as controlling. Additionally,

research suggests the individual's locus of control (internal or external) is related to how they perceive support as well as how they respond to tailored versus non-tailored material. Specifically as externals tend to believe their outcomes result from situational factors, it makes sense that they would respond negatively to supportive, tailored materials as they imply personal responsibility--and thus may be perceived as controlling. Alternatively, it also follows that internals, who tend to attribute outcomes to their own self behaviors, would react more positively to supportive, tailored materials—and be less likely to perceive these as controlling.

Finally, an individual's esteem level has been shown to impact the type of messages they prefer, such that individuals with low self-esteem prefer communication that is consistent with their self-view (and vice versa); given their preferences for consistency, it is likely that individuals may also tend to interpret messages in a manner consistent with their self-views. To assess the role readiness to change, and weight locus of control, and body self-esteem play in the process of interpreting supportive weight management messages, the following hypotheses are proposed:

H1: Readiness to change inversely predicts interpreting messages as negatively controlling.

H2: Body self-esteem inversely predicts interpreting messages as negatively controlling.

H3a: External weight locus of control positively predicts interpreting messages as negatively controlling.

H3b: Internal weight locus of control inversely predicts interpreting messages as negatively controlling.

Relational Characteristics

Also important to the interpretation process of support messages may be an individual's perception of the relationship. An individual's relational history (particularly of supportive communication) with their partner and their level of relational distress may impact how they interpret messages about weight management. The claim that communication is framed by a relational context is certainly not new (e.g., Watzlawick, Beavin, & Jackson, 1967) and research has delineated various relational characteristics that influence message interpretation. Relational partners may construct meanings for behaviors based on their prior relational history with their conversational partner (Duck, 2002). In the context of health behavior feedback, previous messages can affect the value recipients place on new messages.

Relational History of Social Support

Although empirical work examining the influence of relational history on the interpretation of supportive messages is less developed, research supports the influence of various relational characteristics on the interpretation of supportive communication. For example, Renner (2004) examined participant reactions to feedback about their cholesterol level on two separate occasions. Renner found that regardless of the valence of the feedback at time two, participants acceptance of the message was affected by the valence of the initial feedback message. Specifically, both positive and negative feedback about cholesterol levels was viewed suspiciously when inconsistent with previous reports (unless the change was expected). Additionally, the relational status of interactants in a supportive communication episode may help determine message interpretation, such that the perceived closeness of the relationship helps determine how advice messages are construed (e.g., as helpful, caring, or as butting in) (Goldsmith & Fitch, 1997; Goldsmith, Lindholm, & Bute, 2006).

More specific to this study, Rook (1990) comments on the importance of the role of relational history in interpreting messages as supportive or controlling. She notes that social support and social control may represent contrary functions such that interactions involving control challenge the sense

of support in a relationship, and conversely, interactions involving support may undermine the effectiveness of social control attempts. Alternatively, social support and social control may be characterized by an interdependence such that attempts at social control achieve more success when accompanied by signs of support in either the same interaction or other interactions. It is also important to add that although partners may have attempted support in the past, it is successful support that provides a foundation for interpreting messages as supportive. Based on this reasoning, relational history may be related to the interpretation of supportive messages; however, the specific means through which relational history relates to message interpretation may need further examination. In summary, relational history plays an influential role in supportive communication in general, and in the interpretation of supportive messages specifically. To more fully understand the relationship between social support and social control in the context of weight management, attention to the role of previous interactions in the interpretation of supportive messages is needed.

Relational Distress

Although relational partners are often a source of great support, they can also be a source of considerable stress. Relationship distress is characterized by a number of qualities including ineffective communication,

reciprocal negativity, and a negative relationship schema (Hartford, Kelly, & Markman, 1997) and has considerable influence on how interactions are organized (Gottman, Coan, Carrere, & Swanson, 1998). Distressed couples frequently have difficulty expressing their underlying emotions, which impedes their ability to resolve conflicts (Johnson, Makinen, & Millikin, 2001), and may impede their ability to communicate with their partner about their support needs or preferences. In addition, those in distressed relationships often selectively interpret each other's behavior and communication in ways that carry on the distress (Johnson et al., 2001; Johnson & Sims, 2000) by making stable, blameworthy, and global attributions for their partner's negative behavior (Bradbury & Fincham, 1990; Johnson & Sims, 2000). For example, Bradbury and Fincham (1992) found that maladaptive attributions were more strongly related to less effective problem-solving for distressed than non-distressed wives. They further noted that spouses' maladaptive attributions were related to higher rates of negative behavior and increased tendencies to reciprocate negative partner behavior, particularly for distressed wives.

Given the power of relational history and relational distress to frame how supportive partner weight management messages are interpreted, the following hypotheses are added:

H4: Prior amount of social support inversely predicts interpreting messages as negatively controlling.

H5: Relational distress positively predicts interpreting messages as negatively controlling.

Effects of Messages on Health Attitude and Relational Outcomes

This research focuses on understanding the conditions that predict the interpretation of a supportive message as controlling by one's relational partner. Research has explained message interpretation in a variety of ways such as: defining the situation, inferring others' internal conditions, noticing relevant aspects of the setting, determining situationally relevant roles and rules, and making attributions about the reasons of others' actions (see Bradbury & Fincham, 1990; Holladay, 2002). After examining the personal and relational variables that facilitate this interpretation, a logical addition to this research is the assessment of the relationship between this interpretation and health and relational outcomes relevant to the context of romantic partner communication about weight management. Specifically of interest is the extent to which the perceived control of messages is related to perceived level of interpersonal trust, the perceived change in relational quality, weight management commitment, diet self-efficacy, and exercise self-efficacy. To this end, a review of research on memorable messages follows, as well as a

discussion of the relationship between memorable messages and relational and health attitude outcomes.

Memorable Messages

Memorable messages are defined as messages that have significance in their recipients' lives (Knapp, Stohl, & Reardon, 1981). Memorable messages are characterized by two qualities: one, the individual recalls the message for a long period of time; two, the individual perceives the message as having an important influence on his or her life (Knapp et al., 1981; Stohl, 1986). Previous research examining the influence of significant others on weight management has highlighted the need to examine how they influence each other through a communication scope (Rook, 1990).

Using the memorable message framework to study the messages individuals receive from their partners regarding weight management, and the way in which these messages influence relational and health outcomes, should contribute to this body of research in at least two ways. First, identifying characteristics of the message itself are important to understand how the actual messages influences relational and health outcomes (Ford & Ellis, 1998). By exploring actual messages experienced by relational partners, this study accesses the content and message characteristics that had the most impact on recipients. Second, communication researchers increasingly recognize the

complex outcomes associated with message interpretation such as relational implications (e.g., Vangelisti, 2001) and health consequences (Thoits, 1995).

Memorable messages provide a useful framework for evaluating message effects over other types of messages (e.g., typical messages). By their very definition memorable messages have an impact on recipients, this makes them a desirable framework through which to view message effects (over, for example, most recent weight management messages). For partners' communication about weight management, memorable messages provide a viable means through which to access how individuals perceive they were influenced by these messages in terms of relational and health attitude consequences.

Memorable Messages and Negative Control

While definitions of message interpretation vary (see Bradbury & Fincham, 1990; Holladay, 2002), in this study, memorable message interpretation refers to messages that are interpreted based upon the attributions the recipient makes for the reason behind the sources' message. Although no research has examined the specific processes by which memorable messages exert their influence, or the relational outcomes resulting from the interpretation of memorable messages, studies have shown that recipients do infer motives behind memorable messages, and that memorable

messages have effects on the way constructs are framed and attitudes toward future behavior. For example, Holladay (2002) examined the memorable messages participants had received about aging. In addition to describing the content, certainty of the message wording, age at which the message was received, characteristics of the sender, the setting, and contextual applicability of the content, participants were also asked their perceptions of the sender's purpose and the effect the message had on their thoughts on aging. Participants reported a significant range of perceived reasons for sending the message ranging from "benevolent" (conveyed for the receiver's own good), "selfish" (sent to satisfy the sender's own needs), and "impersonal" (no specific intention on the sender's part). These findings indicate that memorable message recipient's do infer both benevolent and malevolent intentions from the source of their memorable messages.

Although there are numerous characteristics that might be assessed about memorable messages, the current research focuses on the degree to which these messages are perceived as controlling. Specifically, this research asks participants to supply memorable messages they have received from their current relational partner about weight management and rate how controlling these messages are as a means of assessing the influence of perceived control on relational and health outcomes.

Memorable Messages in Romantic Relationships

Romantic relationship partners are a common source of memorable weight management messages (Dailey, Richards, & Romo, 2008). Due to the close interpersonal status of romantic partners, these messages are unique in that they are constrained by multiple concerns. Generally, close relational partners are concerned with not only the success or failure of their message but also about the impact of the communication on the relationship itself (Miller & Boster, 1988). Although not all memorable messages are persuasive in nature, an example of this communicative dilemma is illustrated by examining persuasive appeals. Miller and Boster (1988) note that pressure-laden appeals may succeed at the cost of relational outcomes. In a similar manner, low-pressure messages that exhibit tact and sensitivity may facilitate relational outcomes, but may fail in their appeal. Presumably, close relational partners are cognizant of this tension between their message goal and their concerns for the relational quality (Rook, 1990). However, little is known about how salient this is to partners or the manner in which they may alter their messages out of regard for relational costs (Rook, 1990), or the subsequent consequences of their interpretation. Thus, to explore these individual outcomes, this research examines how the level of perceived control in memorable messages about weight management is related to both relational (i.e., perceived interpersonal

trust and perceived relational quality change) and health attitude (i.e., weight management commitment and self-efficacy) outcomes.

Relational Outcomes

A relational quality likely related to controlling memorable messages regarding weight management is the level of interpersonal trust in the relationship. Trust is an essential component of communication (Lynn-McHale & Deatrick, 2000; Wheeless, 1976; Wheeless & Grotz, 1977) and important in the trajectory of health care relationships (Thom et al., 2004; Trojan & Yonge, 1993). Although a key component to relationships and a fundamental need, interpersonal trust is characterized by its fragility (Meize-Grochowski, 1984). Within the context of weight management messages, a controlling memorable message may be associated with perceived trust levels. Specifically, trust is likely to be related to controlling memorable weight management messages if the message is unexpected, violates expectations for relational communication, or affects the recipients' perceptions of the sender's good will towards them (Rempel et al., 1985). In this research, interpersonal trust refers to the positive expectations about interactants' intentions and actions (Lewicki & Bunker, 1996). As previewed above, interpersonal trust may be affected if the message is interpreted as controlling, and as such violates any of the three components of trust identified by Rempel and colleagues (1985). Specifically, a memorable

message may influence trust if it is seen as surprising (unpredictable); for example, an unexpected critique of the recipients weight management behaviors. Additionally, a memorable message may influence trust if it breaks from previously established relational or communicative norms (undependable). For example, a critical weight management message following a pattern of complimentary weight management messages. Lastly, a memorable message may influence trust if it causes the recipient to lose confidence in the good will of the message's source. An example of this might be a message designed to sabotage the recipient's weight management efforts.

Although the relationship between controlling memorable messages and interpersonal trust has yet to be examined, some research has examined the influence of a type of controlling message—contracts (binding vs. non-binding)—on interpersonal trust (Malhotra & Murnighan, 2002). Specifically, in two experiments examining the effects of contracts on interpersonal trust, Malhorta and Murnighan (2002) found that binding contracts (high control) resulted in lowered feelings of trust (when they were taken away). They also found that non-binding contracts (low in control) resulted in higher levels of cooperation. From this the authors concluded that contracts low in control (non-binding) were optimal for building interpersonal trust (as opposed to the high trust, binding contracts condition). This provides some support for

messages high in control having a negative relationship with perceived interpersonal trust. Additional supporting evidence for the hypothesized relationship between controlling messages and perceived interpersonal trust comes from research on disclosure. Specifically, studies in both the laboratory and organizations indicate a connection between message processing (specifically the decision to share information) and interpersonal trust (O'Reilly, 1978; O'Reilly & Roberts, 1974). Further, some research has examined message qualities that influence interpersonal trust. For example, messages that are high in empathic accuracy have significant influence on interpersonal trust (Feng, Lazar, & Preece, 2004). Conversely, verbal aggressiveness is associated with the degree of trust and satisfaction siblings feel for one another (Martin, Anderson, Burant, & Weber, 1997).

Memorable messages by their very nature are messages that have a significant influence on the recipient's life (Knapp et al., 1981; Stohl, 1986). Depending on the importance assigned to both message goals and relational outcomes by the sender (see Miller & Boster, 1988; Rook, 1990), these goals and outcomes may impact the relationship between the sender and receiver, how the message is interpreted, the recipient's perceived interpersonal trust and relational quality, or a combination of the three. Assessing the degree of perceived relational quality change allows access to the initial relationship, and

permits an assessment of the extent to which a controlling weight management message creates perceived changes in closeness, amount of time spent together, happiness, attraction, trust, and intimacy (see also Afifi & Faulkner, 2000; Afifi & Metts, 1998). To assess the degree to which a controlling memorable message about weight management correlates with relational qualities, two research questions are posed. These inquiries are phrased as research questions as opposed to hypotheses because extant research does not support the posing of directional predictions regarding the relationships of interest. Specifically, RQ1 and RQ2 ask:

RQ1: How is perceived negative control in memorable messages about weight management related to perceived interpersonal trust?

RQ2: How is perceived negative control in memorable messages about weight management related to perceived change in relational quality?

Health Attitude Outcomes

Presumably, memorable messages are remembered because of their effects on receivers (Holladay, 2002). Research suggests that memorable messages influence recipients' perceptions as well as the commitment to engage in future behavior. For example, memorable messages were shown to have a significant effect on perceptions of aging (i.e., led recipients to view aging positively or negatively) as well for intent for future behavior (i.e., led

recipients to resolve to enjoy life, to take better physical care of themselves, change their lives in general, or change their relationships with others; Holladay, 2002). Thus, it is also important to gauge the degree to which participants perceive memorable weight management messages as controlling as well as the relationship between these perceptions and their weight management commitment and efficacy.

Resolve is a consistently studied component of research on weight loss attempts (e.g., Bloomston, Zervos, Camps, & Goode, 1997). Specifically, degree of resolve—the conviction or purpose with which something is decided (Hayakawa, 1968, as cited in Matteson & Hawkins, 1990)—an individual feels following the reception of a memorable message has been examined in previous research (e.g., Holladay, 2002). Also important is the degree to which individuals feel capable of enacting healthy behaviors after receiving and interpreting a memorable message from their significant other as controlling. To assess this, the message recipient's diet and exercise self-efficacy will be gauged.

Perceived self-efficacy refers to "beliefs in one's capabilities to organize and execute the course of action required to produce given attainments" (Bandura, 1977, p. 3). These beliefs can be altered based upon feedback from four general information sources: goal achievement, role-

modeling, verbal persuasion, and physical and affective states from which people judge their capabilities (Bandura, 1977). Of these four sources, verbal persuasion most directly pertains to this study's research goals. Specifically, verbal persuasion can serve as a means of strengthening individuals' beliefs in their capabilities by convincing individuals that they possess the skills necessary to achieve a goal (e.g., will power, determination, etc.). By convincing individuals that they possess the necessary skills to enact a behavior, the recipient is more likely to generate greater energy toward the task (as opposed to if they were maintaining self-doubts about their capabilities). Thus, verbal persuasion is particularly potent when expressed by significant others (e.g., romantic partners; Bandura, 1977).

Messages from significant others have been associated with self-efficacy in both children and adults (Young, Fors, Fasha, & Hayes, 2004). More specifically, messages that are perceived as satisfactory have been shown to foster the perception of self-efficacy (Lackner et al., 1993). This bears implications for controlling messages as research shows that messages that are perceived as controlling also tend to be perceived negatively and rated lower on conversational satisfaction (Morgan & Hummert, 2000). Therefore, to explore how the perception of a memorable message as controlling correlates with health attitudes, the final research questions ask:

RQ3: How is perceived negative control in memorable messages about weight management related to recalled weight management commitment immediately following the memorable message?

RQ4: How is the level of perceived negative control in memorable messages about weight management related to recalled diet self-efficacy and exercise self-efficacy immediately following the memorable message?

This research makes a number of significant contributions to existing research and theory on romantic partner communication about weight management. By identifying the personal and relational conditions in which supportive weight management messages are likely to be interpreted as controlling, this research will help researchers, romantic partners, and weight management counselors understand how best to implement and advise weight management support. This research will augment research on support and social control by recognizing the circumstances which lead to their optimal performance as well as the circumstances which hinder performance or lead to misinterpretation. Additionally, by identifying the personal and relational characteristics that lead to the interpretation of supportive messages as controlling romantic partner's can adapt their supportive communication to

facilitate (as opposed to potentially control) their partner's weight management attempts.

In addition to identifying the personal and relational conditions which lead to supportive communication being interpreted as controlling, this research augments existing research and theory on romantic partner communication about weight management by examining the implications of this interpretation. Specifically, by exploring the relational consequences of interpreting supportive weight management messages as controlling this research can help romantic partners and weight management counselors prepare and respond to relational issues following weight management efforts. By investigating the health attitude consequences of interpreting supportive messages as controlling this research can also help weight management counselors and those attempting to manage their weight take charge of their weight management commitment and diet and exercise efficacy. Exploring the consequences of interpreting supportive messages as controlling will augment social control theory by identifying possible relational and health attitude variables related to controlling communication.

Study Overview

This research investigates the personal and relational factors that predict the interpretation of supportive messages as negatively controlling as

well as the relational and health attitude outcomes associated with this interpretation process. The researcher conceptualizes this interpretation process as cyclical in nature whereby the factors that predict the interpretation of supportive messages as negatively controlling are similar to the relational and health attitude outcomes influenced by this process. As such, this research focuses on two sets of relationships within this overall recurring process with two primary goals. The first goal was to determine the personal and relational characteristics that predict the interpretation of supportive weight management messages as controlling. A logical follow-up to this study, and the second primary goal of this research, was the assessment of the relationship between this interpretation and health attitude and relational outcomes relevant to the topic of romantic partner communication about weight management. To address these goals two studies were conducted.

A Pilot Study was employed in a survey format in order to identify examples of supportive messages that also may be interpreted as controlling. Specifically, Pilot Study participants were provided with examples of supportive messages and asked to rate the messages for their degree of support as well as control. Participants were asked to assess how supportive each message was as a check to ensure that these messages represented messages that could be perceived as produced with supportive intent. The messages that

ranked highest in terms of support and control were included in the main study to help determine the personal and relational characteristics that predict the interpretation of supportive messages as controlling.

The primary study has two parts. Part one focuses on the conditions that predict the interpretation of supportive messages as controlling. For this section, participants' personal and relational characteristics were assessed. Additionally, participants were provided with examples of messages that rank high in terms of support and control (derived from the Pilot Study) and asked to rate them for their degree of support and control. In part two, participants were asked to provide a memorable message they received from their current romantic partner regarding weight management. Following this, participants were asked to report the relationship between this message in terms of the relational and health outcomes of interest in this research.

Chapter Three: Methods

Pilot Study

Participants and Procedures

A sample of 164 participants (50 males, 114 females) currently involved in a romantic relationship that had lasted at least three months were surveyed for this study. Participants averaged 21.03 (*SD* = 4.69) years of age and ranged from 18 to 61 years of age. Participants were recruited from several lower and upper division communication courses at the University and were offered extra credit points for their participation. The ethnicity of the sample was representative of the University, predominantly White/Caucasian (62.35%), Latino/a or Hispanic (17.64%), Asian or Pacific Islander (9.41%), Black or African- American (6.47%), and other or multiple ethnicities (4.11%).

A questionnaire was developed using *Qualtrics* software and posted online for an approximate duration of one week. Before filling out the questionnaire, participants were provided with the contact information of the researcher, in case of questions, concerns, or interest in the research results. After completing the questionnaire, participants were also provided with a short debriefing statement about the purpose of the study. Most participants took approximately 30 minutes to complete the questionnaire.

Measures

To generate a variety of examples of supportive and controlling messages, 25 messages were composed by the researcher based on five support categories—information, tangible assistance, esteem support, network support, and emotional support—identified by Cutrona and Suhr (1992). Five example messages for each category were adapted from example supportive messages described by Braithwaite, Waldron, and Finn (1999). Pilot Study participants were instructed to "Please respond to the following set of statements as though you received them from your current romantic partner during a conversation about your weight management," for a random subset of messages.

Social support. Burleson and MacGeorge (2002) define support as "verbal and nonverbal behavior produced with the intention of providing assistance to others" (p. 374). Messages were tested for their consistency with this definition. Specifically, participants were asked to respond on a 7-point Likert scale (1 = "strongly disagree" and 7 = "strongly agree") the extent to which they perceive each message as supportive. Items include, "My partner made this statement with the intention of providing assistance," "My partner made this statement with the intent to help me with my weight management," and "My partner had my best interests at heart when stating this message." To help determine the strongest examples of supportive messages for inclusion in

the primary study, the reliability of the social support measure was calculated for each of the individual messages. Specifically, the reliability of the three support items was assessed for each of the 25 messages.

Social control. Participants were asked to evaluate the degree to which each message taps negative social control through a modified version of a 3-item scale developed by Rook and colleagues (Lewis & Rook, 1999; Okun, Huff, August, & Rook, 2007). A previous version of the negative scale has exhibited acceptable reliability (Cronbach's alpha =.72; Okun et al., 2007). The scale was adjusted to be appropriate for message interpretation from a relational partner, and to focus on negative control. Pilot Study participants responded to each item on a 7-point scale (1 = "strongly disagree" and 7 = "strongly agree"). Items include, "This statement makes you feel guilty," "This statement pressures you to change your health behavior," and "This statement ridicules you and makes me feel bad." To help determine the strongest examples of controlling messages for inclusion in Study 1, the reliability of the social control measure was calculated for each of the individual messages. Specifically, the reliability of the three control items was assessed for each of the 25 messages.

Reliability support and control scores were sufficiently high for each of the 25 messages. Thus, the three messages from each category that participants

rated as most supportive and controlling were retained for the main study (Study 1). Specifically, final messages were selected based on their mean scores of support and control. See Table 1 for descriptive statistics and scale reliabilities.

Study 1

Participants and Procedures

A separate sample of 247 participants (56 males, 191 females, one recorded no response) currently involved in a romantic relationship that had lasted at least three months were surveyed for this study. Participants averaged 20.04 (*SD* = 2.20) years of age and ranged from 18 to 44 years of age. Participants were recruited from several lower and upper division communication courses at the University and offered extra credit points for their participation. The ethnicity of the sample was representative of the University, predominantly White/Caucasian (60.48%), Latino/a or Hispanic (17.34%), Asian or Pacific Islander (15.73%), Black or African-American (6.04%), and other or multiple ethnicities (2.82%). On average, Study 1 participants had been in there current romantic relationships 19.62 months (*Mdn* = 13.00). There was one outlier of 220 months, and this participant was excluded from analyses.

A questionnaire was developed using *Qualtrics* software and posted online for an approximate duration of two weeks. Before filling out the questionnaire, participants were provided with the contact information of the researcher, in case of questions, concerns, or interest in the research results. Participants were also provided with a short debriefing statement about the purpose of the study at the conclusion of the questionnaire. Most participants took approximately 30 minutes to complete the questionnaire.

Measures

The questionnaire consisted of two sections. Section one requested basic demographic information (for both the participant and their partner) including age, sex, race/ethnicity, and height and weight (to calculate BMI). In addition, section one queried about the participants' relationship including questions regarding relationship duration and relationship status (e.g., casually dating, seriously dating, or married). Section two focused on the conditions predicting message interpretation; it supplied participants with examples of supportive messages (determined by the Pilot Study), asked them to rate the messages' degree of support and control, and requested personal (i.e., readiness to change, body self-esteem, and weight locus of control) and relational (i.e., relational history of support and level of relational distress) information via established instruments. Unless otherwise noted, means,

standard deviations, and reliabilities of the measures are provided in Table 2. See Appendices A-L for copies of all scales used.

Body mass index. Participants' self-reported height and weight were used to calculate their body mass index (BMI) (i.e., weight in pounds multiplied by 703 and divided by height squared). In addition the height and weight statistics they reported for their partner were used to calculate their partner's BMI. Previous research indicates self-reports are a valid measure of BMI (e.g., Goodman, Hinden, & Khandelwal, 2000). Average body mass index for Study 1 participants was 22.56 (*SD* = 3.88), and ranged from 16.76 to 41.08. According to the National Heart, Lung, and Blood Institute (1998), individuals with BMIs under 18.5 are considered underweight, those with BMIs ranging from 18.5 to 24.9 are considered normal weight, those with BMIs ranging from 25 to 29.9 are considered overweight, and individuals with BMIs over 30 are classified as obese. According to these parameters, 19 (7.75%) of the participants are underweight, 179 (73.06%) of the participants are normal weight, 36 (14.69%) of the participants can be classified as overweight, and 12 (4.90%) are obese.

Social support. The supportiveness of the 15 messages determined from the Pilot Study was assessed first. The same 3-item measure used in the Pilot Study was used for the assessment of support. The reliability of the three

items was again assessed for each message and ranged from .63 to .93. The three items were averaged to create a support score for each of the 15 messages. To determine if the 15 items could be combined into an overall support score, the reliability across the 15 support scores was also assessed (see Table 2). Because the reliability across the 15 messages was high, the average across the items was computed to form the overall support score.

Social control. The subset of 15 supportive messages selected from the Pilot Study were assessed for their degree of control. The same 3-item measure used in the Pilot Study was used for these assessments of control. Similar to support, the reliability of the three items was again assessed for each message and ranged from .70 to .81. Reliability across the 15 messages was again high and the 15 items were combined into an overall control score.

Readiness to change. Participants' readiness to change their general weight management behavior was evaluated using a modified version of the University of Rhode Island Change Assessment (URICA) instrument (McConnaughy, Prochaska, & Velicer, 1983). The URICA was modified such that participants were asked to consider the specific target behavior of weight management when responding to the scale items. URICA is a measure with 32 items representing each of the four stages in the stages of change model (e.g., "As far as I am concerned, I don't have any problems that need changing.," "I

think I might be ready for some self-improvement," "I am really working hard to change," and "After all I had done to try to change my problem, every now and then it comes back to haunt me"). Items are scored with a 5-point Likert scale (1 = "strongly disagree" and 5 = "strongly agree"). Participant's readiness score was calculated by summing the URICA's average Contemplation, Action, and Maintenance raw scores and subtracting its average Precontemplation raw score from the total (Carbonari, DiClemente, & Zweben, 1994; Pantalon & Swanson, 2003). Based on this calculation, higher readiness scores indicate a more advances stage of readiness.

Body self-esteem. How participants feel about their current weight/body size was assessed using a modified version of Mendelson and White's (1982) body esteem scale (BES). The BES consists of 24 items (e.g., "I really like what I weigh," "I like what I see when I look in the mirror," and "It's pretty tough to look at me") to which participants responded on a 7-point Likert scale (1 = "strongly disagree" and 5 = "strongly agree").

Weight locus of control. Participants' weight locus of control was assessed using the Weight Locus of Control Scale (WLOC; Saltzer, 1982). The WLOC has been previously used to predict intentions to lose weight in undergraduate college students (Saltzer, 1978) and to assess weight management message effects for participants in behavior modification weight

loss program (see Burhans, 1974). The WLOC consists of four items. Two of the items—"Whether I gain, lose, or maintain my weight is entirely up to me" and "If I eat properly, and get enough exercise and rest, I can control my weight in the way I desire"—assess internal locus of control. Two other items—"Being the right weight is largely a matter of good fortune" and "No matter what I intend to do, if I gain or lose weight, or stay the same in the near future, it is just going to happen"—assess external locus of control. Items were assessed on a 6-point scale (1 = "strongly disagree" to 6 = "strongly agree"). The internally worded items were reversed scored, and the four items were combined so that a higher score indicates a more external locus of control (Saltzer, 1982).

Relational history of social support. Participants' recall of receiving weight-related support messages from their partner was measured using a modified version of Franks, Wendorf, Gonzalez, and Ketterer (2004) measure of spousal social support. The scale was modified to only include items focused on received support regarding weight management. Specifically, using a seven-item measure, the scale gauged how frequently in the past month (0 = "never" to 7 = "every day") each participant had received social support from their partner regarding weight management. Sample items include, "provided you with information about healthy living," "listened to your concerns about

protecting your health," and "encouraged you to make choices favorable to healthy living."

Relational distress. To determine degree of relational distress, participants filled out the Relationship Assessment Scale (RAS) (Hendrick, 1988). The RAS is a seven-item generic gauge of relationship quality. Items were reverse-scored such that higher scores indicated more distress. The scale was developed to measure a single construct—an individual's perception and feelings about their existing relationship (Vaughn, Matyastik, & Margeret, 1999). The RAS was originally developed as a five-item measure of relationship quality within a marriage; however, it has been adapted to measure many different types of relationships, including "intimate relationships like dating, cohabitating, and engaged couples" (Hendrick, 1988, p. 4). Sample items from the RAS include, "In general, how satisfied are you with your relationship?", "How good is your relationship compared to most?", and "To what extent has your relationship met your original expectations?" Items were scored on a 5-point Likert-type scale (1 = "not at all" and 5 = "completely").

Table 2 provides descriptive statistics and scales reliabilities of the variables. Table 3 presents the bivariate correlations between the variables of interest. See Figure 2 for summary of all results.

Study 2

Participants and Procedures

A sample of 149 participants (30 males, 115 females, four recorded no responses) currently involved in a romantic relationship that had lasted at least three months were surveyed for this study. Participants averaged 20.18 (*SD* = 3.39) years of age and ranged from 18 to 44 years of age. Participants were recruited from several lower and upper division communication courses at the University and offered extra credit points for their participation. The ethnicity of the sample was representative of the University, predominantly White/Caucasian (55.70%), Latino/a or Hispanic (12.75%), Asian or Pacific Islander (22.82%), Black or African-American (4.70%), and other or multiple ethnicities (1.34%). On average, Study 2 participants had been in their current romantic relationships 20.22 months (*Mdn* = 14.00).

A questionnaire was developed using *Qualtrics* software and posted online for an approximate duration of two weeks. Before filling out the questionnaire, participants were provided with the contact information of the researcher, in case of questions, concerns, or interest in the research results. Participants were also provided with a short debriefing statement about the purpose of the study at the conclusion of the questionnaire. Most participants took approximately 30 minutes to complete the questionnaire.

Measures

The questionnaire consisted of two sections. Section one requested basic demographic information (for both the participant and their partner) including age, sex, race/ethnicity, and height and weight (to calculate BMI). In addition, section one queried about basic relationship questions including relationship duration and relationship status (e.g., casually dating, seriously dating, or married). Section two focused on the outcomes of message interpretation, specifically, it examined the relational and health attitudes following a romantic partner's memorable message about weight management. Thus, section two consisted of asking participants to report a memorable message they received from their current romantic partner and to also rate the message's degree of control and support. Additionally, this section included previously constructed instruments to gauge relational (i.e., level of interpersonal trust and perceived change in relational quality) and health attitudes (i.e., weight management commitment and diet and exercise self-efficacy). See Table 8 for descriptive statistics and scales reliabilities of the major variables of interest. See Table 9 for bivariate correlations between the variables of interest.

Body mass index. The same equations used in Study 1 were used to calculate participant and partner BMI. According to the parameters established

by National Heart, Lung, and Blood Institute (1998), 20 (13.88%) of the sample is underweight, 30 (20.83%) of the sample is normal weight, 45 (31.25%) of the sample can be classified as overweight, and 49 (34.03%) are obese.

Memorable messages. Participants were asked to provide a description of a specific memorable message they received from their romantic partner. Specifically, participants were instructed:

> The section below asks you to describe a memorable weight management message you have received from your current romantic partner. A memorable message refers to any statement by your partner regarding your body size, physique, feelings, and attitudes about your appearance, or comments about the regulation of your weight or body size through diet and exercise.

Participants were then asked to follow the format outlined in previous research (e.g., Vangelisti & Crumley, 1998): 1) describe the situation and what led to the message, 2) provide a script of the interaction, 3) designate the specific message of interest, and 4) describe their response to this memorable message. In addition, participants were asked to report the intensity of the message on a 7-point Likert-type scale (1 = "minimal intensity" and 7 = "strong intensity").

After reporting their memorable message, participants were first asked to rate the message in terms of social support and control. The same 3-item measures used in Study 1 were used to assess the perceived supportiveness and negative control of the memorable message. The participants were then asked to consider their thoughts, feelings, and emotions immediately after the message when responding to the following scales.

Interpersonal trust. Participant's perceptions of the level of interpersonal trust in their partner immediately following the memorable message was evaluated using an adapted version of a trust scale (Rempel, Holmes, & Zanna, 1985). This theoretically-grounded trust scale is comprised of 17 items that examine three components of trust: predictability, dependability, and faith. Items were edited to reflect a change in trust stemming from the memorable message (as opposed to assessing general trust). Sample items include, "After receiving this message from my partner, my certainty that my partner wouldn't do something I dislike or will embarrass me went down," "After receiving this message from my partner, I was less willing to let him/her engage in activities with which other partners find too threatening," and "After receiving this message from my partner I felt less like I could rely on my partner to react in a positive way when I expose my

weaknesses to him/her." Participants responded to each item on a 7-point Likert scale (1 = "strongly disagree" and 7 = "strongly agree").

Relational quality change. Participant perceptions of the change in relational quality due to interpretation of memorable messages regarding weight management was gauged with an adapted version of Afifi and colleagues' relational quality change scale (Afifi, Falato, & Weiner, 2001; Afifi & Faulkner, 2000; Afifi & Metts, 1998). The original scale was created to assess change in relational quality due to an act of infidelity. The adapted version focuses on participant perceptions of change in relational quality after receiving the memorable message regarding weight management. More specifically, the adapted scale consists of seven items assessed on a 7-point scale (1 = "the event significantly decreased quality" to 7 = "the event significantly improved quality"). Each item addresses change in closeness, amount of time spent together, happiness, attraction, trust, commitment, and intimacy following the event. To differentiate between positive and negative change as a result of a negatively controlling memorable message, participants were divided into two groups: those who perceived positive relational change following the receipt of a memorable weight management message, and those who perceived negative relational change. This recoding was based on whether their relational quality scores fell above or below the median split of 4.14 on

the averaged items comprising the relational change scale. Once this distinction was made, the negative change variable was recoded so that a higher score indicated more negative change. Relational change is differentiated as positive or negative for the remaining data analysis.

Weight management commitment. Commitment to manage weight was assessed via a modified version of Hollenbeck, Williams, and Kleins' (HWK, 1989) 5-item goal commitment scale. Participants were asked to write down their weight management goal at the time they received the memorable message, and then consider this goal while answering the HWK items on a 5-point Likert scale (1 = "strongly disagree" and 5 = "strongly agree"). Specifically, participants were instructed to consider their feelings about the goal immediately following receiving the memorable message. Sample items include, "It's hard to take this goal seriously" and "I am strongly committed to pursuing this goal."

Diet self-efficacy. Participants' confidence that they could resist unhealthy eating immediately following the memorable message was measured with Clark, Abrams, Niaura, Eaton, and Rossi's (1991) Weight Efficacy Lifestyle Questionnaire. This 20 item questionnaire requires participants to answer on a 7-point scale (1 = "not confident" and 7 = "very confident") their belief that they can resist unhealthy eating when experiencing negative

emotion (e.g., “I can resist eating when I have experienced failure”), when unhealthy foods are available (e.g., “I can resist eating even when I am at a party”), under social pressure (e.g., “I can resist eating when I have to say ‘no’ to others”), under physical discomfort (e.g., “I can resist eating when I am in pain”) and during positive activities (e.g., “I can resist eating when I am watching TV”). Items were averaged such that a higher score indicates higher self-efficacy.

Exercise self-efficacy. Participants’ motivation to exercise immediately following the message was assessed through the exercise self-efficacy questionnaire (Garcia & King, 1991). In this questionnaire, participants were asked to report their confidence from (1 = “not confident” and 7 = “very confident”) in their ability to exercise under 15 different conditions (e.g., “when tired,” “during bad weather,” and “when my schedule is hectic”). Items were averaged such that a higher score indicates a higher exercise self-efficacy.

Chapter 4: Results

Study 1

The purpose of Study 1 was to investigate how personal and relational factors predict the interpretation of supportive messages as controlling. Separate regressions were performed first to test the study's hypotheses. Additional analysis included all variables simultaneously to determine the strongest predictors. To account for differences that might emerge due to sample variations not of specific interest in this research, participant age, sex, BMI, partner BMI, length of relationship, and perceived support were included as controls in all analyses. Specifically, in the separate regressions, these variables were included as controls on the first step, while each independent variable of interest was included individually on the second step. A subsequent analysis again included the control variables in the first step and then combined all predictors in the second step to determine the strongest predictors of interpreting supportive messages as negatively controlling. Because relationship length and BMI were skewed, both were transformed using their square roots before analyses were conducted. Results of the separate regressions are presented in Table 4. In addition, because not all control variables were significant, results of separate regressions including only the significant control variables are presented in Table 5. Although the results with

and without the non-significant controls were very similar, the results without the non-significant controls are reported below.

In predicting the interpretation of supportive messages as controlling, results of the second step indicate that readiness to change had a small, positive association with the interpretation of supportive messages as controlling, (β = .24, ΔF = 10.76, p < .001; ΔR^2 = .05). Thus H1, which predicted that degree of readiness to change was inversely related to interpreting messages as negatively controlling, is not supported.

H2 states that level of body esteem is inversely related to interpreting messages as negatively controlling. Regression results from the second step indicate that body esteem had a small, inverse relationship to negative control (β = -.27, ΔF = 16.40, p <.001; ΔR^2 = .08). Thus, H2 is supported.

Both external and internal locus of control were significant predictors of interpreting supportive messages as controlling. Specifically, H3a states that external weight locus of control is positively related to interpreting supportive messages as negatively controlling. Results indicated external weight locus of control had a small, positive relationship with negative control (β = .21, ΔF = 9.50, p <. 01; ΔR^2 = .04). H3b states that an internal weight locus of control is inversely related to interpreting messages as controlling. Results support this hypothesis with a small, negative relationship (β = -.29, ΔF = 8.57, p < .001;

ΔR^2 = .04). Results from two individual regressions support both H3a and H3b; specifically, the interpretation of supportive messages as controlling is positively associated with having an external locus of control and negatively associated with having an internal locus of control.

H4 states that prior amount of social support received is inversely related to interpreting supportive messages as controlling. Regression results for the second step do not support this hypothesis (β = .16, ΔF = 4.45, p < .05; ΔR^2 = .02), specifically indicating a small, almost negligible positive relationship between prior amount of social support and interpreting messages as negatively controlling. Thus, prior amount of social support received from one's current romantic partner was positively related to interpreting supportive messages as controlling.

The final hypothesis of Study 1, H5, states that degree of relational distress is positively related to interpreting supportive messages as controlling. Regression results from the second step indicate a small, positive relationship between relational distress and control (β = .13, ΔF = 4.90,p < .001 ΔR^2 = .02), however, this relationship was not significant.

To determine which of the independent variables were the strongest predictors of the interpretations of supportive messages as controlling, a step-wise multiple regression was performed given that no specific hypothesis was

posed regarding the relative contribution of the predictor variables. Results from the regression are presented in Table 6. The final regression model had two significant predictors of interpreting supportive messages as controlling: body esteem and external locus of weight control. More specifically, in the final model, body esteem was inversely related to interpreting supportive partner weight management messages as controlling, while external locus of control was positively related to interpreting messages as controlling. Similar to the separate regressions above, this regression was reconducted with the only significant controls—perceived support and sex—included, but results were similar as the initial regression (see Table 7). Both body esteem ($\beta = -.23$, $p < .01$) and external locus of control ($\beta = .19$, $p < .01$) were significant predictors of perceived control ($\Delta F = 7.12$, $p < .01$; $\Delta R^2 = .03$).

Study 2

Study 2 investigated the personal and health attitudes resulting from the interpretation of a memorable weight management message as negatively controlling. To answer Study 2's research questions separate regressions were performed. To account for differences that might exist as a result of variations in the sample or message that are not being investigated in the current research, participant age, sex, BMI, partner BMI, length of relationship, perceived support, time since the memorable message, and message intensity were

included as control variables in all analysis. Specifically, in regressions, these variables were inputted as controls on the first step, while the independent variable of interest was included independently on the second step. Results of the regressions are presented in Table 10. In addition, because not all control variables were significant, additional regressions including only the significant control variables were conducted, and these results are presented in Table 11.

RQ1 asks how the level of perceived negative control in a partner's memorable weight management message is related to perceptions of interpersonal trust. Regression results indicate a moderate inverse relationship between negative control and perceived levels of trust ($\beta = -.44$, $\Delta F = 26.17$, $p < .001$, $\Delta R^2 = .18$). As the degree of negative control in a partner's weight management message increased, the perceived interpersonal trust decreased.

RQ2 asks how the level of perceived negative control in a memorable weight management message is related to participants' perceived change in relational quality. To answer this question, two regressions were performed on the dependent variables of positive relational change and negative relational change. Results from the first regression concerning positive relational change indicate a negative, non-significant relationship between the two variables ($\beta = -.38$, $\Delta F = 3.66$, n.s., $\Delta R^2 = .07$). Results from the second regression concerning negative relational change indicate that as the degree of a negative

control in a memorable message increased, participant perceptions of a negative change in relational quality decreased. Specifically, a moderate relationship was found between negative control and negative relational change ($\beta = .54$, $\Delta F = 23.28$, $p < .001$; $\Delta R^2 = .26$).

The next research question, RQ3, asks how interpreting a romantic partner's memorable weight management message as controlling is related to the recipient's immediate commitment to manage their weight. Regression results indicate that as perceived negative control in a memorable message increased, weight management commitment decreased ($\beta = -.19$, $\Delta F = 5.92$, $p <. 01$; $\Delta R^2 = .04$).

RQ4, the final research question of Study 2, asks how the level of perceived negative control in a memorable message about weight management is related to the recipient's immediate diet self-efficacy and exercise self-efficacy. Results from a regression indicate a small relationship between negative control and diet self-efficacy ($\beta = -.22$, $\Delta F = 4.89$, $p < .01$; $\Delta R^2 = .05$). Results from a second regression indicate that as the level of perceived negative control in a partner's weight management message increased, recipient's recalled exercise self-efficacy decreased; thus, a small inverse relationship was found between negative control and exercise efficacy ($\beta = -.35$, $\Delta F = 18.77$, $p < .001$; $\Delta R^2 = .12$).

Chapter Five: Discussion

This research is rooted in a conceptual framework that addresses how supportive messages interpreted as controlling are related to individuals' weight management efforts. The process is conceptualized as cyclical whereby the outcomes of interpreting messages as controlling (e.g., perceptions of relational quality change, self-efficacy) may, in turn, predict the interpretation of supportive messages as controlling. While this over-arching framework is cyclical in nature, the research discussed here focuses on the two processes within the larger framework separately, and thus addresses two primary goals. The first goal was to determine the personal and relational characteristics that predict the interpretation of supportive weight management messages as controlling (Study 1). A logical follow-up to this study, and the second major goal of this research, was the evaluation of the relationship between this interpretation and health attitude and relational outcomes relevant to the context of romantic partner communication about weight management (Study 2).

Personal and Relational Predictors of Negative Control

Separately, each of the independent variables (readiness to change, body esteem, external locus of control, internal locus of control, history of received support, and level of relational distress) were significant predictors of

the interpretation of supportive weight management messages as negatively controlling. However, the relationships for two of the variables—readiness to change and history of received social support—were in the opposite direction than predicted.

Results from Study 1 indicate that readiness to change weight management behaviors was positively related to interpreting supportive weight management messages as controlling. Put another way, the more advanced an individual was in their readiness to change their weight management behavior, the more likely they were to interpret their partner's support as negatively controlling. Some explanation for this finding may be found by considering the cognitive states of individuals at each stage of readiness to change. More specifically, individuals in the first stages of change, Precontemplation and Contemplation, are at the early stages of considering a behavioral change. Thus, receiving supportive comments regarding weight management from their partner at these stages may be interpreted as helpful, and as a means of encouraging them into action. However, as individuals begin to engage in, achieve, and review the weight management behavior (Action and Maintenance stages), it is plausible that they develop a sense of personal empowerment. Thus, comments—even supportive ones—from their partner may be perceived as unnecessary or as infringing upon one's accomplishments,

and therefore viewed as negatively controlling. This finding bears implications for romantic partners and weight management centers by demonstrating that as an individual advances through various stages of readiness to change weight management behavior, supportive messages may be increasingly interpreted as negatively controlling.

Participants' body esteem was inversely related to their interpretation of supportive messages as negatively controlling. In other words, as the degree of body esteem increased, the level of negative control interpreted in a memorable message decreased. Some explanation for this finding may stem from considering various control tactics. Specifically, researchers who study control have differentiated between negative control and positive control tactics (Lewis & Butterfield, 2005). Negative control tactics "reflect the expression of negative emotions by the agent (e.g., disapproval) or attempts at inducing negative emotions in the target (e.g., guilt)" (Lewis & Butterfield, 2005, p. 418). Because individuals with low levels of esteem feel poorly about their bodies (Erickson & Gerstle, 2007), they may be more likely to read disapproval (and thus negative control) in their partner's messages, as this is consistent with their own beliefs. Research by Swann and colleagues on self-verification theory (Swann, 1987; Swann et al., 1989) supports this interpretation. Specifically they suggest once individuals form beliefs about

themselves, they prefer that others see them in a manner consistent with their self-views (Swann et al., 1989; Swann et al., 2002). As such, individuals with lower self-esteem may be more likely to interpret a partner's supportive weight management messages in a manner that suggests criticism or disapproval. Research concerning partner communication regarding appearance and weight also supports this interpretation. Evans and Stukas (2007) found that negative feedback was sought and received by those with negative self-concepts. Thus, individuals with low body-esteem tend to prefer messages that are congruent with their low self-concept, and thus may interpret supportive messages in a manner that coalesces with this interpretation (e.g., as negatively controlling). This finding bears implications for weight management advocates by suggesting that messages of support may need to vary based on the person's self-esteem. If the target has low levels of body esteem, individuals may simply interpret partners' expressions of support as expressions of disapproval to be consistent with their own weight-related self-views.

Possessing an external locus of control concerning weight management was also a significant predictor of interpreting supportive messages as negatively controlling for Study 1 participants. This finding falls in line with extant research on support and weight management. For example, Holt et al. (2000) explained how individuals with an external locus of control tend to

believe their outcomes are caused by situational factors. Thus, because message recipients with an external locus of control attribute the causes for their weight management as out of their control, they may interpret messages that imply personal responsibility as controlling. Conversely, possessing an internal locus of control was inversely related to interpreting messages as negatively controlling. This finding is also consistent with extant research on weight management and health. For example Holt et al. (2001) used weight locus of control to predict weight related attitudes, behaviors, and reactions of overweight persons to health education materials. Their results, consistent with the current study, indicated that individuals with an internal weight locus of control tend to have a favorable view of health materials that contain social support. Thus, it makes sense that individuals with an internal view of social support would tend to view a supportive weight management message from their partner as helpful—and impute a less controlling element to the message. These findings, although not new to weight and health-related literature, bear implications for relational and health care advocates who are concerned with improving weight management results as well as maintaining relational quality. Specifically, as opposed to advocating social support in contexts of weight management efforts without restriction, advocates of weight

management efforts would benefit from strategic support that is tailored to the recipient's weight locus of control.

Perceived history of support and level of relational distress were both significant predictors of interpreting a supportive message as negatively controlling. That is, both a prior history of supportive messages and a high degree of relational distress are associated with an increased likelihood of interpreting a partner's supportive weight management message as controlling. Ostensibly, when taken together these relationships seem discordant. However, two explanations for this finding are offered.

Research utilizing politeness theory (Brown & Levinson, 1987) offers one explanation for these collective findings. Specifically, in their research on communicative dilemmas in support contexts, Goldsmith and Fitch (1997) note that particularly in close interpersonal relationships (e.g., romantic relationships), message sources may feel they have the justification to communicate in a more direct fashion with their partner, due to the close nature of their relationship. Participants may feel that the nature of their close relationship allows them to communicate in a manner that preferences message goals over relational concerns. When applied to the context of partner communication about weight management, initially romantic partners may communicate in a manner that conforms to politeness standards (thus building

up a history of support). However, as their relationship progresses, partners may feel it more acceptable to disregard politeness norms because of their close relationship and communicate in a more directive fashion. This direct form of communication may feasibly be interpreted as controlling by the recipient, thus explaining the positive relationship between a history of relational support and the interpretation of supportive messages as controlling. Applied further, while the message source may feel greater freedom to communicate in a "bald-on-record" form, message recipients may not necessarily share this understanding, thus as the interpretation of supportive messages as negatively controlling increases, the level of distress in the relationship correlates with that increase.

An alternative explanation for the positive relationship between perceived history of support and relational distress with an increased likelihood of interpreting supportive messages as controlling stems from considering the collective effects of supportive messages. Specifically, it may be that individuals start interpreting messages as controlling after an accumulation of supportive messages, such that the frequency of supportive messages may eventually feel like control to the recipient.

Clearly, the explanations offered for the positive relationships between history of social support, relational distress and the interpretation of supportive

messages as controlling involve a temporal element. While initially messages may be perceived as supportive, this interpretation may change over time to a negatively controlling interpretation, which study results suggest is correlated with the level of relational distress. Descriptive statistics from this study's sample offer indirect support for this temporal element. Specifically, study participants had been in their romantic relationships almost two years on average (M = 20.46, SD = 21.14 months), allowing a reasonable amount of time for the history of support to build or the message effects to accumulate.

Taken together, results from Study 1 reveal a number of personal and relational predictors of negative control. In particular, an individual's degree of readiness to change, the extent to which they possessed an external weight locus of control, prior history of social support, and degree of relational distress were all positively related to negative control such that as these qualities increased, so did the interpretation of supportive messages as negatively controlling. Additionally, an individual's level of body esteem and the extent to which they had an internal weight locus of control were negatively related to control such that as these qualities decreased, the interpretation of supportive messages as negatively controlling increased.

Relational and Health Attitudes Related to Negative Control

Perceived negative control in a partner's memorable weight management message was a significant predictor of a number of relational and health attitude outcomes of interest in Study 2. Specifically, negative control was inversely related to the perceived level of interpersonal trust immediately following the memorable message, to participant's weight management commitment, and to their diet and exercise self-efficacy. Negative control was positively related to participants' negative change in relational quality. Additionally, negative control had a non-significant relationship with perceived positive change.

Study results indicate that perceived negative control in a memorable weight management message was inversely related to the perception of trust in a relationship immediately following the memorable message. In other words, as the degree of negative control in a memorable message increased, the perception of trust immediately following the receipt of the memorable message decreased. The inverse relationship between negative control and perceived interpersonal trust may be because the memorable message is perceived as unpredictable, undependable, or as an infringement upon the good will between the message source and receiver (Rempel et al., 1985). Indeed, this may be a contributing factor as to why the messages participants reported

are so memorable. Thus, for the participants in Study 2, receiving a negatively controlling weight management message from their partner likely predicted a perceived decline in their trust of their partner because it came about as a surprise, was a deviation from a previous pattern of communication about weight management, or caused the partner to question the benevolent intentions of their partner. Research by Tucker and Mueller (2000) on the control strategies used by spouses supports this latter explanation as their results demonstrated that the control strategies perceived by spouses as being ineffective were described as stemming more from their partner's own desire to exert control rather than a concern for their well-being. Broadly, these findings also align with the findings of Malhorta and Murnighan (2002) regarding contracts and trust that suggest, under conditions of high control, participants experience lower levels of interpersonal trust. Specifically, this may occur because individuals perceive actions from message sources as stemming from a desire to control as opposed to being concerned for the well-being of the recipient.

The inverse relationship between negative control and perceived change in interpersonal trust coheres with Study 2's findings regarding the relationship between control and perceived change in relational quality. Specifically, perceived negative control in a memorable weight management

message was positively related to an immediate perception of negative change in relational quality. Put another way, as the degree of negative control in a message increased, so did the perception of negative change in relational quality. The perceived relationship of a memorable message on perceptions of relational quality is not a surprise, as by their very nature memorable messages are messages that have a significant impact on the recipient (Knapp et al., 1981; Stohl, 1986). Indeed, researchers have suggested that the extent and valence of message impact can depend on the extent to which the message source incorporates concern for both the message goals and their relational quality with the recipient into the message (Miller & Boster, 1988; Rook, 1990). To the extent that the participants interpreted the memorable messages as negatively controlling, it may be that they perceived the partner as privileging the message goal (e.g., to convince the recipient to manage their weight, engage in a specific weight management behavior, etc.) over concerns for relational quality. From this, it is plausible that if participants felt a more controlling message reflected a lower concern for the relationship, the impact of the message assumed a higher negative change in their perception of relationship quality. It is also reasonable that privileging message goals over relational concerns results in a message that is seen as unpredictable, undependable, or an infringement on the relationship between the message

source and the receiver (Rempel et al., 1985), such that interpreting a supportive message as negatively controlling may have negative consequences for perceptions of relational quality as well as trust. These findings bear implications for partners and weight management advocates by suggesting that those providing support be cognizant of whether their support would be perceived as unexpected, inconsistent with previous messages, or as a violation of relational norms, as supportive messages that meet any of these criteria may also carry negative implications for perceptions of trust in the relationship as well as the perceptions of relational quality.

While perceived negative control in a memorable message was significantly related to a perceived negative relational quality change, level of negative control was not significantly related to perceptions of positive change in relational quality. This may occur because of the tactics used to enact negative control such as expressing negative emotions (e.g., dissatisfaction) or eliciting negative emotions such as shame, regret dissatisfaction or humiliation (see Lewis & Butterfield, 2005). Because negative control entails these negative emotions, this form of communication may not be related to perceptions of positive relational quality. Instead, positive control tactics, such as strategies that employ discussion, modeling, and positive reinforcement

(e.g., encouragement; Lewis & Butterfield, 2005) may elicit a perceived positive change in relational quality.

Perceived negative control was a significant, negative predictor of weight management commitment, exercise self-efficacy, and diet self-efficacy for the participants in Study 2. As the level of perceived negative control in a weight management message increased, participants' commitment to manage their weight decreased, as did their self-belief that they could carry out exercise and diet behaviors behavior. Participants may feel less commitment to manage their weight after receiving a negatively controlling message because of the regulation, influence, and/or constraint that defines these messages (Lewis & Rook, 1999). That is, when someone else (the message source) is attempting to regulate their behavior, participants may react to this control with resistance. In other words, by exerting control (or because the message is interpreted as such) the message source may create a boomerang effect such that participants respond to attempts at control with increased resistance to their partner's weight management message. Thus, their commitment to manage their weight may decline due to this defiance.

For similar reasons, participants may also exhibit decreased levels of exercise and diet efficacy. That is, as a response to the negative control message, recipients may react with frustration, opposition, or lack of

confidence towards the message source and the attitudes and/or behaviors they are advocating. Research reported by Bandura (1997) supports this interpretation. Specifically, Bandura notes how verbal persuasion can effectively be used to raise recipient's level of self-efficacy, however, to the extent that verbal persuasion attempts to raise unrealistic beliefs (such as an unrealistic self-belief toward diet restriction or exercise habits), the message source risks the recipients' failing which may destabilize the recipients' beliefs in their capabilities. Thus, participants may report lower levels of exercise and diet self-efficacy as a function or the resistance they may have to their partner's attempts at controlling their weight management exercise behaviors.

The current findings suggest that it may be beneficial for romantic partners and weight management supporters to exercise caution when providing supportive messages. If these messages are interpreted as controlling they may have an inhibiting effect on the recipient's commitment to manage their weight on their own as well as their self-belief that they are able to manage their own weight through exercise and diet behaviors.

Implications for the Conceptual Framework

Taken together, Study 1 and Study 2 investigated two processes that are hypothesized to be part of a larger, over-arching framework that explains the predictors and consequences of the level of negative control perceived in

partners' weight management messages. Results from both studies indicate this interpretation process is related to numerous personal, relational, and health attitude characteristics. It is also important to note that while the specific variables of interest in Study 1 (readiness to change, body esteem, external weight locus of control, internal weight locus of control, prior history of support, and level of relational distress) and Study 2 (perceived level of interpersonal trust, perceived change in relational quality, weight management commitment, diet self-efficacy, and exercise self-efficacy) were selected due to the research supporting their application to this interpretation process and weight management context, they are likely not the only factors that influence this process.

Although these studies indicate significant relationships within the two processes examined, this interpretation process is broadly conceptualized as cyclical in nature whereby the personal and relational factors that predict the interpretation of supportive messages as negatively controlling are related to the relational and health attitude outcomes influenced by this process. An example of this process may be found by examining the associations between negative control (Studies 1 & 2), relational distress (Study 1), and perceived negative change in relational quality (Study 2) examined in this research. Study 1 showed a positive relationship between degree of relational distress

and interpreting supportive messages as negatively controlling. Additionally, Study 2 suggested that the interpretation of supportive messages as controlling is related to negative relational change (i.e., one possible aspect of relational distress). Thus, according to the hypothesized conceptual framework, initial levels of relational distress are related to interpreting a supportive message as controlling, a process that is also associated with levels of negative relational change (i.e., relational quality). In this manner, it is feasible that the predictors of the interpretation of a supportive message as controlling in one communication episode may be influenced, and thus an outcome, of a recent controlling communication episode.

In addition to the above implications for the conceptual framework, a number of interpretations of the study's findings, although not directly testable with the current data, offer important directions for future research on negative control. For example, one implication that emerged was that negative control may be reflecting partners' limitations or constraints on the recipients. For example, Study 1 results suggest that for participants in later stages of readiness to change their weight management behavior, a partner's involvement was perceived as less supportive and as an infringement upon the participant's weight management efforts. Thus, perhaps negative control was inversely related to readiness to change because participants felt more

restricted by it if they were already engaging in weight management efforts. Additionally, negative control was inversely related to weight management commitment and exercise self-efficacy, two key elements of weight management efforts. Perhaps negative control was inversely related to these outcomes because it provides a sense of constraint for the participant, thereby decreasing participants' need to engage in their own self-discipline. Related to the larger framework, these relationships suggest that some of the personal and relational factors that predict the interpretation of supportive messages as negatively controlling, as well as some of the outcomes of this interpretation process may stem from the limitations and constraint communicated by negative control.

A second feature of negative control implied in the results was that control may be perceived as an encroachment or infringement upon the relational and/or communication norms established between partners. For example, Study 1 results suggest that for participants with a prior history of supportive messages, supportive messages were interpreted as more negatively controlling. A prior history of supportive messages may have caused the message source to feel they could take more liberties in their communication with the receiver (such as disregarding politeness norms), although this perception may not be shared by the message recipient. Or perhaps an

accumulation of supportive messages begins to feel controlling. Thus, partners with a history of supportive messages may be more likely to interpret supportive messages as negatively controlling when they break from previously established relational or communication norms, and thus violate the recipient's expectations. Similarly, Study 2 results suggest the interpretation of supportive messages as negatively controlling was related to a perceived decline in trust levels. Thus, for the participants in Study 2, perceiving the message as encroaching upon their relational or communication standards was correlated with perceptions of trust in the relationship. Pertaining to the larger framework, these associations suggest that some of the personal and relational factors that predict the interpretation of supportive messages as negatively controlling, as well as some of the outcomes of this interpretation process may stem from a perception of encroachment or infringement upon communicative and/or relational norms communicated by negative control. Although not directly testable by the current data, the aforementioned interpretations of the study's findings, suggest important considerations and implications for future research.

Limitations and Additional Future Research Considerations

As is true of any research, there are limitations that should be considered in the evaluation of this research. Some of these pertain to the

study's sample characteristics. Samples for the Pilot Study, Study 1, and Study 2, were predominantly female (70%, 77%, and 77%, respectively) and largely heterosexual (approximately 97% and 98%, respectively) (relationship preference not assessed in the Pilot Study). Thus, as Study 2 was concerned with participants' perceptions of their partners' actual weight management messages, the data largely represents females' interpretations of messages from males. This is notable as supportive messages generated by males and females tend to exhibit different characteristics which may be associated with their likelihood of being interpreted as negatively controlling. For example, research suggests that females tend to employ a wider repertoire of strategies to manage a partner's weight as well as a higher degree of facilitative behavior as compared to males (Tucker & Mueller, 2000). These message characteristics may lend themselves to a more benevolent interpretation (e.g., as supportive as opposed to negatively controlling). Future research regarding the interpretation of supportive messages as controlling with a more balanced sample would help validate the generalizability of this study's findings, as would future research regarding this interpretation process among homosexual populations.

Also concerning the study's sample characteristics, it is possible that potential participants may have self-selected out or dropped out of Study 2 because they did not have a memorable weight management message to report.

To the extent that those with lower BMI's may have self-selected out of Study 2 (or dropped out) this may have resulted in the higher BMI scores in Study 2's sample. However, analysis indicates that nine participants did not record a memorable message or stated that they did not have a memorable message for this item, and of these, 3 were classified as underweight, 3 were normal weight, 1 was overweight, and 2 could be classified as obese. Hence, these data do not suggest that those with higher BMIs in the Study 2 sample had more memorable messages. Additionally, both Study 1 and Study 2 were advertised similarly which may have decreased the likelihood of this self-selection effect.

Other limitations and future research directions concern the study design. This study assessed only one participants' interpretation of messages. Including both partners in future research would be beneficial for several reasons. It was assumed that the messages gauged in this research were intended to be supportive. In future research, it would be helpful to assess the partner's perception of how much they intended to be supportive (and controlling) in their messages. Additionally, dyadic level data would allow for a direct comparison of the partners' perspectives.

Also concerning this study's design, this research was cross-sectional in nature. Although this design allowed the goals of Study 1 and Study 2 to be reached, the processes each study investigated were part of a larger, cyclical

process, of which the cross-sectional design of these studies does not fully assess. Research that utilizes a longitudinal design would be able to better capture the cyclical nature of this process.

In addition to sample and design characteristics, suggestions for future research can emerge from examining the current study's measures and analyses. To assess perceptions of change in relational quality (Study 2), a measure of relational change was used with scale points of 1 = "the message significantly decreased quality", 4 = "the message had no effect on quality", and 7 = "the message significantly improved quality" for seven different relational characteristics. Because the mid-point designates no relational change, it was difficult to turn make this a continuous variable while still differentiating between positive and negative change, and the current analysis used a median split to differentiate between positive and negative change resulting from a memorable message. Future research may want to use separate scales to assess positive and negative relational change.

Relatedly, Study 2 assessed participant perceptions of the degree to which a memorable weight management message affected their relational quality (via positive and negative change). Gauging participant recollections of change carries with it several limitations. First, because change in relational quality was assessed via perceptions, a causal relationship between negative

control and and relational quality could not be established. Second, these scales assessed recollections of change, as opposed to an actual change in level of relational quality following the receipt of a memorable weight management message. Future research might benefit from using measure(s) of relational quality (as opposed to perceptions of change in these qualities) or utilizing a pre-test, post-test format would help address these limitations.

Also concerning the study's measures, Study 1 asked participant's to rate the degree of support and control in hypothetical messages created by the researcher based on previous research on supportive messages (Cutrona & Suhr, 1992; Braithwaite, Waldron, & Finn, 1999). Because Study 1 did not use actual messages from partners, it is possible that these messages may have been interpreted as more controlling because they were different than the messages that participant's partners actually give. However, this limitation was somewhat addressed by using participant's recollections of actual messages in Study 2.

Relatedly, Study 2 asked participant's to report a memorable weight management message they had received from their current romantic partner. These messages were then analyzed by the participants for their degree of negative control, and its' association to relational and health attitude outcomes assessed. However, these memorable messages are retrospective in nature and

anything the participants have experienced since then may have affected their recall or interpretation of the memorable messages.

In addition, Study 2 asked participants to report their weight management goal following the receipt of a memorable weight management message. However, it is possible that some participants may not have had a strong weight management goal or could not recall their goal, as was reflected in the responses of 18 participants who either left this item blank or wrote that they did not have a weight management goal at the time they received the memorable message. Hence, the nature of these participants' commitment scores as well as their diet and exercise self-efficacy scores may be different than those who did report a weight management goal.

Furthermore, H4 (Study 1) found an unexpected positive relationship between prior amount of social support received and the interpretation of supportive weight management message as controlling. Because this relationship was significant it would be helpful for future research examining this interpretation process to assess participants' history of negative control as well. If, as results from H4 indicate, a history of receiving supportive messages correlates with an increased likelihood of interpreting supportive messages as negatively controlling, it would be useful to know the impact a history of negatively controlling messages has on this process.

Finally, multiple variables were controlled for in the data analyses. Specifically, in Study's 1 and 2 participant age, sex, BMI, partner BMI, length of relationship, and perceived support were all held constant. In addition, time since the message and message intensity were also controlled for in analyses for Study 2. While holding these variables constant helped gauge the strength of the primary relationships assessed in Study's 1 and 2, there may also be interesting mediating and or moderating variables within this set of controls. It would be interesting for future research to examine whether the relationships found here vary according participant BMI, the length of time the partners had been together, etc., as these relationships were not assessed in the current data analysis.

Conclusion

This research suggests that supportive weight management efforts may not be universally effective, and can have negative relational and health attitude outcomes. Specifically, Study 1 indicates that individuals with certain personal characteristics (i.e., advanced stages of readiness to change, lower levels of body-esteem, a higher external locus of control, and a lower internal locus of control) and relational characteristics (i.e., a stronger history of support and higher degrees of relational distress) tend to interpret these messages as more negatively controlling. Additionally, Study 2 suggests this

interpretation may have negative consequences for recipients' relationships and health attitudes (e.g., perceived lower interpersonal trust, weight management commitment, negative relational change, and exercise self-efficacy).

As an alternative to the universal recommendation of support, it may be more helpful for those attempting to support another's weight management efforts to tailor their supportive attempts to both the personal characteristics of the message recipient and their relationship with the message recipient. Specifically, if the recipient is in a more advanced state of readiness to change, has lower levels of body-esteem, and/or an external weight locus of control, those attempting to help the recipient's manage their weight might be more helpful if they tailor their messages to avoid threatening the recipient's negative face needs (e.g., their desire to be autonomous; Brown & Levinson, 1987). For example, supporters may want to minimize the number of requests for behavior modification in their supportive messages, as these may threaten the recipient's desire to be unrestrained. Additionally, weight management supporters may want to minimize the number of unsolicited attempts of support, as these may particularly threaten the recipient's negative face. Finally, supporters may want to also reduce their criticism of their partner, as this can infringe upon negative face by implying that the action being critiqued

should be altered or changed, and thus imposing on the autonomy of the recipient (Goldsmith, 1992).

Additionally, as negatively controlling messages often employ tactics that "reflect the expression of negative emotions by the agent (e.g., disapproval) or attempts at inducing negative emotions in the target (e.g., guilt)" (Lewis & Butterfield, 2005, p. 418), those attempting to support another's weight management efforts may want to avoid expressing negative emotions in their messages in general, as well as in their nonverbal communication (e.g., facial expressions, tone, etc.). Alternatively, supporters may be better off using positive control tactics which "reflect the use of persuasion, rational logic, discussion, modeling, and positive reinforcement" (e.g., encouragement; Lewis & Butterfield, 2005, p. 418) in their efforts to support another's weight management.

In addition to these individual level characteristics, those attempting to help in others' weight management efforts would also benefit from considering the nature of their relationship with the message recipient when communicating support. Individuals who have provided support regarding weight management previously and have a high degree of relational distress with their partners may want to be particularly cognizant of addressing the recipient's negative face needs as well as to adhering to relational norms when

communicating their support as they are at a higher risk of having their messages interpreted as negatively controlling. Not addressing these face needs may be problematic as the current data, although correlational in nature, could suggest that supportive messages interpreted as negatively controlling may sabotage the recipient's weight management efforts by impacting their commitment to manage their weight and their exercise self-efficacy. Additionally, such messages may also damage the relationship between the message source and receiver by impacting their interpersonal trust and relational quality.

Clearly, communication about weight management is a complex process, particularly within romantic relationships. Research suggests that romantic partners play an important role in influencing each others' health in a variety of contexts including weight management (Markey et al., 2008); however little empirical research has investigated the influence of romantic relationships on weight management and body image (Boyes et al., 2007). Even less research has examined how romantic partners *communicate* about issues related to weight management and physical health (Dennis, 2006). Nonetheless, numerous weight management programs and health campaigns advocate the unrestricted application of support to weight management efforts. The current research suggests that this recommendation might not always be

beneficial in that supportive messages may also be interpreted as negatively controlling, resulting in negative health attitude and relational outcomes.

Table 1

Descriptive Statistics of Supportive Messages: Pilot Study

Message	*α*	*n*	*Mean*	*SD*	*Skew*	*Kurtosis*
Information support						
You should try to eat more vegetables.						
Support scale	.88	131	5.59	1.09	-1.18	2.92
Control scale	.87	128	4.18	1.64	-.20	-.76
I know a good nutritionist who can help you manage your weight.						
Support scale	.90	119	5.82	1.04	-.86	.80
Control scale	.81	120	3.96	1.53	-.16	-.54
Your weight problem is nothing compared to real problems. Use common sense to master it.						
Support scale	.95	125	3.67	1.87	.11	-1.16
Control scale	.77	125	4.62	1.49	-.56	-.02

There are weight management programs that have lots of good advice.						
However, they cost approximately $150.00 a month.						
Support scale	.85	128	4.97	1.26	-.64	.55
Control scale	.80	127	3.90	1.46	-.25	-.43
Tangible assistance						
I will take a look at any books I have to see if there are any books that can help						
you manage your weight.						
Support scale	.92	112	5.69	1.19	-1.22	1.76
Control scale	.88	116	4.03	1.69	-.10	-1.01
I will do all I can to make sure that you exercise every day.						
Support scale	.94	120	5.69	1.26	-1.53	2.85
Control scale	.81	120	4.12	1.69	-.26	-.90
I will help you manage your weight in any way I can.						
Support scale	.94	119	6.09	1.05	-1.69	4.93
Control scale	.76	118	3.37	1.50	.21	-.65

I will ask my health professor if s/he has any advice regarding your weight management.						
Support scale	.92	114	5.73	1.13	-1.31	2.96
Control scale	.84	113	4.01	1.61	-.11	-.80
I will do all I can to make sure you follow your diet every day.						
Support scale	.92	104	5.73	1.15	-.96	1.52
Control scale	.73	104	4.11	1.53	-.08	-.64
Network support						
One of my co-workers is trying to manage his/her weight as well. I will get the two of you in touch with one another.						
Support scale	.94	122	5.48	1.11	-.78	.67
Control scale	.81	122	4.39	1.49	-.22	-.47
If you have any questions or comments about your weight management, please continue to share them with me.						

Support scale	.95	125	5.72	1.25	-1.63	3.45
Control scale	.83	124	3.32	1.46	.23	-.45
Feel free to discuss your weight management struggles with me or any of our friends.						
Support scale	.91	123	5.66	1.23	-1.26	2.06
Control scale	.85	122	3.53	1.63	.32	-.73
There is a weight management meeting held after work in my building—I will give your name to one of the members.						
Support scale	.86	114	5.25	1.29	-.90	.80
Control scale	.81	114	4.65	1.46	-.55	.04
I found a great weight management website—I will send you the link so you can communicate with others in your situation.						
Support scale	.87	125	5.49	1.04	-.83	.66
Control scale	.84	125	4.16	1.53	-.36	-.57
Esteem support						

You have been doing a great job managing your weight.						
Support scale	.87	114	5.89	1.06	-1.34	2.33
Control scale	.76	114	2.81	1.41	.81	1.68
I know you have been working hard to manage your weight and so I e-mailed you a joke about weight management.						
Support scale	.94	123	4.18	1.72	-.32	-.80
Control scale	.85	124	3.99	1.62	-.14	-.73
You and I think about weight management exactly the same.						
Support scale	.91	121	5.16	1.38	-.78	.62
Control scale	.86	120	3.03	1.51	.31	.78
The weight management problems you are experiencing are not completely your fault.						
Support scale	.87	118	4.87	1.45	-.56	-.24
Control scale	.86	120	3.50	1.49	.03	.92
You should not blame yourself for any trouble you are having managing						

your current weight.						
Support scale	.89	120	5.10	1.50	-.76	-.05
Control scale	.88	120	3.27	1.59	.42	-.61
Emotional support						
I will keep the problems you are having with your weight a secret.						
Support scale	.92	120	4.84	1.61	-.59	-.41
Control scale	.86	119	3.89	1.69	-.19	-.90
I am sorry you are experiencing weight management problems.						
Support scale	.92	127	4.40	1.73	-.20	-1.03
Control scale	.84	126	4.01	1.62	-.29	-.88
I know exactly what you are going through. I have been trying to manage my weight for a long time.						
Support scale	.89	123	5.89	1.00	-1.01	1.27

Control scale	.83	124	3.01	1.46	.34	-.71
I wish you the best with your weight management.						
Support scale	.93	120	4.74	1.70	-.34	-.97
Control scale	.85	122	3.64	1.59	-.13	-1.04
I have been upset about your weight management problems and have had you in my thoughts.						
Support scale	.93	86	3.70	1.07	.09	-.50
Control scale	.81	117	5.04	1.53	-.88	.34

Note. Messages in bold were selected for inclusion in Study 1.

Table 2

Means, Standard Deviations, and Scale Reliabilities: Study 1.

Variable	*n*	*M*	*SD*	α
Length of relationship	242	20.46	21.14	--
Support	218	4.80	.86	.89
BMI	246	22.57	3.88	--
Partner BMI	246	23.21	3.73	--
Age	247	20.04	2.20	--
Readiness to change	227	6.07	.92	
Precontemplation	242	2.63	.61	.71
Contemplation	239	2.99	.82	.88
Action	240	3.01	.84	.90
Maintenance	240	2.55	.81	.90
Body esteem	233	4.60	.67	.82
External locus of control	246	2.88	1.10	.70
Internal locus of control	246	6.12	.95	.75
Relational distress	244	3.92	.71	.86
History of support	244	3.81	1.23	.88
Negative control	220	4.13	.92	.91

Table 3: Bivariate Correlations Among the Variables: Study 1

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Length of Rel.	--											
2. Support	.13	--										
3. BMI	.19**	.20**	--									
4. Partner BMI	.06	.16*	.19**	--								
5. Age	.44***	-.25***	.18***	.15*	--							
6. Sex	.07	.12	-.26***	.41***	.02	--						
7. Readiness	.17**	.36***	.40***	.16*	.03	.10	--					
8. External Locus	-.11	-.12	-.07	.00	.14*	.06	.04	--				
9. Internal Locus	.12	.05	-.04	-.00	.14*	.00	-.16*	-.22***	--			
10. Rel. Distress	-.16*	-.13	-.04	-.03	-.05	-.03	.08	.16*	-.14*	--		
11. History of Support	.08	.32***	.07	.07	.07	.05	.33***	-.03	.00	-.14*	--	
12. Body Esteem	-.05	-.18**	-.40***	-.11	.01	.00	-.60***	-.14*	.31***	-.20**	-.14*	--
13. Neg. Control	.00	.23**	.04	.01	-.10	-.10	.28***	.16*	-.23**	.10	.21**	-.27***

Note. *$p < .05$, **$p < .01$, ***$p < .001$. All correlations reported at the two-tailed level.

Table 4

Regression Results: Study 1

Criterion	Predictors	β	ΔF	ΔR^2	F	R^2	n
Negative Control							
First Step	Length of relationship	.05					
	Support	.21**					
	BMI	.13					
	Partner BMI	-.11					
	Age	-.15					
	Sex	.20*					
Second Step							
	Readiness to change	.26**	10.05**	.05	4.42***	.15	179
First Step	Length of relationship	.06					
	Support	.15					
	BMI	.16					
	Partner BMI	-.11					
	Age	-.16					
	Sex	.19*					
Second Step							
	Body esteem	-.28***	12.09***	.06	3.92***	.14	178
First Step	Length of relationship	.07					
	Support	.21**					
	BMI	.14					
	Partner BMI	-.10					
	Age	-.17*					
	Sex	.19*					
Second Step							
	External locus of control	.23**	10.34**	.05	4.57***	.15	190

First Step	Length of relationship	.07					
	Support	.21**					
	BMI	.14					
	Partner BMI	-.10					
	Age	-.17*					
	Sex	.19*					
Second Step							
	Internal locus of control	-.20**	8.38**	.04	4.19***	.14	190
First Step	Length of relationship	.07					
	Support	.21**					
	BMI	.15					
	Partner BMI	-.10					
	Age	-.17*					
	Sex	.19*					
Second Step							
	History of support	.16*	4.44*	.02	3.62***	.12	188
First Step	Length of relationship	.06					
	Support	.22**					
	BMI	.14					
	Partner BMI	-.10					
	Age	-.17*					
	Sex	.18*					
Second Step							
	Relational distress	.14*	4.03*	.02	3.50**	.12	188

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 5

Regression Results with Significant Controls Only: Study 1

Criterion	Predictors	β	ΔF	ΔR^2	F	R^2	n
Negative Control							
First Step							
	Support	.22**					
	Sex	.12					
Second Step							
	Readiness to change	.24***	10.76***	.05	8.31***	.12	183
First Step							
	Sex	.07					
Second Step							
	Body esteem	-.27***	16.40***	.08	8.79***	.08	205
First Step							
	Support	.24***					
	Age	-.13					
	Sex	.10					
Second Step							
	External locus of control	.21**	9.50**	.04	6.58***	.12	196
First Step							
	Support	.23***					
	Age	-.13					
	Sex	.10					
Second Step							
	Internal locus of control	-.29***	8.57***	.04	6.21***	.12	196
First Step							
	Support	.24***					
	Age	-.13					
	Sex	..10					
Second Step							
	History of support	.16*	4.45*	.02	5.18***	.10	194

First Step							
	Support	.24***					
	Age	-.12					
	Sex	.09					
Second Step							
	Relational distress	.13	4.90***	.02	4.90	.08	194

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 6

Multiple Regression Results: Study 1

		β	ΔF	ΔR^2	F	R^2	n
Negative Control							
First Step	Length of relationship	.05					
	Support	.16*					
	BMI	.15					
	Partner BMI	-.11					
	Age	-.14					
	Sex	.19*					
Second Step							
	Body esteem	-.22**					
	External locus of control	.21**	6.80**	.04	4.20***	.18	162

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 7

Multiple Regression Results with Significant Controls Only: Study 1

		β	ΔF	ΔR^2	F	R^2	n
Negative Control							
First Step							
	Sex	.10					
	Support	.16*					
Second Step							
	Body esteem	-.23**	7.12**	.03	7.32***	.14	183
	External locus of control	.19**					

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 8

Means, Standard Deviations, and Scale Reliabilities: Study 2.

Variable	*N*	*M*	*SD*	α
Length of relationship	145	20.21	22.84	--
Support	133	4.67	1.51	.84
BMI	144	27.29	6.63	--
Partner BMI	146	23.87	3.47	--
Age	148	20.18	3.39	--
Length of time since message (months)	107	5.61	8.07	
Intensity of message	137	2.48	.97	--
Trust	111	5.28	.93	.83
Relational quality change	138	4.42	.97	.93
Positive relational change	65	5.22	.76	--
Negative relational change	73	1.28	.47	--
Weight management commitment	138	5.16	.68	.75
Diet self-efficacy	135	4.86	1.16	.94
Exercise self-efficacy	136	6.45	2.26	.96
Negative control	135	3.16	1.56	.83

Table 9

Bivariate Correlations Among the Variables: Study 2

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Length of Rel.	--													
2. Support	-.03	--												
3. BMI	.08	-.09	--											
4. Partner BMI	.03	-.06	.79***	--										
5. Time since message	.72***	-.19	.13	.12	--									
6. Intensity	.23**	.08	-.01	.15	.12	--								
7. Age	.47***	-.20*	.03	.08	.45***	.13	--							
8. Sex	.11	-.02	.73***	.40***	.13	-.05	-.01	--						
9. Trust	.12	.26**	.11	.21*	.16	-.00	-.03	-.00	--					
10. Pos. change	.10	.12	.25	.04	.17	.06	-.23	.27*	.27*	--				
11. Neg. Change	.14	-.05	.01	-.08	.01	.19	.08	.14	-.59***	0	--			

12. Commitment	.08	.34***	-.15	-.12	-.11	.27**	.02	-.06	-.14	-.14	.23*	--		
13. Diet efficacy	.04	.11	-.10	-.01	.15	.20*	.00	-.19*	.18	.18	-.16	.26**	--	
14.Exercise efficacy	.06	.03	.07	-.15	-.01	-.01	.04	.05	.17.28*	.28*	.09	.42***	.31***	--
15. Control	.02	-.13	-.07	-.00	.04	.02	.10	-.03	-.31*	-.31*	.54***	-.22**	-.29***	-.39***

Note. *$p < .05$, **$p < .01$, ***$p < .001$. All correlations reported at the two-tailed level.

Table 10

Regression Results: Study 2

Criterion	Predictors	β	ΔF	ΔR^2	F	R^2	n
Interpersonal trust							
First Step	Length of relationship	.03					
	Support	.24*					
	BMI	-.05					
	Partner BMI	.36*					
	Age	-.13					
	Time since message	.18					
	Message intensity	-.12					
	Sex	-.14					
Second Step							
	Negative control	-.42***	18.70***	.15	4.50***	.33	92
Positive change							
First Step	Length of relationship	-.07					
	Support	.02					
	BMI	.27					
	Partner BMI	.15					
	Age	-.24					
	Time since message	.06					
	Message intensity	-.08					

	Sex	.08					
Second Step							
	Negative control	-.38	3.66	.07	2.17	.39	41
Negative change							
First Step	Length of relationship	.10					
	Support	.08					
	BMI	.15					
	Partner BMI	-.53*					
	Age	-.02					
	Time since message	-.11					
	Message intensity	.49**					
	Sex	.25					
Second Step							
	Negative control	.46***	12.13***	.15	4.33***	.48	53
Commitment							
First Step	Length of relationship	.06					
	Support	.23**					
	BMI	-.09					
	Partner BMI	-.37**					
	Age	.08					
	Time since message	-.17					
	Message intensity	.41***					
	Sex	-.04					
Second Step							
	Negative control	-.25**	8.43**	.05	8.90***	.49	93
Diet self-efficacy							
First Step	Length of relationship	-.24					

	Support	.12					
	BMI	.17					
	Partner BMI	.08					
	Age	-.05					
	Time since message	.35*					
	Message intensity	.22					
	Sex	-.35*					
Second Step							
	Negative control	-.23*	2.57*	.05	2.57*	.22	91
Ex. self-efficacy							
First step	Length of relationship	-.15					
	Support	.03					
	BMI	.99***					
	Partner BMI	-.87***					
	Age	.06					
	Time since message	.07					
	Message intensity	.23*					
	Sex	-.51					
Second step							
	Negative control	-.30**	9.46**	.08	4.88***	.35	93

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 11

Regression Results with Significant Controls Only: Study 2

Criterion	Predictors	β	ΔF	ΔR^2	F	R^2	n
Interpersonal trust							
First Step							
	Support	.29**					
	Partner BMI	.23*					
Second Step							
	Negative control	-.44***	26.17***	.18	14.66***	.31	103
Negative change							
First Step							
	Message intensity	.20					
	Partner BMI	-.19					
Second Step							
	Negative control	.54***	23.28***	.26	9.58***	.32	66
Commitment							
First Step							
	Support	.31***					
	Partner BMI	-.26**					
	Message intensity	.27***					
Second Step							
	Negative control	-.19**	5.92*	.04	11.77***	.29	121

Diet efficacy							
First Step							
	Time since message	.20*					
	Sex	-.21*					
Second Step							
	Negative control	-.22*	4.89*	.05	4.31**	.12	97
Exercise efficacy							
First Step							
	BMI	.53***					
	Partner BMI	-.54***					
	Message intensity	.08					
Second Step							
	Negative control	-.35***	18.77***	.12	9.95***	.26	121

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Figure 1: Conceptual Model

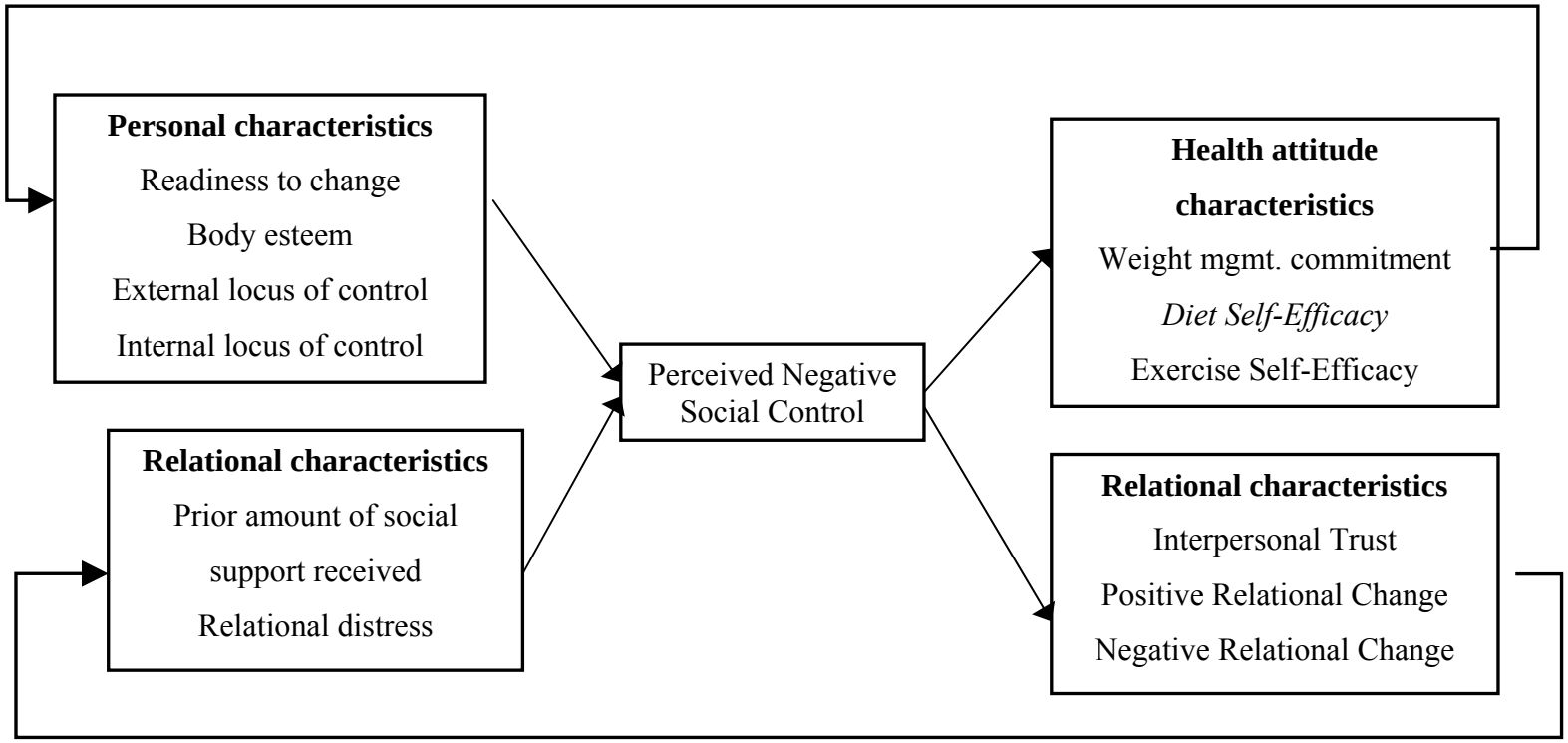
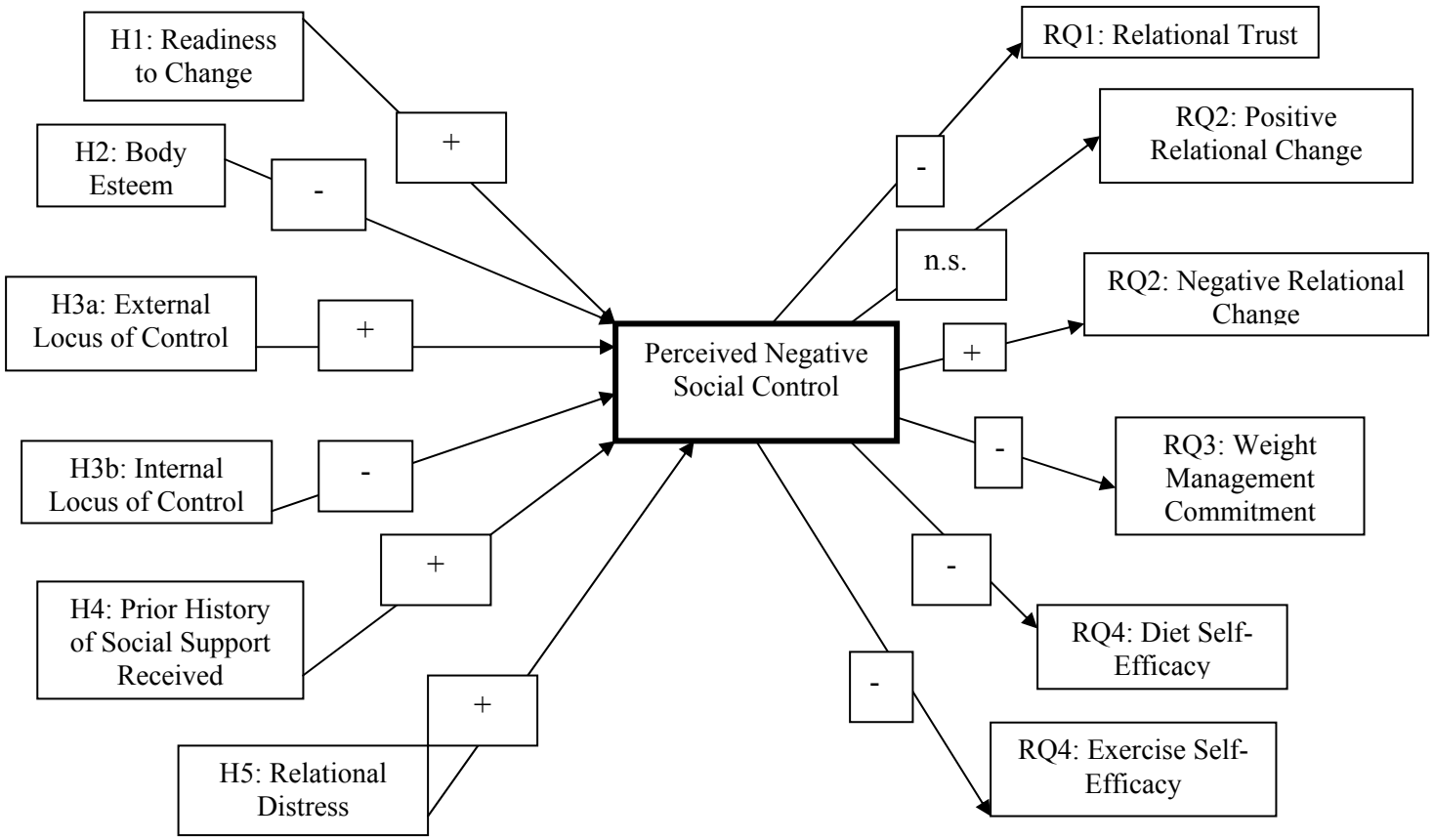


Figure 2: Summary of Results



APPENDIX A

Social support measure (Burleson & MacGeorge, 2002)

Directions: Participants were asked to respond to each statement on a 7-point Likert scale where 1 = strongly disagree and 7 = strongly agree.

1. My partner made this statement with the intention of providing assistance
2. My partner made this statement with the intent to help me with my weight management.
3. My partner had my best interests at heart when stating this message

APPENDIX B

Social control measure (Lewis & Rook, 1999)

Directions: Participants were asked to respond to each statement on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

1. This statement makes you feel guilty
2. This statement pressures you to change your health behavior
3. This statement ridicules you and makes you feel bad

APPENDIX C

Readiness to change (McConnaughy, Prochaska, & Velicer, 1983)

Directions: Participants were asked to respond to each statement on a 5-point scale where 1 = strongly disagree and 5 = strongly agree.

1. As far as I'm concerned, I don't have any weight management problems that need changing.
2. I think I might be ready for some self-improvement.
3. I'm doing something about the weight problems that have been bothering me.
4. It might be worthwhile to work on my problem
5. I don't have a weight management problem. It doesn't make sense for me to be here.
6. It worries me that I might slip back on a weight management problem I have already changed, so I seek out help.
7. I am finally doing some work on my weight management problems.
8. I've been thinking that I might want to manage my weight.
9. I have been successful in working on my weight management problem but I'm not sure I can keep up the effort on my own.
10. At times my weight management problem is difficult, but I'm working on it.

11. Working on my weight management is pretty much a waste of time for me because the problem doesn't have to do with me.
12. I am hoping that by seeking out help for my weight management, I can better understand myself.
13. I guess I have faults in my weight management, but there's nothing that I really need to change.
14. I am working really hard to change my weight management habits.
15. I have a weight management problem and I really think I should work on it.
16. I'm not following through with what I had already changed about my weight management as well as I had hoped, I am seeking out ways to prevent a relapse of the problem.
17. Even though I'm not always successful in changing, I am at least working on my weight management problem.
18. I thought once I resolved the problem I'd be free to it, but I find myself still struggling with my weight management.
19. I wish I had more ideas on how to solve my weight management problem.
20. I have started working on my weight management problem but I would like help.

21. Maybe a weight management center will be able to help me.
22. I may need a boost right now to help me maintain the weight management changes I've already made.
23. I may be part of the weight management problem, but I don't really think I am.
24. I hope that I will be able to find some good advice on weight management.
25. Anyone can talk about changing their weight management, I'm actually doing something about it.
26. All this talk about weight management is boring. Why can't people just forget about their weight management problems?
27. I am seeking out help to prevent myself from having a relapse of my weight management problem.
28. It is frustrating, but I feel I might be having a reoccurrence of a weight management problem I thought I had resolved.
29. I have weight management worries but so does the next person. Why spend time thinking of them?
30. I am actively working on my weight management problem.
31. I would rather cope with my weight management faults than try to change them.

32. After all I have done to try to change my weight management problem, every now and again it comes back to haunt me.

APPENDIX D

Body self-esteem scale (Mendelson & White, 1982)

Directions: Participants were asked to respond to each statement on a 5-point scale where 1 = strongly disagree and 5 = strongly agree.

1. I like what I look like in pictures.
2. People my own age like my looks.
3. I'm pretty happy about the way I look.
4. Most people have a nice body than I do.
5. My weight makes me unhappy.
6. I like what I see when I look in the mirror.
7. I wish I were thinner.
8. There are lots of things I'd change about my looks if I could.
9. I'm proud of my body.
10. I really like what I weigh.
11. I wish I looked better.
12. I often feel ashamed of how I look.
13. Other people make fun of the way I look.
14. I think I have a good body.
15. I'm looking as nice as I'd like to.
16. It's pretty tough to look like me.

17. I wish I were fatter.

18. I often wish I looked like someone else.

19. My classmates would like to look at me.

20. I have a high opinion about the way I look.

21. My looks upset me.

22. I'm not as nice looking as most people.

23. My parents like my looks.

24. I worry about the way I look.

APPENDIX E

Weight locus of control measure (Saltzer, 1982)

Directions: Participants were asked to respond to each statement on a 6-point scale where 1 = strongly disagree and 6 = strongly agree.

1. Whether I gain, lose, or maintain my weight is entirely up to me.
2. If I eat properly, and get enough exercise and rest, I can control my weight in the way that I desire.
3. Being the right weight is largely a matter of good fortune.
4. No matter what I intend to do, if I gain or lose weight, or stay the same in the near future, it is just going to happen.

APPENDIX F

Relational history of social support measure (Franks, Gonzalez, & Ketterer, 2004)

Directions: Participants were asked to respond to each statement on a 7-point scale where 0 = never, 7 = every day.

1. How frequently in the past month has your partner provided you with information about healthy living?
2. How frequently in the past month has your partner listened to your concerns about protecting your health?
3. How frequently in the past month has your partner assisted you in taking care of your health?
4. How frequently in the past month has your partner agreed with your decisions about taking care of your health.
5. How frequently in the past month has your partner encouraged you to make choices favorable to healthy living?
6. How frequently in the past month has your partner taken action to protect your health?

APPENDIX G

Relational distress measure (Hendrick, 1988)

Directions: Participants were asked to respond to each statement on a 5-point scale where 1 = not at all and 5 = completely.

1. How well does your partner meet your needs?
2. In general, how satisfied are you with your relationship?
3. How much do you love your partner?
4. How often do you with you wish you hadn't gotten into this relationship?
5. To what extent has your relationship met your original expectations?
6. How many problems are there in your relationship?
7. How good is your relationship compared to most?

APPENDIX H

Interpersonal trust measure (Rempel, Holmes, & Zanna, 1985)

Directions: Participants were asked to respond to each statement on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

1. My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.
2. Even when I don't know how my partner will react, I feel comfortable telling him/her anything about myself; even those things which I am ashamed.
3. Though times may change and the future is uncertain, I know my partner will always be willing to offer me strength and support.
4. I am never certain that my partner won't do something that I dislike or will embarrass me.
5. My partner is very unpredictable. I never know how he/she is going to act from one day to the next.
6. I feel very uncomfortable when my partner has to make decisions that will affect me personally.
7. I have found that my partner is unusually dependable, especially when it comes to things which are important to me.
8. My partner behaves in a very consistent manner.

9. Whenever we have to make an important decision in a situation we have never encountered before, I know my partner will be concerned about my welfare.
10. Even if I have no reason to expect my partner to share things with me, I feel certain that he/she will.
11. I can rely on my partner to react in a positive way when I expose my weaknesses to him/her.
12. When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything.
13. I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.
14. I sometimes avoid my partner because he/she is unpredictable and I fear saying or doing something which might create conflict.
15. I can rely on my partner to keep the promises he/she makes.
16. When I am with my partner I feel secure in facing unknown new situations.
17. Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.

APPENDIX I

Relational quality change measure (Afifi & Metts, 1998)

Directions: Participants were instructed, "based on your thoughts, feelings, and emotions immediately following having received a memorable weight management message, please rate the extent to which this event impacted the specified element of relational quality." Participants were asked to respond to each statement on a 7-point scale where 1 = the message significantly decreased quality and 7 = the message significantly improved quality.

1. Closeness.
2. Amount of time spent together.
3. Happiness.
4. Attraction.
5. Trust.
6. Commitment.
7. Intimacy.

APPENDIX J

Weight management commitment (Hollenbeck, Williams, & Klein, 1989)

Directions: Participants were asked to respond to each statement on a 5-point scale where 1 = strongly disagree and 5 = strongly agree.

1. It's hard to take this goal seriously.
2. Quite frankly, I don't care if I achieve this goal or not.
3. I am strongly committed to pursuing this goal.
4. It wouldn't take much to make me abandon this goal.
5. I think this is a good goal to shoot for.

APPENDIX K

Diet self efficacy measure (Clark, Abrams, Niaura, Eaton, & Rossi, 1991)

Directions: Participants were asked to respond to each statement on a 7-point scale where 1 = not confident and 7 = very confident.

1. I can resist eating when I am anxious (nervous).
2. I can control my eating on the weekends.
3. I can resist eating even when I have to say "no" to others.
4. I can resist eating when I feel physically run down.
5. I can resist eating when I am watching TV.
6. I can resist eating when I am depressed (or down).
7. I can resist eating when there are many different kinds of food available.
8. I can resist eating even when it is impolite to refuse a second helping.
9. I can resist eating even when I have a headache.
10. I can resist eating when I am reading.
11. I can resist eating when I am angry (or irritable).
12. I can resist eating even when I am at a party.
13. I can resist eating even when others are pressuring me to eat.
14. I can resist eating even when I am in pain.
15. I can resist eating just before going to bed.

16. I can resist eating when I have experienced failure.

17. I can resist eating even when high calorie foods are available.

18. I can resist eating even when I think others will be upset if I don't eat.

19. I can resist eating when I feel uncomfortable.

20. I can resist eating when I am happy.

APPENDIX L

Exercise self efficacy measure (Garcia & King, 1991)

Directions: Participants were asked to respond to each statement on a 10-point scale where 0% = I cannot do it at all and 100% = certain that I can do it.

1. I could exercise when tired.
2. I could exercise during or following a personal crisis
3. I could exercise when feeling depressed.
4. I could exercise when feeling anxious.
5. I could exercise during bad weather.
6. I could exercise when slightly sore from the last time I exercised.
7. I could exercise when on vacation.
8. I could exercise when there are competing interests (like my favorite TV show).
9. I could exercise when I have a lot of work to do.
10. I could exercise when I haven't reached my exercise goals.
11. I could exercise when I don't receive support from my family and friends.
12. I could exercise when I have not exercised for a prolonged period of time.
13. I could exercise when I have no one to exercise with.

14. I could exercise when my schedule is hectic.

15. I could exercise when my exercise workout is not enjoyable.

APPENDIX M

IRB consent form

IRB APPROVED ON: 11/25/2008 EXPIRES ON: 11/24/2009

IRB: 2008-11-0033

You are invited to participate in a survey, entitled "Social support and weight management". The study is being conducted by:

Rene Dailey, Ph.D., Department of Communication Studies, of The University of Texas at Austin, 1 University Station A1105 Austin, TX 78712-0115, 512-471-4867 (office), e-mail rdailey@mail.utexas.edu

Andrea Richards, M.A., Department of Communication Studies, of The University of Texas at Austin, 1 University Station A1105 Austin, TX 78712-0115, 512- 471-1602 (office), arichards@mail.utexas.edu

The purpose of this study is to examine romantic partner communication about weight management. Your participation in the survey will contribute to a better understanding of social support in romantic relationships. We estimate that it will take about 45 minutes of your time to complete the questionnaire. You are free to contact the investigator at the above address and phone number to discuss the survey.

Risks to participants are considered minimal. There will be no costs for participating, nor will you benefit from participating. Identification numbers associated with email addresses will be kept during the data collection phase for tracking purposes only. A limited number of research team members will have access to the data during data collection. This information will be stripped from the final dataset.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study or have any questions, contact the investigator listed above.

If you have any questions or would like us to email another person for your institution or update your email address, please call Andrea Richards at 512-471-1602 or send an email to arichards@mail.utexas.edu You may also request a hard copy of the survey from the contact information above.

To complete the survey, click on the link below:

[HTTP://LINK TO SURVEY URL]

The password for the survey is [PASSWORD].

This study has been reviewed and approved by The University of Texas at Austin Institutional Review Board. If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study,

you may contact - anonymously, if you wish - the Institutional Review Board by phone at (512) 471-8871 or email at orsc@uts.cc.utexas.edu.

IRB Approval Number: **2008-11-0033**

Your participation in this study indicates your consent to take part in this study.

If you agree to participate please press the arrow button at the bottom right of the screen otherwise use the X at the upper right corner to close this window and disconnect.

Thank you.

References

Adams, J., & White, M. (2005). Why don't stage-based activity promotion interventions work? *Health Education Research, 20*, 237-243.

Afifi, W. A., Falato, W. L., & Weiner, J. L. (2001). Identity concerns following a severe relational transgression: The role of discovery method for the relational outcomes of infidelity. *Journal of Social and Personal Relationships, 18*, 291-308.

Afifi, W. A., & Faulkner, S. L. (2000). On being 'just friends': The frequency and impact of sexual activity in crosssex friendships. *Journal of Social and Personal Relationships, 17*, 205-222.

Afifi, W. A., & Metts, S. (1998). Characteristics and consequences of expectation violations in close relationships. *Journal of Social and Personal Relationships, 15*, 365-392.

Albrecht, T. L., & Goldsmith, D. J. (2003). Social support, social networks, and health. In T. L. Thompson, A. M. Dorsey, K. I. Miller, & Parrott, R. (Eds.), *Handbook of health communication* (pp. 263-284). Mahwah, NJ: Lawrence Erlbaum.

Bandura, A. (1977). *Self-efficacy: The exercise of control.* New York: W. H. Freeman and Company.

Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. *American Journal of Epidemiology, 109*, 186-204.

Biddle, S. J. & Fox, K. R. (1998). Motivation for physical activity and weight management. *International Journal of Obesity Related Metabolism Disorder, 22*, 39-47.

Black, D. R., Gleser, L .J., & Kooyers, K. J. (1990). A meta-analytic evaluation of couples weight-loss programs. *Health Psychology, 9*, 330-347.

Black, D. R., & Lantz, C. E. (1984). Spouse involvement and a possible long-term follow-up trap in weight loss. *Behavioral Research Therapy, 22*, 557–562.

Bloomston, M., Zervos, E. E., Camps, M. A., Goode, S. E., & Rosemury, A. S. (1997). Outcomes following bariatric surgery in super versus morbidly obese patients: Does weight matter? *Obesity Surgery, 7*, 414-419.

Boyes, A., Fletcher, G., & Latner, J. (2007). Male and female body image and dieting in the context of intimate relationships. *Journal of Family Psychology*, *21*, 764-768.

Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin, 107*, 3-33.

Bradbury, T. N., & Fincham, F. D. (1992). Attributions and behavior in marital interaction. *Journal of Personal and Social Psychology, 63*, 613-628.

Braithwaite, D. O., Waldron, V. R., & Finn, J. (1999). Communication of social support in computer-mediated groups for people with disabilities. *Health Communication, 11*, 123-151.

Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage.* Cambridge: Cambridge University Press.

Brownell, K. D., Puhl, R. M., Schwartz, M. B., & Rudd, L. (Eds.). (2005). *Weight bias: Nature, consequences, and remedies.* New York: Guilford Press.

Burgess, E. W. (1926). The family as unity of interacting personalities. *The Family, 7*, 3-9.

Burhans, D. T. Jr. (1974). Methodological strategies in a field experiment: The effects of message type and locus of control on subsequent behavior of participants in a behavior modification weight-control program. (Abstract) *Dissertation Abstracts International, 34*, 456A-457A.

Burleson, B. R., Albrecht, T. L., Goldsmith, D. J., & Sarason, I. G. (1994). The communication of social support. In B. R. Burleson, T. L. Albrecht, & I. G. Sarason (Eds.), *Communication of social support: Messages,*

interactions, relationships, and community (pp. xi-xxx). Thousand Oaks, CA: Sage.

Burleson, B. R., & MacGeorge, E. L. (2002). Supportive communication. In M. L. Knapp & J. A. Daly (Eds.). *Handbook of Interpersonal Communication* (pp. 374-424). Thousand Oaks, CA: Sage.

Burleson, B. B., & Planalp, S. (2000). Producing emotion(al) messages. *Communication theory, 10,* 221-250.

Cachelin, F. M., & Maher, B. A. (1998). Is amenorrhea a critical criterion of anorexia nervosa? *Journal of Psychomatic Research, 44*, 435-440.

Carbonari, J. P., & DiClemente, C. C. (2000). Using transtheoretical model profiles to differentiate levels of alcohol abstinence success. *Journal of Consulting and Clinical Psychology, 68*, 810-817.

Carr, D., & Friedman, M. A. (2006). Body weight and the quality of interpersonal relationships. *Social Psychology Quarterly, 69*, 127-149.

Callister, L. C. (1995). Cultural meanings of childbirth. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 24*, 327-334.

Clark, M. M., Abrams, D. B., Niaura, R. S., Eaton, C. A., & Rossi, J. S. (1991). Self-efficacy in weight management. *Journal of Consulting and Clinical Psychology, 59*, 739-744.

Cohen, S., & Lichenstein, E. (1990). Partner behaviors that support quitting. *Journal of Consulting and Clinical Psychology, 58*, 304-309.

Cohen, S. & McKay, G. (1984). Social support, stress and the buffering hypothesis: A theoretical analysis. In A. Baum, S. E. Taylor, & J. E. Singer (Eds.), *Handbook of Psychology and Health* (pp. 253-267). Hillsdale, NJ: Erlbaum.

Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. (1984). Measuring the functional components of social support. In I. G. Sarason & B. R. Sarason (Eds.), *Social support: theory, research, and applications* (pp. 73-94). The Hague, Holland: Martinus Niijhoff.

Cohen, S., & Syme, S. L. (1985). Issues in the study and application of social in support. In S. Cohen and S. L. Syme (Eds.), *Social support and health* (pp. 3-22). Orlando, FL: Academic Press.

Cohen, S., & Willis, T. A. (1985). Stress, social support, and the Buffering Hypothesis. *Psychological Bulletin, 98*, 310-357.

Connell, C. M., & D. Augelli, A. R. (1990). The contribution of personal characteristics to the relationship between social support and physical health. *Health Psychology, 9*, 192-207.

Consumer reports (2005). Consumer reports rates the diets for nutrition and effectiveness. Retrieved Oct. 31, 2008 from Consumer reports website:

http://www.consumerreports.org/cro/cu-press-room/pressroom/archive/2005/06/eng0506die.htm?resultPageIndex=1&resultIndex=1&searchTerm=Consumer%20reports,%202005,%20weight%20watchers

Crocker, J., & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review, 96*, 608-630.

Cummings, M. S., Parham, E. S., & Strain, G. W. (2002). Position of the American Dietetic: Association weight management. *Journal of the American Dietetic Association, 102*, 1145-1155.

Cutrona, C. E. (1990). Stress and social support: In search of optimal matching. *Journal of Social and Clinical Psychology, 9*, 3-14.

Cutrona, C. E., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse supportive behaviors. *Communication Research, 19*, 154-174.

Dailey, R. M., Richards, A. A., & Romo, L. (May, 2009). *Communication with significant others about weight management: The role of confirmation in weight management attitudes and behaviors.* Paper to be presented at the International Communication Association Conference. Chicago, IL.

Dakof, G. A., & Taylor, S. E. (1990). Victims' perceptions of social support: What is helpful from whom? *Journal of Personal and Social Psychology, 58*, 80-89.

DeBro, S. C., Campbell, S. M., & Peplau, L. A. (1994). Influencing a partner to use a condom: A college student perspective. *Psychology of Women Quarterly, 18*, 165-182.

DeFrancisco, V. L., & Chatham-Carpenter, A. (2000). Self in community: African American women's views of self-esteem. *The Howard Journal of Communication, 11*, 73-92.

Dennis, M. R. (2006). Compliance and intimacy: Young adults' attempts to motivate health-promoting behaviors by romantic partners. *Health Communication, 19*, 259-267.

Doherty, W. J., Schrott, H. G., Metcalf, L., & Iasiello-Vailas, L. (1983). Effect of spouse support and health beliefs on medication adherence. *Journal of Family Practice, 17*, 837-841.

Dubbert, P. M., & Wilson, G. T. (1984). Goal-setting and spouse involvement in the treatment of obesity. *Behavioral Research Therapy, 22*, 227-242.

Duck, S. (2002). Hypertext in the key of G: Three types of 'history' as influences on conversational structure and flow. *Communication Theory, 12*, 41-63.

Durkheim, E. (1951). *Suicide.* (J. A. Spaulding & G. Simpson, Trans.). New York: The Free Press. (Original work published 1897).

Emmons, K. M., Butterfield, R. M., Puleo, E., Park, E. R., Mertens, A., Gritz, E. R., Lahti, M., & Frederick, P. L. (2003). Smoking among participants in the childhood cancer survivors cohort: The partnership for health study. *Journal of Clinical Oncology, 21*, 189-196.

Emmons, M., & Rollnick, S. (2001). Motivational interviewing in health care settings: Opportunities and limitations. *American Journal of Preventative Medicine, 20*, 68-74.

Erickson, S. J., & Gerstle, M. (2007). Developmental considerations in measuring children's disordered eating attitudes and behaviors. *Eating Behaviors, 8*, 224-235.

Evans, L., & Stukas, A. A. (2007). Self-verification by women and responses of their partners around issues of appearance and weight: 'Do I look fat in this?' *Journal of Social & Clinical Psychology, 26*(10), 1163-1188.

Feng, J., Lazar, J., & Preece, J. (2004). Empathy and online interpersonal trust: A fragile relationship. *Behavior & Information Technology, 23*, 97-106.

Ford, L. A., & Ellis, B. H. (1998). A preliminary analysis of memorable support and nonsupport messages received by nurses in acute care settings. *Health Communication, 10*, 37-63.

Franks, M. M., Wendorf, C. A., Gonzalez, R., & Ketterer, M. (2004). Aid and influence: Health-promoting exchanges of older married partners. *Journal of Social and Personal Relationships, 21*, 431-445.

Garcia, A. W., & King, A. C. (1991). Predicting long-term adherence to aerobic exercise: A comparison of two models. *Journal of Sport and Exercise Psychology, 13*, 394-410.

Goldsmith, D. J. (1992). Managing conflicting goals in supportive interaction: An integrative theoretical framework. *Communication Research, 19*, 264-286.

Goldsmith, D. J. (1994). The role of face work in supportive communication. In B. R, Burleson, T. L. Albrecht, & I. G. Sarason (Eds.), *Communication of social support: Messages, interactions, relationships, and community* (pp. 29-49). Newbury Par, CA: Sage.

Goldsmith, D. J., & Fitch, K. (1997). The normative context of advice as social support. *Human Communication Research, 23*, 454-476.

Goldsmith, D. J., Lindholm, K. A., & Bute, J. J. (2006). Dilemmas of talking about lifestyle changes among couples coping with a cardiac event. *Social Science & Medicine, 63*, 2079-2090.

Goldsmith, D. J., & MacGeorge, E. L. (2000). The impact of politeness and relationship on perceived quality of advice about a problem. *Human Communication Research, 26*, 234-263.

Goodman, E., Hinden, B. R., & Khandelwal, S. (2000). Accuracy of teen and parental reports of obesity and body mass index. *Pediatrics, 106*, 52-58.

Gortmaker, S. L., Must, A., Perrin, J. M. Sobal, A. M., & Dietz, W. H. (1993). Social and economic consequences of overweight in adolescence and young adulthood. *New England Journal of Medicine, 329*, 1008-1012.

Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family, 60*, 5-22.

Gottman, J., Markman, H., & Notarius, C. (1977). The topography of marital conflict: A sequential analysis of verbal and nonverbal behavior. *Journal of Marriage and the Family, 39*, 461-477.

Gottman, J., Notarius, C., Markman, H., Banks, S., Yoppi, B., & Rubin, M. E. (1976). Behavior exchange theory and marital decision making. *Journal of Personal and Social Psychology, 34*, 14-23.

Grimley, D. M., Prochaska, G. E., & Prochaska, J. O. (1993). Condom use assertiveness and the stages of change with main and other partners 1. *Journal of Applied Behavioral Research, 1*, 152-173.

Hansenne, M., Reggers, J., Pinto, E., Kjiri, K., Ajamier, A., & Ansseau, M. (1999). Temperament and character inventory (TCI) and depression. *Journal of Psychiatric Research, 33*, 31-36.

Hartford, W. K., Kelly, A., & Markman, H. J. (1997). The concept of a healthy marriage. In W. K. Halford & H. J. Markamn (Eds.), *Clinical handbook of marriage* (pp. 3-12). New York: Wiley.

Hedley, A. A., Ogden, C. L., Johnson, C. L., Carroll, M. D., Curtin, L. R., & Flegal, K. M. (2004). Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2000. *The Journal of the American Medical Association, 291*, 2847-2850.

Helgeson, V. S. (1993). Two important distinctions in social support: Kind of support and perceived versus received. *Journal of Applied Social Psychology, 23*, 825-845.

Heller, K., Swindle, R.W., & Dusenbury, L. (1986). Component social support processes: Comments and integration. *Journal of Consulting and Clinical Psychology, 54*, 466-470.

Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal*

of Marriage and the Family, 50, 93-98.

Holladay, S. J. (2002). "Have fun while you can," "You're only as old as you feel," and "Don't ever get old!": An examination of memorable messages about aging. *Journal of Communication, 52*, 681-697.

Hollenbeck, J. R., Williams, C. L., & Klein, H. J. (1989). An empirical examination of the antecedents of commitment to difficult goals. *Journal of Applied Psychology, 74,* 18–23.

Holt, C. L., Clark, E. M., & Kreuter, M. W. (2001). Weight locus of control and weight-related attitudes and behaviors in an overweight population. *Addictive Behaviors, 26*, 329-340.

Holt, C. L., Clark, E. M., & Kreuter, M. W., & Scharff, D. P. (2000). Does locus of control moderate the effects of tailored health education materials? *Health Education Research, 15*, 393-403.

House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology, 14*, 293-318.

Hudson, J. I., Hiripi, E., Pope Jr., H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry, 61*, 348-358.

Isreal, A. C., & Saccone, A. J. (1979). Follow-up effects of choice of mediator and target of reinforcement on weight loss. *Behavioral Therapy, 10*, 260-265.

Jenny Craig. (2008). Support makes all the difference. Retrieved Dec. 8, 2008 from Jenny Craig website: http://www.jennycraig.com/programs/consultations

Johnson, S. M., Makinen, J. A., & Millikin, J. W. (2001). Attachment injuries in couple relationships: A new perspective on impasses in couples therapy. *Journal of Marital and Family Therapy, 27*, 145-155.

Johnson, S. M., & Sims, S. (2000). Attachment theory: A map for couples therapy. In T. M. Levy (Ed.), *Handbook of attachment interventions* (pp. 167-191). San Diego, CA: Academic Press.

Kahn, H. S., Williamson, D. F., & Stevens, J. A. (1991). Race and weight change in U.S. women: The roles of socioeconomic and marital status. *American Journal of Public Health, 81*, 318-323.

Kayman, S., Bruvold, W., & Stern, W. S. (1990). Maintenance and relapse after weight loss in women: Behavioral aspects. *American Journal of Clinical Nutrition, 52*, 800-807.

Kitamura, T., Kijima, N., Watanabe, K., Takezaki, Y., & Tanaka, E. (1999). Precedents of perceived social support: Personal and early life experiences. *Psychiatry and Clinical Neurosciences, 53*, 649-654.

Knapp, M. L., Stohl, C., & Reardon, K. K. (1981). "Memorable" messages. *Journal of Communication, 31*, 27-41.

Koplan, J. P., & Dietz, W. H. (1999). Caloric imbalance and public health policy. *The Journal of the American Medical Association, 282,* 1579-1581.

Kreipe, R. E., & Harris, J. P. (1992). Myocardial impairment resulting from eating disorders. *Pediatric Annals, 21*, 760-768.

Kruglanski, A.W., Freund, T., & Bar-tal, D. (1996). Motivational effects in the mere-exposure paradigm. *European Journal of Social Psychology, 26*, 479-499.

Lackner, J. B., Joseph, J. G., Ostrow, D. G. Kessler, R. C., Eshleman, S., Wortman, C. B., O'Brien, K., Phair, J. P., & Chmiel. (1993). A longitudinal study of psychological distress in a cohort of gay men: Effects of social support and coping strategies. *Journal of Nervous and Mental Disease, 181*, 4-12.

Larkey, L. K., Alatorre, C., Buller, D. B., Morrill, C. Buller, M. K., Taren, D., & Sennott-Miller, L. (1990). Communication strategies for dietary

change in peer educator intervention. *Health Education Research, 14*, 777-790.

Lakey, B., & Cohen, S. (2000). Social support theory and measurement. In S. Cohen, L. G. Underwood, & B. H. Gottlieb, (Eds.), *Social Support Measurement and intervention* (pp. 29-52). New York: Oxford University Press.

Lakey, B., & Lutz, C. J. (1996). Social support and preventative and therapeutic interventions. In R. Gregory & R. Sarason (Eds.). *Handbook of social support and the family.* (pp. 435-465). New York: Plenum.

Lakey, B., McCabe, K. M., Fisicaro, S. A., & Drew, J. B. (1996). Environmental and personal determinants of support perceptions: Three generalizability studies. *Journal of Personal and Social Psychology, 70*, 1270-1280.

Lefcourt, H. M., & Wine, J. (1969). Internal versus external control of reinforcement and the deployment of attention in experimental situations. *Canadian Journal of Behavioral Science, 1*, 167-181.

Lehman, D. R., Ellard, J. H., & Wortman, C. B. (1986). Social support for the bereaved: Recipients' and providers' perceptions on what is helpful. *Journal of Consulting and Clinical Psychology, 54*, 438-446.

Lehman, D. R., & K. J. Hemphill. (1990). Recipients' perceptions of support attempts and attributions for support attempts that fail. *Journal of Social and Personal Relationships, 7*, 563-574.

Levine, R. L. (2002). Endocrine aspects of eating disorders in adolescents. *Adolescent Medicine, 13*, 129-143.

Lewicki, R. J., & Bunker, B. B. (1996). Developing and maintaining trust in work relationships. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 114-139). Thousand Oaks, CA: Sage.

Lewis, M. A., & Butterfield, R. M. (2005). Antecedents and reactions to health-related social control. *Personal and Social Psychology Bulletin, 31*, 416-427.

Lewis, M. A., & Rook, K. S. (1999). Social control in personal relationships: Impact on health behaviors and psychological distress. *Health Psychology, 18*, 63-71.

Lowe, M. R., Kral, T. V. E., & Miller-Kovach, K. (2008). Weight-loss Maintenance 1, 2, and 5 years after successful completion of a weight loss programme. *British Journal of Nutrition, 99*, 925-930.

Lynn-McHale, D. J., & Deatrick, J. A. (2000). Trust between family and health care provider. *Journal of Family Nursing, 6*, 210-230.

Malhorta, D. & Murnighan, J. K. (2002). The effects of contracts on interpersonal trust. *Administrative Science Quarterly, 47*, 534-559.

Matteson, P., & Hawkins, J. W. (1990). Concept analysis of decision making. *Nursing Forum, 25*, 4-10.

Marcus, B. H., Banspach, S. W., Lefebvre, R. C., Rossi, J. S., Carletin, R. A., & Abrams, D. B. (1992). Using the stages of change model to increase the adoption of physical activity among community participants. *American Journal of Health Promotion, 6*, 424-429.

Marcus, B. H., Emmons, K. M., Simkin-Silverman, L. R., Linnan, L. A., Bock, B. C., Roberts, M. B., Rossi, J. S., & Abrams, D. B. (1998). Evaluation of motivationally tailored vs. standard self-help physical activity interventions at the workplace. *American Journal of Health Promotion, 12*, 246-253.

Marcus, B. H., Goldstein, M. G., Jette, A., Simkin-Silverman, R. R., Pinto, B. M., Milan, F. (1997). Training physicians to conduct physical activity counseling. *Preventive Medicine, 26*, 382-388.

Marcus, B. H., & Simkin, L. R. (1994). The transtheoretical model: Applications to exercise behavior. *Medicine & Sciences in Sports & Exercise, 26*, 1400-1404.

Markey, C. N., Gomel, J. N., & Markey, P. M. (2008). Romantic relationships and eating regulation: An investigation of partners' attempts to control each others' eating behaviors. *Journal of Health Psychology, 13*, 422-432.

Marshall, S., & Biddle, S. J. H. (2001). The transtheoretical model of behavior change: A meta-analysis of application to physical activity and exercise. *Annals of Behavioral Medicine, 23*, 229-246.

Martin, M. M., Anderson, C. M., Burant, P. A., & Weber, K. (1997). Verbal aggression in sibling relationships. *Communication Quarterly, 45*, 304-317.

May, S., & West, R. (2000). Do social support interventions ("buddy systems") aid smoking cessation? A review. *Tobacco control, 9*, 415-422.

McConnaughy, E. A., Prochaska, J. O., & Velicer, W. F. (1983). Stages of change in psychotherapy: Measurement and sample profiles. *Psychotherapy: Theory, Research, and Practice, 20*, 368-375.

Medical weight loss clinic. (2008). Frequently asked questions. Retrieved Dec. 8, 2008 from: http://www.mwlc.com/faq.html#02

Meize-Grochowski, R. (1984). An analysis of the concept of trust. *Journal of Advanced Nursing, 9*, 563-572.

Mendelson, B. K., & White, D. R. (1982). Relation between body self-esteem and self-esteem of obese and normal children. *Perceptual and Motor Skills, 54,* 899-905.

Miller, G. R., & Boster, F. (1988). Persuasion in personal relationships. In S. Duck (Ed.). *Handbook of personal relationships: Theory, research and interventions* (pp. 275-288). Chichester: Wiley.

Mokdad, A. H., Marks, J. S. Stroup, D. F., & Gerberding, J. L. (2004). Actual causes of death in the United States, 2000. *The Journal of the American Medical Association, 291*, 1238-1245.

Mokdad, A. H., Serdula, M. K., Dietz, W. H., Bowman, B. A., Marks, J. S., & Kaplan, J. P. (1999). The spread of the obesity epidemic in the United States, 1991-1998. *The Journal of the American Medical Association, 282*, 1519-1522.

Morgan, M., & Hummert, M. L. (2000). Perceptions of communicative control strategies in mother-daughter dyads across the life span. *Journal of Communication, 50*, 48-64.

Murphy, J. K. (1982). The long-term effects of spouse involvement upon weight loss and Maintenance. *Behavioral Therapy, 13*, 681-693.

National Heart, Lung, and Blood Institute (1998). *Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in*

adults. National Institutes of Health Publication 98-4083. Bethesda, MD: National Institutes of Health. http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=obesity.

Neumark-Szainter, D., & Haines, J. (2004). Psychosocial and behavioral consequences of obesity. In J. K. Thompson (Ed.). *Handbook of eating disorders and obesity* (pp. 349-371). Hoboken, NJ: Wiley.

Nunn, R. G., Newton, K. S., & Facher, P. (1992). 25 years follow-up of weight and body mass index values in the Weight Control for Life! Program: A descriptive analysis. *Addictive Behavior, 17*, 579-585.

Okun, M. A., Huff, B. P., August, K. J., & Rook, K. S. (2007). Testing hypotheses distilled from four models of the effects of health-related social control. *Basic and Applied Social Psychology, 29*, 185-193.

Olson, L. N. (2004). Relational control-motivated aggression: A theoretically-based typology of intimate violence. *The Journal of Family Communication, 4*, 209-233.

O'Mahen, H. A., Beach, S. R. H., & Banawan, S. F. (2001). Depression in marriage. In J. Harvey & A.Wenzel, (Eds.). *Close relationships: Maintenance and enhancement* (pp. 291-321). Lawrence Erlbaum: Mahwah, NJ.

O'Reilly, C. A. (1978). The intentional distortion of information in organizational communication: A laboratory and filed investigation. *Human Relations, 31*, 179-193.

O'Reilley, C. A., & Roberts, K. H. (1974). Information filtration in organizations: Three experiments. *Organizational Behavior and Human Decision Processes, 11*, 253-265.

Pantalon, M. V., & Swanson, A. J. (2003). Use of the University of Rhode Island Change Assessment to measure motivational readiness to change in psychiatric and dually diagnosed individuals. *Psychology of Addictive Behaviors, 17*, 91-97.

Parham, E. S. (1993). Enhancing social support in weight loss management groups. *Journal of the American Dietetic Association, 93*, 1152-1156.

Park, E. R., DePue, J. D., Goldstein, M. G. Niaura, R., Harlow, L. L., Wiley, C., Rakowski, W., & Prokhorov, A. (2003). Assessing the transtheoretical model of change constructs for physicians counseling smokers. *Annals of Behavioral Medicine, 25*, 12-126.

Pearlin, L. (1985). Social structure and processes of support. In S. Cohen, & S. Syme (Eds.), *Social support and health* (pp. 43-60), Orlando, FL: Academic Press.

Perri, M. G., Sears, S. F. Jr., & Clark, J. E. (1993). Strategies for improving Maintenance of weight loss: Toward a continuous care model of obesity management. *Diabetes Care, 16*, 200-209.

Peters, J. C., Wyatt, H. R., Donahoo, W. T., & Hill, J. O. (2002). From instinct to intellect: The challenge of maintaining healthy weight in the modern world. *Obesity Reviews, 3*, 69-74.

Phillips, K. A., & Diaz, S. F. (1997). Gender differences in body dysmorphic disorder. *The Journal of Nervous and Mental Disease, 185*, 570-577.

Pistrang, N., & Barker, C. (1995). The partner relationship in psychological response to breast cancer. *Social Science & Medicine, 40*, 789-797.

Pomeroy, C. (2004). Assessment of medical status and physical factors. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity.* Hokoken, NJ: John Wiley & Sons.

Prochaska, J. O., & DiClemente, C. C. (1984). *The transtheoretical approach: Crossing the traditional boundaries of therapy*. Homewood, Il: Irwin.

Prochaska, J. O., & DiClemente, C. C. (1985). Common processes of change in smoking, weight control, and psychological distress. In S. Shiffman, & T. Wills (Eds.), *Coping and substance abuse* (pp. 345-363). San Diego, CA: Academic Press.

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change. *American Psychologist, 47*, 1102-1114.

Prochaska, J. O., Norcross, J. C., Fowler, J. L., Follick, M. J., & Abrams, D. B. (1992). Attendance and outcome in a work site weight control program: Processes and stages of change as process and predictor variables. *Addictive Behavior, 17*, 35-45.

Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personal and Social Psychology, 49*, 95-112.

Renner, B. (2004). Biased reasoning: Adaptive responses to health risk feedback. *Personal and Social Psychology Bulletin, 30*, 384-396.

Revenson, T. A. (1990). All other things are not equal: An ecological approach to personal and disease. In H. S. Friedman (Ed.), *Personal and disease* (pp. 65-94). New York: John Wiley & Sons.

Rhodes, G., & Lakey, B. (1999). Social support and psychological disorder: Insights from social psychology. In. R. Kowalski (Ed.), *The social psychology of emotional and behavioral problems: Interfaces of social and clinical psychology* (pp. 281-309). Washington DC: American Psychological Association.

Rieder, S., & Ruderman, A. (2007). The development and validation of the Weight Management Support Inventory. *Eating Behaviors, 8*(1), 39-47.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, N.J.: Princeton University Press.

Rook, K. S. (1990). Social networks as a source of social control in older adults' lives. In H. Giles, N. Coupland, & J. Wiemann, (Eds.). *Communication, health, and the elderly* (pp. 45-63). Manchester, England: University of Manchester Press.

Ruelman, L. S., & Karoly, P. (1991). With a little flak from my friends: Development and preliminary validation of the Test of Negative Social Exchange (TENSE). *Psychological Assessment, 3*, 97-104.

Ryan, R. M., & Solky, J. A. (1996). What is supportive about social support? On the psychological needs for autonomy and relatedness. In G. Pierce, B. R. Sarason, & I. G. Sarason, (Eds.), *The handbook of social support and family relationships* (pp. 249-267). New York: Plenum Press.

Saltzer, E. B. (1978). Locus of control and the intention to lose weight. *Health Education Monographs, 6*, 118-128.

Saltzer, E. B. (1982). The weight locus of control (WLOC) scale: A specific measure for obesity research. *Journal of Personal Assessment, 46*, 620-628.

Sarason, I. G., Levine, J. H., Basham, R. B., & Sarason, B. (1983). Assessing social support: The social support questionnaire. *Journal of Personal and Social Psychology, 44*, 127-139.

Sarason, B. R., Pierce, G. R., Shearin, E. N., Sarason, I. G., Waltz, J. A., & Poppe, L. (1991). Perceived social support and working models of self and actual others. *Journal of Personal and Social Psychology, 60*, 273-287.

Sarwer, D. B. Foster, G. D., & Wadden, G. D. (2004). Treatment of obesity. I. Adult obesity. In J. K. Thompson (Ed.). *Handbook of eating disorders and obesity* (pp. 421-442). Hoboken, NJ: Wiley.

Sheets, V., & Ajmere, K. (2005). Are romantic partners a source of college students' weight concern? *Eating behaviors, 6*, 1-9.

Sherman, S. J. (1973). Internal-external control and its relationship to attitude change under different social influence techniques. *Journal of Personal and Social Psychology, 26*, 23-29.

Shumaker, S. A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Issues, 40,* 11-36.

Stohl, C. (1986). The role of memorable messages in the process of organizational socialization. *Communication Quarterly, 34*, 231-249.

Stotland, S., & Zuroff, D. C. (1990). A new measure of weight locus of control: The dieting beliefs scale. *Journal of Personal Assessment, 54*, 191-203.

Stuart, R. B., & Jacobson, B. (1987). *Weight, sex, and marriage: A delicate balance.* Ontario: Penguin Books.

Stuart, R. B., & Mitchell, C. (1980). *Self-help groups in the control of body weight*. In A. J. Stunkard (Ed.), *Obesity* (pp. 345-354). Philadelphia: W. B. Sanders.

Sturm, R., & Wells, K. B. (2001). Does obesity contribute as much to morbidity as poverty or smoking? *Public Health, 115*, 229-235.

Swann, W. B., Jr. (1987). Identity negotiation: Where two roads meet. *Journal of Personal and Social Psychology, 53,* 1038-1051.

Swann, W. B., Jr., Pelham, B. W., & Krull, D. S. (1989). Agreeable fancy or disagreeable truth? How people reconcile their self-enhancement and self-verification needs. *Journal of Personal and Social Psychology, 57*, 782-791.

Swann, W. B., Jr., Rentfrow, P. J., & Guinn, J. (2002). Self-verification: The search for coherence. In M. Leary & J. Tagney (Eds.), *Handbook of self and identity* (pp. 367-383). New York: Guilford.

Swann, W. B., Jr., Wenzlaff, R. M., Krull, D. S., & Pelham, B. W. (1992). The allure of negative feedback: Self-verification strivings among depressed persons. *Journal of Abnormal Psychology, 101,* 293-306.

Swickert, R. J., Rosentreter, C. J., Hittner, J. B., & Mushrush, J. E. (2002). Extraversion, social support processes, and stress. *Personal and Individual Differences, 32*, 877-891.

Teixeira, P. J., Going, S. B., Sardinha, L. B., & Lohman, T. G. (2005). A review of psychological pre-treatment predictors of weight control. *Obesity Reviews, 6*, 43-65.

Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior, Extra Issue*, 53-79.

Thom, D. H., Hall, M. A., & Pawlson, L. G. (2004). Measuring patients' trust in physicians when assessing quality of care. *Health Affairs, 23*, 124-132.

Trojan, L., & Yonge, O. (1993). Developing trusting, caring relationships: Home care nurses and elderly clients. *Journal of Advanced Nursing, 18*, 1903-1910.

Tucker, J. S., & Mueller, J. S. (2000). Spouses' social control of health behaviors: Use and effectiveness of specific strategies. *Personal and Social Psychology Bulletin, 26*, 1120-1130.

Umberson, D. (1987). Family status and health behaviors: Social control as a dimension of social integration. *Journal of Health and Social Behavior, 28*, 306-319.

Umberson, D. (1992). Gender, marital status, and the social control of health behavior, *Social Science and Medicine, 34*, 907-917.

Undefined. (1998). Global Strategy on Diet, Physical Activity and Health. In World Health Organization. Retrieved August 27, 2008, from http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/.

U.S. Department of Agriculture. (2004, February 19). Transcript of Agriculture Secretary Ann M. Veneman's keynote address: "Ensuring a healthy food supply" (USDA Press Release No. 0078.04). Retrieved Oct. 31, 2008, http://www.fns.usda.gov/cga/PressReleases/2004/PR-0078.htm

Vangelisti, A. L. (2001). Making sense of hurtful interactions in close relationships: When hurt feelings create distance. In V. Manusov and J.H. Harvey (Eds.), *Attribution, communication and close relationships* (pp. 38-58). New York: Cambridge University Press.

Vangelisti, A. L., & Crumley, L. P. (1998). Reactions to message that hurt:

The influence of relational context. *Communication Monographs, 65*, 173-196.

Vaughn, M. J., Matyastik, B., Margaret, E. (1999). Reliability and validity of the relationship assessment scale. *Journal of Family Therapy, 27,* 137-147.

Vinokur, A., Schul, Y., & Caplan, R. D. (1987). Determinants of perceived social support: Interpersonal transactions, personal outlook, and transient affective states. *Journal of Personal and Social Psychology, 53*, 1137-1145.

Wallace, J. L., & Vaux, A. (1993). Social support network orientation: The role of attachment style. *Journal of Social and Clinical Psychology, 12*, 354-365.

Waltz, M., Badura, B., Pfaff, H., & Schott, T. (1988). Marriage and the psychological consequences of a heart attack: A longitudinal study of adaptation to chronic illness after 3 years. *Social Science & Medicine, 27*, 149-158.

Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental Review, 3*, 79-97.

Watzlawick, P., Beavin, J. H., & Jackson, D. D. (1967). *Pragmatics of human communication: A study of interact ional patterns, pathologies and paradoxes.* New York: W. W. Norton.

Weight watchers research department. (2008). Social support and lasting weight loss. Retrieved on Oct. 31, 2008, from Weigh Watchers website: http://www.weightwatchers.com/util/art/index_art.aspx?art_id=20911&tabnum1&sc=804&subnav=Science+Library%3a+Achieving+a+Sustainable+Weight+Loss

Wheeless, L. R. (1976). Self-disclosure and interpersonal solidarity: Measurement, validation, and relationships. *Human Communication Research, 3*, 47-61.

Wheeless, L. R., & Grotz, J. (1977). The measurement of trust and its relationship to self-disclosure. *Human Communication Research, 3*, 250-257.

Wing, R. R., Marcus, M. D., Epstein, L.H., & Jaward, A. A. (1991). 'Family-based' approach to the treatment of obese type II diabetic patients. *Journal of Consulting Clinical Psychology, 59*, 156–162.

Wolf, A., & Colditz, G. (1998). Current estimates of the economic cost of obesity in the United States. *Obesity Research, 6*, 97-106.

Yopp Cohen, R. (1988). Mobilizing support for weight loss through work-site competitions. In B. H. Gottlieb (Ed.), *Marshalling social support: Formats, processes and effects.* Beverly Hills, CA: Sage.

Young, E. M., Fors, S. W., Fasha, E. D., & Hayes, D. M. (2004). Associations between perceived parent behaviors and middle school student fruit and vegetable consumption. *Journal of Nutrition Education, 36*, 2-12.

VITA

Andrea Ann Richards attended Michigan State University in East Lansing, Michigan. She received the degree of Bachelor of Arts from Michigan State University in May, 2004. From August 2004 through May 2006 she attended the University of Montana in Missoula, MT, where she received her Master of Arts degree in May of 2006. Following the receipt of her M.A. degree, she entered the Graduate School at The University of Texas at Austin in August of 2006.

Permanent Address: 301 Parkwest Ct., Apt. I-9, Lansing, MI 48912

This manuscript was typed by the author.