THE INFLUENCE OF RELATIONSHIP CLOSENESS
ON THE FEELING THAT LIFE IS MEANINGFUL

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by

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CHAPTER I

INTRODUCTION

From hour to hour, day to day, and week to week, what makes your life feel meaningful? Although there are many possible answers to this question, social relationships are an important source of meaning for many people throughout daily life. Indeed, a variety of sources from the theoretical literature have described the importance of social relationships to the feeling that life is meaningful. For example, Frankl (1963) argued one of the primary avenues for solving the existential dilemma of life’s meaning was by connecting with others. More recently, theorists such as Baumiester (1991) have concurred and outlined the many potential ways in which social relationships may contribute to the feeling that life is meaningful on a daily basis. Despite the clear theoretical importance of social relationships to meaning in life, empirical research examining the link between social relationships and meaning in life is limited in a few key ways. Existing studies examining social relationships and meaning in life have tended to examine only a) the general experience of social exclusion (e.g., Stillman, et al., 2009) or b) general perceptions about all of one’s social relations (e.g., Hicks, Schlegel & King, 2010). One potential aspect of social relationships which likely contributes to meaning in life is relationship closeness. Based on self-expansion theory (Aron & Aron, 1997), and Aron, Aron, Tudor, and Nelson’s (1991) conceptualization of relationship closeness as inclusion of other in the self, I argue relationship closeness serves to fulfill the fundamental human motive of self-expansion, and is therefore likely an important contributor to the feeling that life is meaningful. As such, the
current dissertation uses daily diary and experimental methods to examine whether feelings of relationship closeness contribute to the feeling that life is meaningful.

**The Definition and Measurement of Meaning in Life**

What is meaning in life (MIL)? Although most people are able to make an intuitive judgment about whether their life feels meaningful, a universally agreed-upon conceptual definition of MIL is noticeably absent from the psychological literature (Hicks & King, 2009a; McDonald, Wong & Gingras, 2012). While many researchers have provided slightly different definitions as to exactly what constitutes MIL (McDonald, et al., 2012), two general themes underlie most definitions of MIL (Hicks & King, 2009a): 1) a sense of purpose and 2) understanding. A sense of purpose refers to the feeling that one is engaged in worthwhile pursuits and that life has direction (Ryff & Keyes, 1995). In addition to purpose, MIL also refers to the feeling that life is coherent or understandable (Baumeister, 1991; Baumeister & Vohs, 2002). From this perspective, MIL involves being able to make connections between the events and experiences in life, as well as being able to understand one’s place in the grand scheme of things (Antonovsky, 1988, 1993; Baumeister & Vohs, 2002). Thus, MIL can broadly be defined as the feeling that one’s life has purpose and makes sense overall.

If MIL can be defined as having a sense of purpose or a feeling that life makes sense, how is MIL assessed? Importantly, researchers tend to agree about a key aspect of meaning measurement: MIL is a subjective judgment. As Hicks and King (2009a) point out, while it may seem underwhelming to assess such a complex construct by simply asking people whether their life is meaningful, only the individual can make the decision as to whether or not their life feels meaningful at any given moment. This is because, regardless of the objective events that occur in an individual’s life, MIL is a function of the individual’s subjective experiences (Klinger, 1977).
Furthermore, as opposed to other mental states, which may have clear outward behavioral patterns that can be assessed by objective observers, there are no objective behavioral indicators of MIL (Hicks & King, 2009a). Thus, examining the individual’s self-reported view of whether they subjectively feel their life is meaningful is the most appropriate method for assessing MIL. As such, one feature of most measures of MIL is the inclusion of items that allow the respondent to define MIL and make their subjective judgment accordingly. For example, the Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006) includes items such as “I have a good sense of what makes my life meaningful”, which leaves it up to the respondent to define exactly what they mean when they say life feels meaningful. Items like this are used under the assumption that people generally have an intuitive phenomenological understanding of what it feels like to have a meaningful life, even if they cannot always precisely define what MIL is (Hicks & King, 2009a).

It is also important to point out that research on MIL has conceptualized the construct as a lived psychological experience that may fluctuate in daily life (e.g., Hicks & King, 2009a; Hicks, Schlegel & King, 2010; King, Hicks, Krull, & Del Gaiso, 2006). As noted by Steger and Kashdan (2013), whereas historical and philosophical sources tend to focus on the question “what is the meaning of my life?”, psychologists have primarily examined the question “how meaningful does my life feel?” The first question is unlikely to fluctuate in daily life, as people tend to have solidified values on which they derive meaning (Baumeister, 1990). The second question, however, is likely to vary based on one’s experiences or encounters with their subjectively important meaning sources (e.g., King, et al., 2006). Using the example of social relationships, a person may state that one of the fundamental reasons their life is meaningful is because of their social relationships, and it is unlikely the individual would change this statement.
from day to day, or due to subtle situational changes. Yet, the extent to which their life *feels* meaningful at any given moment will vary depending on their actual relationship experiences in daily life or in any given situation. While the individual may fundamentally value their relationships, on a particular day or in any particular situation, the individual may have negative (e.g., ostracism or conflict) or positive (e.g., feelings of closeness or intimacy) relationship experiences, which will determine whether social relationships contribute to the feeling that life is meaningful on that day or in that moment. Thus, although social relationships will be fundamentally valued by most people (Baumeister & Leary, 1995), I argue that the person’s daily or situational experience of their relationships will determine whether their social relationships actually make their life feel meaningful at that particular time.

Prior empirical research supports the notion that MIL may fluctuate depending on the situation or one’s daily experiences. For instance, Emmons (2003) suggested the feeling that life is meaningful is formed primarily through goals or personal strivings that people pursue in their daily lives, and found empirical support for these ideas across a number of studies. Other empirical research has demonstrated that feelings of meaning are prone to daily and experimental fluctuations based on encounters with various meaning-relevant sources or experiences (e.g., Hicks et al., 2010; King et al., 2006). While research suggests that MIL is somewhat stable across time ($r = .41$ across 13-months; Steger & Frazier, 2007), daily diary research has equally demonstrated that MIL significantly fluctuates during daily life (Hicks et al., 2010; King et al., 2006). A good analogy may be the trait versus state aspects of self-esteem: while people generally have a relatively stable overall opinion of themselves, research has established that self-esteem is prone to fluctuations depending on one’s experiences in daily life (and in the laboratory; Kernis, Cornell, Sun, Berry & Harlow, 1993; Kernis & Goldman, 2003).
MIL and Well-being

Many sources suggest MIL plays an important role in human functioning. For instance, classical theorists, such as Frankl (1963), posited MIL was a fundamental human motivation that was crucial for psychological functioning. Recent empirical research has supported the idea that MIL plays an important role in psychological well-being, as studies have demonstrated MIL is associated with a wide variety of beneficial psychological outcomes. Those who report higher levels of MIL tend to be happier overall (Kennedy, Kanthamani, & Palmer, 1994; Keyes, Shmotkin, & Ryff, 2002; King et al., 2006; Steger, et al., 2006; Steger, Kashdan & Oishi, 2008; Zika & Chamberlain, 1992), experience greater life satisfaction (Chamberlain & Zika, 1988; Keyes, et al., 2002; Ryff & Keyes, 1995; Steger & Frazier, 2005; Steger, et al., 2006), and have higher self-esteem (e.g., Debats, 1996; Steger et al., 2006). Finally, a number of studies indicate that those who report higher levels of meaning tend to have lower levels of depression and other psychopathologies (e.g., Mascaro & Rosen, 2005; Ryff & Keyes, 1995; Steger et al., 2006).

In addition to psychological well-being, a growing body of literature demonstrates that MIL plays a role in physical health. A study conducted by Hill and Turiano (2014) demonstrated that purpose (an important component of MIL) was associated with mortality at a 14-year follow-up in a nationally representative sample, such that individuals with greater purpose were less likely to die across this time period. Similarly, Boyle, Barnes, Buchman, and Bennet (2009) found that a greater sense of purpose was associated with a lower likelihood of death at a 5-year follow-up. Other studies have demonstrated that greater purpose is positively associated with other aspects of physical health, such as a lower incidence of heart attacks and strokes, and better self-rated physical health across time (Don & Updegraff, under review; Kim, Sun, Park, Kubzansky & Peterson, 2013; Kim, Sun, Park & Peterson, 2013).
Given the consistent association between MIL and both psychological and physical health, one issue that arises is whether MIL is a unique aspect of well-being, or simply a facet of other indicators of well-being, especially life satisfaction. A good deal of prior research has been devoted to demonstrating that MIL is a unique component of well-being. For instance, in their landmark research on the structure of psychological well-being, Ryff and Keyes (1998) proposed a six-factor structure of psychological well-being of which purpose in life was a unique component that was independent from other aspects of well-being, such as self-acceptance, autonomy, and environmental mastery. This conceptualization has been validated, replicated, and used in a multitude of subsequent studies (see Ryff & Singer, 2008 for a review), all of which demonstrate that a sense of purpose is a unique component of well-being. Given that purpose is an important component of MIL, this research provides evidence that MIL is distinct from other aspects of psychological well-being.

Indeed, other empirical research demonstrates MIL is distinct from related aspects of psychological well-being, such as life satisfaction (Steger, et al., 2006). If MIL was merely another facet of life satisfaction, one would expect measures of MIL to strongly correlate with measures of life satisfaction and happiness. Yet, across a variety of studies the recently developed Meaning in Life Questionnaire (Steger et al, 2006) has demonstrated discriminant validity with life satisfaction, as well as other related constructs. Steger and colleagues (2006) found the MLQ was only moderately associated with life satisfaction (r = .46), and was never more than moderately correlated with a variety of other potential indicators of well-being, such as depression, neuroticism, and joy. Additionally, Steger and Frazier (2005) reported a correlations of only r = .20 between life satisfaction and the MLQ. Other studies have demonstrated the distinction between MIL and other conceptually related constructs, such as
self-esteem (Steger & Frazier, 2005), mood (King et al., 2006), and loneliness (Hicks et al., 2010). In sum, a good deal of prior research demonstrates that MIL is a unique component of psychological well-being.

The Determinants of MIL

In light of the beneficial implications of MIL to both physical and psychological health, recent research has turned to examining factors which may enhance or inhibit the feeling that life is meaningful in daily life, or in any given situation. Prior research has examined a number of potential determinants of MIL, such as positive affect (King et al., 2006), religiosity (Hicks & King, 2008), self-esteem (Schlegel, Hicks, Arndt & King, 2009), and cognitive accessibility or knowledge of one’s true self (Schlegel et al., 2009; Schlegel, Hicks, King & Arndt, 2011). All of these variables have a robust relationship with MIL, both in correlational studies and via experimental manipulation. For example, King and colleagues (2006) demonstrated daily reports of positive affect were correlated with daily feelings of MIL, and that experimentally manipulated positive affect (via mood priming techniques) caused increases in MIL.

Despite the fact that the current literature has established a number of determinants of MIL, one potentially crucial source of meaning – social relationships – has received surprisingly limited attention in the extant literature. Many theoretical sources provide good reason to believe social relationships are a key contributor to MIL. For instance, Emmons (2003) suggests the feeling that life is meaningful is formed primarily through goals or personal strivings that people pursue in their daily lives. Across a number of studies, Emmons (2003) has found that one area of goal pursuit that is fundamentally linked to MIL is social relationships. In another important theoretical work on MIL, Baumeister (1991) theorized that love, family, and social relationships are fundamentally valued by almost all modern societies – in other words, these relationships are
key areas in which people can foster a sense of fulfillment and purpose in daily life. Other prominent theorists (e.g., Baumeister & Leary, 1995; Ryan & Deci, 2000) argue that the need for social relationships is a fundamental human motivation, suggesting that social relationships may play a crucial role in the formation of MIL in daily life. In summary, a diverse range of theoretical sources suggest social relationships play a crucial role in the experience of MIL. Surprisingly, however, the current empirical literature is limited on this topic.

Perhaps the most frequently examined aspect of social interactions in relation to MIL is social exclusion, and studies consistently demonstrate social exclusion has a strong negative influence on MIL (e.g., Stillman et al., 2009; Zadro, Williams & Richardson, 2004). For example, Stillman and colleagues (2009) used the Cyberball task to mimic the experience of social exclusion in the laboratory, and their series of experiments found social exclusion led to marked decreases in judgments of MIL. Similarly, Zadro, Williams, and Richardson (2004) demonstrated social exclusion using the Cyberball task via the Internet led to decreases in MIL, as well as a number of other indicators of psychological well-being. Thus, social exclusion appears to be a clear detriment to the experience of MIL.

Prior studies have also demonstrated that broad evaluations of social connectedness, such as loneliness or relatedness need satisfaction (i.e., one’s perceived overall satisfaction with their social relationships), contribute to MIL. For instance, two studies have demonstrated loneliness or relatedness need satisfaction can change the nature of the well-established connection between positive affect and MIL. While it is known that those in a positive mood report higher levels of MIL than those in a neutral or negative mood (King et al., 2006), Hicks and King (2009b) found individuals who reported low levels of loneliness tend not to use their mood as the source of their MIL judgments. That is, participants who reported low loneliness reported relatively high MIL
regardless of their mood, whereas participants with high loneliness reported high MIL only when they were in a positive mood. Similarly, Hicks and colleagues (2010) found the contribution of positive affect to meaning in life was stronger, both in daily life and experimentally, when relatedness need satisfaction was low. Taken together, these studies indicate that, while positive mood is a strong source of MIL (King et al., 2006), social relationships may act as a “fall-back” source of MIL even when one experiences a bad mood.

Despite the aforementioned growing evidence on the influence of social relationships on MIL judgments, the current literature is limited in a few key ways. First, while it is clear the experience of social exclusion has a detrimental influence on meaning in life, it is important to recognize social exclusion should not be considered simply the converse of the presence of positive social relationships in one’s life. Furthermore, the type of social exclusion examined in prior studies is a short-term interaction with simulated strangers, as in the Stillman and colleagues (2009) study, which utilized the Cyberball task in which participants are excluded from a computer simulated ball-playing game with stick figures. While it is certainly interesting that even the simulated experience of social exclusion has a detrimental influence on MIL judgments, this type of social interaction is fundamentally different from the daily positive interactions with trusted friends, family members, or romantic partners that many theorists describe as crucial to MIL (e.g., Baumeister, 1991).

Second, prior studies examining the link between social relationships and meaning in life have almost exclusively examined how broad feelings of social connectedness contribute to MIL. Yet, in order to properly understand the link between social relationships and MIL, research must establish exactly what it is about specific social relationships that may facilitate meaning. Based on self-expansion theory (Aron & Aron, 1997), I argue relationship closeness is
potentially crucial in contributing to the feeling that life is meaningful. Self-expansion theory, as proposed by Aron and Aron (1997), is a theory of human motivation which argues that humans are naturally driven towards exploration, curiosity, and a desire to increase their competence, skills, and efficacy. This desire to increase one’s skills, abilities, and competencies is called the self-expansion motivation, which Aron and Aron (1997) argue is fundamental to human nature.

If self-expansion is a fundamental human motivation, how is it that people expand the self? Self-expansion theory argues that one of the primary ways in which individuals may achieve self-expansion is through their social relationships. That is, Aron and Aron (1997) argue that individuals can expand their efficacy, competence, and skills through closeness with others, a process they call inclusion of other in the self (see also Aron et al., 1991). These authors argue that, when relationships are close, the partner’s resources, identities, and perspectives are integrated into the individual’s self, which ultimately results in greater competence and efficacy for that individual. Thus, according to these researchers, social relationships represent a primary avenue by which people can achieve the fundamental human motive of self-expansion.

A large body of empirical literature supports the assertions of self-expansion theory. For instance, a number of studies support the idea that individuals tend to include close relationship partners as part of the self. Aron, Paris and Aron (1991) used longitudinal methods to examine whether individuals who started new relationships would experience greater expansion of their self-identity as compared to those who did not start a new relationship. In accordance with the predictions of self-expansion theory, participants who entered a new relationship demonstrated significant increases in the content of their self-descriptions, as compared to individuals who did not enter a new relationship. This study suggests that entering a relationship was associated with expansions of the self-concept.
Other studies support the notion that close relationships involve including the relationship partner as part of the self, and this effect tends to emerge regardless of whether closeness is operationalized in terms of cognitive, behavioral, or affective measures of closeness. For example, Symons and Johnson (1997) conducted a meta-analysis which reviewed 126 studies examining memory of words in relation to the self. Consistent with the predictions of the self-expansion model, individuals are better at recalling words which are studied in relation to the self, as compared to words that are studied in relation to other people, unless the other person is a close relationship partner. That is, close relationships appear to reduce the cognitive distinction between the self and other people. Similar results were presented by Agnew and colleagues (1998), who found that individuals in close relationships tended to use more plural pronouns to describe themselves and their relationship partner (e.g., “we” and “us”) as opposed to singular pronouns (e.g., “I” and “him/her”). Thus, regardless of whether closeness is assessed using affective, behavioral, or cognitive methods, close relationships tend to involve an inclusion of the other into the self.

Research also suggests that, because self-expansion is a fundamental human motivation, the achievement of self-expansion through close relationships results in a number of benefits to relationship and psychological well-being. In a seminal study, Aron, Norman, Aron, McKenna, and Heyman (2000) had romantic relationship partners participate together in either novel/self-expanding activities or boring activities that were unlikely to promote self-expansion. In three separate experiments, the authors found that the novel activity, as compared to the boring one, led to significantly greater increases in relationship satisfaction. Other research demonstrates that self-reported closeness, as assessed by the Inclusion of Other in Self (IOS) scale (Aron et al., 1991), is associated with a number of beneficial outcomes, including satisfaction, commitment,
and relationship endurance (Agnew et al., 1998; Aron et al., 1992; Le, Dove, Agnew, Korn, & Mutso, 2010; Tsapelas, Aron, & Orbuch, 2009). In sum, a good deal of research suggests that closeness in social relationships represents the fulfillment of a fundamental human motivation, and therefore promotes a number of aspects of individual and relationship well-being.

Recently, Aron and Aron have argued that self-expansion, as achieved through close relationships, is a meaningful process (Aron & Aron 2012). Self-expansion through social relationships amounts to the achievement of a fundamental human motivation. Thus, in the same way that the experience of relationship closeness is an affectively positive experience that contributes relationship and individual well-being, it should also be a meaningful experience. Similarly, given that social relationships are subject to a variety of factors which may lead to day-to-day fluctuations in closeness (i.e., conflicts, enjoyable interactions, or boring daily obligations), daily or situational fluctuations in feelings of closeness with social relationship partners may prove an important contributor to fluctuations in feeling that life is meaningful\(^1\). Thus, the first aim of the current dissertation is to examine whether relationship closeness promotes the feeling that life is meaningful (Aim 1)\(^2\).

\(^{1}\) Given the strong potential for negative interactions to influence emotions and behaviors (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001, I included conflicts as a control variable in the daily diary study to ensure that the presence of conflicts did not influence the association between closeness and MIL.

\(^{2}\) I will also explore whether relationship type acts as a moderator of the association between relationship closeness and MIL. The majority of prior research has examined relationship closeness and the self-expansion model in the context of romantic relationships (e.g., Aron et al., 2000). Yet, prior research has also demonstrated that friendship and familial relationships are characterized by closeness and self-expansion (Aron & Aron, 1986). As an exploratory aspect of the current dissertation, I will test whether relationship closeness with certain types of relationship partners (e.g., romantic partners) tends to feel more meaningful than closeness with other relationship partners (e.g., close friends). I suspect that closeness will tend to feel meaningful regardless of the relationship type.
How Does Closeness Operate with Other Known Determinants of MIL?

Relationship closeness may also operate through other known contributors to MIL. Prior research has linked relationship closeness to two key contributors to MIL: self-esteem (e.g., Bersheid & Reis, 1998) and positive mood (e.g., Waugh & Fredrickson, 2006). That is, research suggests that individuals who are engaged in healthy, close relationships tend to experience benefits in terms of increases in positive mood and self-esteem (Bersheid & Reis, 1998; Lyubomirsky, King, & Diener, 2005). Given that a number of prior studies have demonstrated that self-esteem and positive affect promote MIL (e.g., King et al., 2006), if relationship closeness fosters better mood and self-esteem, it should also promote MIL.

As reviewed above, prior research has also established that broad feelings of social connectedness, such as relatedness need satisfaction and loneliness, contribute to MIL (Hicks & King, 2009b; Hicks et al., 2010). Given that relationship closeness likely fosters broad feelings of social connectedness, it is possible that closeness promotes MIL by promoting these overall feelings of social connectedness. Thus, the second aim of the current dissertation is to examine whether relationship closeness leads to increases in MIL indirectly by activating other known contributors to MIL, including positive affect, self-esteem, and relatedness need satisfaction (Aim 2).

A potential moderator of the association between closeness and MIL is religiosity. Prior research suggests that religiosity is a robust contributor to meaning in life, such that those who have a strong commitment to religion tend to report higher levels of meaning in life (Hicks & King, 2008). With regards to closeness, it is possible that those who have a strong religious inclination may be less reliant on social relationships as a source of MIL, because their religion provides them with a broader meaning structure that makes life feel meaningful regardless of whether they are engaged in a close social relationship. In this case, one would predict that religiosity moderates the influence of relationship closeness on MIL such that relationship closeness has a particularly strong association or influence on MIL when religious commitment is low. On the other hand, based on numerous theories which suggest the universal and crucial
The Current Dissertation

Self-expansion theory argues that relationship closeness fulfills a fundamental human motivation, and based on numerous theoretical sources (e.g., Aron & Aron 2012; Ryan & Deci, 2001), I argue this process should promote MIL. Yet, prior research has not examined the link between relationship closeness and MIL, and the current dissertation aims to fill this gap in the literature.

My dissertation is guided by two main aims. First, I aim to test whether relationship closeness contributes to feelings of MIL. I hypothesize that greater relationship closeness will predict greater feelings of MIL (Hypothesis 1). Second, I aim to test whether closeness influences MIL indirectly through other predictors of MIL, including positive affect, self-esteem, and broad feelings of social relatedness. I predict that relationship closeness will contribute to MIL both directly and indirectly, by activating positive affect, self-esteem, and social relatedness (Hypothesis 2).

In order to exhaustively test my hypotheses, these aims will be tested in three ways. First, I will test my hypotheses at the cross-sectional level by examining whether overall feelings of relationship closeness predict MIL. Second, I will test my hypotheses at the daily level by examining whether daily feelings of relationship closeness predict daily MIL. Finally, I will examine whether experimentally manipulated relationship closeness causes increases in MIL. To do so, I will conduct two studies: a daily diary examination of relationship closeness and MIL, and an experimental manipulation of relationship closeness. In Study 1, I predict that relationship importance of social relationships to all people (e.g., Baumeister & Leary, 1995), it is also possible that relationship closeness will positively predict MIL regardless of one’s religious commitment. As such, although not a primary aim of the dissertation, I will control for and examine whether religious or spiritual commitment acts as a moderator of the association between relationship closeness and MIL.
closeness will predict greater meaning in life at the overall, cross-sectional level, and in daily life. In Study 2, I predict that experimentally manipulated relationship closeness will cause increases in MIL.
CHAPTER 2

STUDY 1

Method

Prior research has established that MIL tends to fluctuate based on daily mood, experiences, and interactions. The purpose of Study 1, therefore, is to examine Aim 1 by investigating whether daily feelings of relationship closeness predict daily fluctuations in MIL among college students.

Participants

Participants were recruited from the Kent State University SONA undergraduate research participation pool in exchange for course credit for a study described as “Daily Thoughts and Experiences”. Participants were limited to those who were at least 18-years old. Based on the variances within and between participants, as well as the number of overall parameters to be tested using multilevel analyses, prior research on social relationships and MIL has been able to detect significant findings using daily diary research with 138 participants tested over 4 daily surveys, for a total of 552 observations (Hicks et al, 2010). Because my hypotheses are primarily focused on within-person aspect of the analyses, I chose to extend the number of daily diary assessments to 10, and recruit around 100 participants for the initial lab session, with the goal of retaining at least 80 participants for the daily diary surveys. Of the 100 students who were recruited for the study, 9 were no-shows for the initial lab session, and 1 was excused from the initial lab session due to technical difficulties in the laboratory. Four participants who completed the initial lab session did not complete any daily diary surveys, and 3 participants who
completed the lab session answered the questions about closeness regarding a different person than they did in the initial lab session. These participants were therefore removed from final analyses. As such, the final sample consisted of 83 people. On average, participants were 19.54 years old ($SD = 1.84$, Range $= 18 – 28$), mostly female (10.6% male; 89.4% female), and White (85.9% White, 4.7% African-American, 2.4% Latino/Hispanic, 4% Asian, and 2.4% other).

**Procedure**

The study was described as a 10-day examination of undergraduates’ thoughts and behaviors. First, participants came to a research lab to complete baseline measures of meaning in life, relationship closeness, positive affect, self-esteem, loneliness, religiosity, and demographic information. At the end of the laboratory session, participants were debriefed, and asked to look for a web-based survey in their e-mail at 7pm each day over the subsequent 10-days. Each survey included daily versions of all relevant study measures, including MIL, relationship closeness, positive affect, self-esteem, relatedness need satisfaction, and conflict with their relationship partner. Before beginning each daily survey, participants were reminded to consider to how they feel “right now”. Additionally, the stem of each of the measures was altered to ensure participants answered with regards to how they felt “right now”.

In order to verify the time and date at which participants complete each survey, time stamps were used. Any daily questionnaires that were not completed by noon the next day were excluded from subsequent analyses. This procedure resulted in 28 daily surveys being removed from the data. On average, participants completed 9 of the 10 daily surveys across the course of the study (range = 2-13).
Measures

Demographics. Participants were asked at the initial lab session to report their age, race, gender, and proximity to their close relationship partner in terms of miles. Individuals who lived with their relationship partner were given a “0” on the proximity variable. Participants also reported the number of hours they spent with their relationship partner on the day of the initial interview.

Meaning in life was assessed during both the initial and the daily surveys using the Meaning in Life Questionnaire – Presence sub-scale (MLQ; Steger Frazier, Oishi & Kaler, 2006). The MLQ consists of two orthogonal sub-scales which assess the search for (e.g., “I am always looking to find my life’s purpose”) and presence of (e.g., “I have a good sense of what makes life meaningful”) meaning in life. Both of these sub-scales have demonstrated validity (both convergent and discriminant in comparison to other indicators of well-being) and high test-retest reliability in prior research (Steger et al., 2006; Steger & Kashdan, 2007). However, because the current dissertation is concerned with how social relationships influence the presence of meaning in life, analyses utilized the presence sub-scale only. The MLQ also includes a daily version, which has been used numerous times in prior research (e.g., Hicks et al., 2010). In the daily surveys, participants were instructed to answer the questions with regards to their feelings “right now”. Example items from the MLQ-presence sub-scale include “I understand my life’s meaning.” and “My life has a clear sense of purpose.” Participants indicated the extent of their agreement on a 7-point Likert scale from 1 = absolutely untrue to 7 = absolutely true. Internal consistency for the MLQ was excellent during both the initial lab session (α = .90), and in the daily surveys (α = .92).

4 A complete copy of all study measures is included in Appendix A.
*Relationship closeness.* In the initial lab survey, all participants were instructed to think of the one person in their life with whom they felt the closest. Participants reported the type of relationship this was (e.g., romantic, friend, parent, etc.), and all daily ratings of relationship closeness were subsequently directed towards this person. Closeness was assessed using different measures at the initial lab session and during the daily surveys to ensure any results validated across different assessments of this construct. Closeness at the initial lab session was assessed using the Unidimensional Relationship Closeness Scale (UCRS; Dibble, Levine & Park, 2012). This scale was developed for use across a number of relationship types, and has demonstrated good validity and reliability in prior research (Dibble et al., 2012). Participants responded to 11 items (e.g., “My relationship with this person is close.”) on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. Internal consistency was good for the UCRS (α = .82).

Closeness in daily life was assessed using a daily version of Aron, Aron and Smollan’s (1992) inclusion of other (IOS) in self scale. This one-item scale has been used extensively in prior research on relationship closeness, and has consistently demonstrated convergent and discriminant validity (Agnew, et al., 1998; Aron et al., 1992), including with the UCRS (Dibble et al., 2012). Participants were instructed to choose from a series of seven overlapping concentric circles which represent their relationship with the individual they selected as their closest social relationship partner in the initial lab session.

*Self-esteem* was assessed at the initial lab session and in the daily surveys using the Rosenberg Self-Esteem scale (Rosenberg, 1965). Participants indicated the extent to which they agreed with 10 items regarding feelings about the self (e.g. “I feel that I have a number of good qualities”; “I am able to do things as well as most other people”) and a scale from 1 = *strongly disagree* to 4 = *strongly agree*. This measure has been previously adapted for use in daily diary
research (Updegraff, Emanuel, Suh & Gallagher, 2010), and demonstrated good reliability both in the initial lab session ($\alpha = .90$) and the daily diaries ($\alpha = .92$).

*Positive affect* at the initial lab session and in the daily surveys was assessed using the PANAS, which is a well-validated and reliable measure of positive affect (Watson, Clark & Tellegen, 1988). Participants reported the extent to which they felt 10 mood adjectives (e.g., “interested”, “excited”) at the present moment on a scale of $1 = \text{very slightly or not at all}$ to $5 = \text{extremely}$. Internal consistency was good in both the initial lab session ($\alpha = .88$), and in the daily diary surveys ($\alpha = .92$)

*Relatedness need satisfaction* in daily life was assessed using the Relatedness subscale of the Basic Psychological Needs Satisfaction scale developed by Gagne (2003). This measure contains 8-items which assesses participants’ general feelings about their social relationships, and has been used in prior research on social relationships and meaning (Hicks et al., 2010). Example items include “I really like the people I interact with” and “People in my life care about me”, and participants responded on a scale from $1 = \text{not at all true}$ to $7 = \text{very true}$. Furthermore, this measure has been previously adapted for use in daily diary research, and demonstrated good reliability in the current study ($\alpha = .90$).

*Loneliness* was assessed during the initial survey using the UCLA loneliness inventory, a 20-item inventory of social relatedness that has demonstrated excellent reliability and validity in prior research (Russell et al., 1980). Example items include “I lack companionship” and “I feel alone”, and responses were made on 4-point scale from $1 = \text{never}$ and $4 = \text{often}$. Internal consistency for this measure was excellent ($\alpha = .94$).

*Religiosity* was assessed at the initial lab session using the Religious Commitment Inventory (Worthington, Wade, Hight, Ripley, & McCullough, 2003), which has demonstrated
excellent reliability and validity in prior research (Hicks & King, 2008; Worthington, et al., 2003). This measure usually contains 10 items, however two items from the original measure confound religious involvement with social relationships (“I enjoy spending time with others of my religious faith” and “I enjoy working in the activities of my religious organization”), and these items were therefore removed from the current study. Participants responded on a scale of 1 = not at all to 5 = mostly true, and the final 8-item measure demonstrated excellent reliability (α = .97).

Conflicts were assessed in daily life with a single item used by Campbell, Simpson, Boldry and Kashy (2005). Participants reported how many conflicts they experienced with the person of interest on a scale of 1 = none and 7 = many each day.

Analysis Plan

Data analysis for Study 1 was conducted in two general steps. First, using the preliminary interview, I tested whether general levels of relationship closeness (as assessed by the UCRS) predicted overall levels of baseline MIL at the person-level using multiple linear regression. Second, I tested whether daily fluctuations in relationship closeness predicted daily fluctuations in MIL. These analyses used multilevel modeling to account for the nested nature of the daily diary data. I started by examining an unconditional model (in which no predictor variables were included) to test whether MIL significantly fluctuated in daily life.

Next, I tested a preliminary covariates model to determine if age, race, gender, and proximity to the romantic partner predicted fluctuations in MIL using the following equations:

Level 1: $Daily\ MIL = \beta_0 + r$

Level 2: $\beta_0 = \gamma_{00} + \gamma_{01} (Age) + \gamma_{02} (Race) + \gamma_{03} (Gender) + \gamma_{04} (Proximity) + U_0$
All these covariates were entered at Level 2 because age, race, gender, and geographic proximity are between-individual variables. Any significant covariates were included in subsequent analyses.

Next, I conducted an initial test of my hypotheses examining whether daily relationship closeness predicted daily fluctuations in MIL using the following equation:

Level 1: \( \text{Daily MIL} = \beta_0 + \beta_1 (\text{Daily Closeness}) + r \)

This equation asks whether daily fluctuations in MIL are associated with daily fluctuations in feelings of closeness.

Next, I tested whether relationship closeness continued to predict daily fluctuations in meaning in life after controlling for other contributors to MIL, including daily positive affect, daily self-esteem, daily conflicts, daily relatedness need satisfaction, and religiosity. Positive affect, self-esteem, conflicts, relatedness need satisfaction, and closeness were all measured on the daily level, while religiosity was measured on the person level. This analysis was therefore tested using the following equations:

Level 1: \( \text{Daily MIL} = \beta_0 + \beta_1 (\text{Daily Positive Affect}) + \beta_2 (\text{Daily Self-Esteem}) + \beta_3 (\text{Daily Conflicts}) + \beta_4 (\text{Daily Relatedness Need Satisfaction}) + \beta_5 (\text{Daily Closeness}) + r \)

---

Prior research examining the association between social relatedness and MIL tends to treat loneliness and relatedness need satisfaction as opposite ends of the same general construct: social connectedness. Gagne’s (2003) measure of Relatedness need satisfaction tends to be used as an assessment of social connectedness in daily life, whereas the UCLA loneliness inventory (Russell, Peplau, & Cutrona, 1980) tends to be used as an assessment of overall social relatedness at the person-level (e.g., Hicks et al., 2010). In accordance with prior research, I used Gagne’s (2003) measure of relatedness need satisfaction in the daily diaries, and the UCLA loneliness inventory in initial lab session of the diary study, and in the experimental study. Controlling for both loneliness and relatedness need satisfaction in the same analysis would be redundant, considering they both assess the same construct. Thus, I only controlled for daily relatedness need satisfaction in this analysis. Indeed, in Study 1 the two variables were correlated at the \( r = -.74 \) level.
Level 2: $\beta_0=\gamma_{00}+\gamma_{01} (Religiosity) + U_0$.

As a secondary aim of the dissertation, I also tested whether religiosity or relationship type moderate the association between daily closeness and daily meaning in life using the following equations:

Level 1: $Daily MIL = \beta_0 + \beta_1 (Daily Positive Affect) + \beta_2 (Daily Self-Esteem) + \beta_3 (Daily Conflicts) + \beta_4 (Daily Relatedness Need Satisfaction) + \beta_5 (Daily Closeness) + r$

Level 2: $\beta_0=\gamma_{00}+\gamma_{01} (Religiosity or Relationship Type) + U_0$

$\beta_5=\gamma_{50}+\gamma_{51} (Religiosity or Relationship Type)$

This equation asks whether the association between daily closeness and daily MIL is tied to the individual’s religiosity.

Level 1: $Daily MIL = \beta_0 + \beta_1 (Daily Positive Affect) + \beta_2 (Daily Self-Esteem) + \beta_3 (Daily Conflicts) + \beta_4 (Daily Relatedness Need Satisfaction) + \beta_5 (Daily Closeness) + r$

Level 2: $\beta_0=\gamma_{00}+\gamma_{01} (Relationship Type) + U_0$

$\beta_5=\gamma_{50}+\gamma_{51} (Relationship Type)$

This equation asks whether the association between daily closeness and daily MIL is tied to the type of relationship.

Finally, in an attempt to establish temporal ordering of the variables of interest, I also tested a model in which closeness from the prior day predicted MIL on the subsequent day, after controlling for MIL on the prior day. This lagged model was tested using the following equation:

Level 1: $Daily MIL = \beta_0 + \beta_1 (PriorDayCloseness) + \beta_2 (PriorDayMIL) + r$

This equation tests whether the prior day’s feelings of closeness predict feelings of meaning on the subsequent day, even after accounting for feelings of meaning on the previous day. (See Tables 1 and 2.)
Table 1

*Descriptive Statistics for Major Study Variables in Study 1*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning in Life</td>
<td>4.98</td>
<td>1.24</td>
<td>1.80</td>
<td>7.00</td>
</tr>
<tr>
<td>Closeness</td>
<td>5.83</td>
<td>0.63</td>
<td>3.92</td>
<td>6.50</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>2.82</td>
<td>0.75</td>
<td>1.20</td>
<td>5.00</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>3.16</td>
<td>0.54</td>
<td>1.70</td>
<td>4.00</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.84</td>
<td>0.52</td>
<td>1.10</td>
<td>3.15</td>
</tr>
<tr>
<td>Religiosity</td>
<td>2.02</td>
<td>1.20</td>
<td>1.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Table 2

*Correlations of Major Study Variables in Study 1.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning in Life</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness</td>
<td>0.18</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>0.40</td>
<td>**</td>
<td>0.31</td>
<td>**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0.55</td>
<td>**</td>
<td>0.27</td>
<td>**</td>
<td>0.23</td>
<td>*</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-0.51</td>
<td>**</td>
<td>-0.09</td>
<td>-0.29</td>
<td>**</td>
<td>-0.49</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.36</td>
<td>**</td>
<td>0.08</td>
<td>0.14</td>
<td>0.15</td>
<td>**</td>
</tr>
</tbody>
</table>

Note. + p < .10, * p < .05, ** p < .01.
Results

Person-level Analyses

Multiple linear regression was used to examine whether overall feelings of closeness predicted MIL cross-sectionally at baseline. First, I conducted a preliminary regression to determine whether a number of demographic covariates, including age, gender, race, relationship type (romantic relationship vs. all others), and number of hours spent with the individual of interest that day were significantly associated with MIL. Results of this analysis (see Table 3) indicated that none of the demographic variables tested were significantly associated with overall MIL at the preliminary interview (all p’s > .05), and they were therefore excluded from subsequent analyses.

Table 3

Results of Multiple Regression Analyses Predicting Meaning in Life in Study 1

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>β</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.17</td>
<td>[-0.38 - 0.39]</td>
<td>.10</td>
<td>-.23</td>
<td>.11</td>
</tr>
<tr>
<td>Gender</td>
<td>0.02</td>
<td>[-0.93 - 0.96]</td>
<td>.47</td>
<td>.01</td>
<td>.97</td>
</tr>
<tr>
<td>Race</td>
<td>0.55</td>
<td>[-0.41 - 1.50]</td>
<td>.47</td>
<td>.16</td>
<td>.26</td>
</tr>
<tr>
<td>Hours</td>
<td>-0.14</td>
<td>[-0.31 - 0.03]</td>
<td>.09</td>
<td>-.23</td>
<td>.10</td>
</tr>
<tr>
<td>Distance</td>
<td>0.02</td>
<td>[-0.11 - 0.11]</td>
<td>.05</td>
<td>.01</td>
<td>.97</td>
</tr>
<tr>
<td>Relationship Type</td>
<td>-0.13</td>
<td>[-0.71 - 0.46]</td>
<td>.29</td>
<td>-.06</td>
<td>.67</td>
</tr>
</tbody>
</table>
Next, I tested a model which included only the URCS to determine whether overall feelings of closeness predicted MIL at baseline. Consistent with my prediction, analyses indicated that relationship closeness was significantly associated with MIL, such that greater overall feelings of relationship closeness predicted greater feelings of meaning in life, $B = .50$, $SE = .22$, $\beta = .24$, $p = .03$, $R^2 = .06$.

Next, I tested whether closeness was still significantly associated with MIL after including a number of other well-established predictors of meaning, including positive affect, self-esteem, loneliness, and religiosity. As presented in Table 4, positive affect, self-esteem, religiosity, and loneliness were all significantly associated with MIL. Once these covariates were added to the model, relationship closeness was no longer significantly associated with MIL.

Table 4

*Results of Multiple Regression Analysis Predicting Baseline Meaning in Life in Study 1.*

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>95% CI</th>
<th>SE</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Affect</td>
<td>0.40</td>
<td>[.11, .69]</td>
<td>.16</td>
<td>.24</td>
<td>.008</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0.87</td>
<td>[.43, 1.31]</td>
<td>.22</td>
<td>.38</td>
<td>.001</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.21</td>
<td>[.04, .39]</td>
<td>.09</td>
<td>.20</td>
<td>.02</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-0.52</td>
<td>[-.97, -.08]</td>
<td>.22</td>
<td>-.22</td>
<td>.02</td>
</tr>
<tr>
<td>Closeness</td>
<td>-0.03</td>
<td>[-.40, .33]</td>
<td>.02</td>
<td>-.03</td>
<td>.85</td>
</tr>
</tbody>
</table>
Given that the addition of positive affect, self-esteem, and loneliness meant relationship closeness was no longer associated with MIL, and in pursuit of Aim 2, I wanted to test the possibility that relationship closeness is associated with MIL indirectly through positive affect, self-esteem, and loneliness\(^6\). In order to test this possibility, I used a macro provided by Hayes (2012) to conduct bootstrapping analyses of indirect effects. Although tests of indirect effects are traditionally conducted using Sobel tests, these tests have been criticized for a number of reasons (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Instead, bootstrapping analyses have been recommended for testing indirect effects in almost all situations (Preacher & Hayes, 2008; Williams & MacKinnon, 2008). Furthermore, when multiple mediators are hypothesized, research suggests it is preferable to test them simultaneously, as opposed to testing each mediator individually (Preacher & Hayes, 2008).

Results of a bootstrapped test of multiple mediation indicated there were significant indirect associations of relationship closeness on MIL through positive affect \((B = .17, SE = .08, 95\% CI = .03 - .35)\) and self-esteem \((B = .17, SE = .08, 95\% CI = .03 - .35)\), but not through loneliness \((B = .05, SE = .06, 95\% CI = -.05 - .19)\). Although these results are cross-sectional (and should therefore be interpreted with caution), they provide preliminary evidence that relationship closeness contributes to MIL by activating positive affect and self-esteem.

Finally, I also tested the possibility that religiosity and relationship type may moderate the association between closeness and MIL. First, I tested for an interaction between religiosity and closeness without any covariates. When testing the interaction between closeness and religiosity without other variables in the model there was no significant interaction between the

\(^6\) I did not test religiosity as a mediator, because there is no reason to suspect that feelings of relationship closeness would increase feelings of religiosity.
two \( (B = -0.20, SE = 0.15, p = 0.21) \). Next, I included positive affect, self-esteem, and loneliness as covariates while testing for an interaction between religiosity and closeness. Results again indicated there was no significant interaction between relationship closeness and religiosity \( (B = -0.14, SE = 0.17, p = 0.41) \).

The interaction between relationship type and closeness was significant when no covariates were included in the model \( (B = 1.02, SE = 0.49, p = 0.04) \), such that closeness with romantic partners positively predicted MIL \( (B = 1.21, p = 0.005) \), but not for other types of relationships \( (B = 0.17, p = 0.46) \). I also conducted this analysis while including positive affect, self-esteem, and loneliness as covariates, main effects of relationship closeness and relationship type (romantic relationships were set as the reference group), and an interaction term between closeness and relationship type. Results indicated there was no longer a significant interaction between relationship closeness and relationship type \( (B = 0.35, SE = 0.40, p = 0.39) \) when controlling for these covariates.

**Daily Analyses**

I utilized multilevel modeling in order to test whether daily fluctuations in feelings of closeness predicted daily fluctuations in MIL. For all analyses, days were nested within people, forming a two-level multilevel model. Although MIL has demonstrated daily variability in a number of prior studies (e.g., Hicks et al., 2010; King et al., 2006), I first conducted an initial, unconditional analysis to determine whether MIL significantly fluctuated across different days. The constant for this model indicated that participants averaged moderately high levels of MIL \( (B = 4.68, SE = 0.14) \). In addition, the random-effects parameter for this model was significant \( (B = 1.23, SE = 0.10, 95\% CI = 1.05 – 1.44) \), demonstrating that participants experienced significant fluctuations in MIL across different days.
Next, I tested an initial covariates model to determine whether age, race, gender, and proximity to one’s relationship partner predicted daily fluctuations in MIL. Results are presented in Table 5, and indicated that age, race, gender, relationship type, and proximity were not associated with daily fluctuations in MIL. These covariates were therefore not included in subsequent analyses.

Table 5

Results of Multilevel Analyses Predicting Daily MIL in Study 2.

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>95% CI</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.15</td>
<td>[-0.35, 0.04]</td>
<td>0.10</td>
<td>0.12</td>
</tr>
<tr>
<td>Gender</td>
<td>0.42</td>
<td>[-0.69, 1.54]</td>
<td>0.57</td>
<td>0.46</td>
</tr>
<tr>
<td>White</td>
<td>0.99</td>
<td>[-0.15, 2.12]</td>
<td>0.58</td>
<td>0.09</td>
</tr>
<tr>
<td>Hours</td>
<td>-0.06</td>
<td>[-0.26, 0.14]</td>
<td>0.10</td>
<td>0.55</td>
</tr>
<tr>
<td>Distance</td>
<td>0.06</td>
<td>[-0.14, 0.27]</td>
<td>0.11</td>
<td>0.42</td>
</tr>
<tr>
<td>Relationship Type</td>
<td>-0.01</td>
<td>[-0.70, 0.66]</td>
<td>0.35</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Next, I tested an initial conditional model which included only relationship closeness as a predictor of daily MIL. Results indicated that daily relationship closeness was a significant predictor of daily MIL, such that greater closeness on a given day was associated with greater feelings of meaning on that same day ($B = .07, SE = .02, 95\% CI = .03 - .11, p = .001$). Next, I tested a conditional model which included relationship closeness as a predictor of MIL, as well as daily self-esteem, daily positive affect, daily conflicts, daily relatedness need satisfaction, and overall religiosity as covariates. Results of this analysis are presented in Table 6.
With regards to covariates, positive affect, self-esteem, and relatedness need satisfaction were all significantly associated with daily MIL, such that individuals experienced greater MIL on days in which they also experienced higher levels of positive affect, self-esteem, and relatedness need satisfaction. Daily conflicts and overall religiosity were not associated with MIL. After controlling for all the aforementioned covariates, daily relationship closeness was no longer significantly associated with daily MIL.

Table 6

*Results of Multilevel Modeling Analyses Predicting Daily Meaning in Life.*

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>95% CI</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Positive Affect</td>
<td>0.13</td>
<td>[0.06, 0.19]</td>
<td>.03</td>
<td>.001</td>
</tr>
<tr>
<td>Daily Self-Esteem</td>
<td>0.64</td>
<td>[0.46, 0.81]</td>
<td>.08</td>
<td>.001</td>
</tr>
<tr>
<td>Daily Conflicts</td>
<td>0.06</td>
<td>[-0.004, 0.12]</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>Daily Relatedness Need Satisfaction</td>
<td>0.20</td>
<td>[0.12, 0.28]</td>
<td>.20</td>
<td>.001</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.14</td>
<td>[-0.03, 0.32]</td>
<td>.09</td>
<td>.11</td>
</tr>
<tr>
<td>Daily Closeness</td>
<td>0.03</td>
<td>[-0.01, 0.07]</td>
<td>.02</td>
<td>.14</td>
</tr>
</tbody>
</table>

Given that inclusion of the covariates rendered relationship closeness a non-significant predictor of MIL in daily life, I examined whether relationship closeness predicted daily MIL indirectly, through daily positive affect, self-esteem, and relatedness need satisfaction (RNS). Each indirect effect was tested using a bootstrapped, multilevel path model in Stata which controlled for the clustered nature of the dyadic data. All indirect effects were once again tested simultaneously (Preacher & Hayes, 2008).
The indirect effect of daily closeness on daily MIL through daily self-esteem was statistically significant, such that greater daily relationship closeness was associated with greater daily self-esteem, which was then associated with greater daily meaning in life (estimate = .08, 95% CI = [.03 - .14], SE = .03, p = .005). The indirect effect of daily closeness on daily MIL through daily positive affect marginally significant, such that greater daily closeness was associated with greater daily positive affect, which was then associated with greater daily MIL (estimate = .03, 95% CI = [-.001 - .05], SE = .02, p = .06). The indirect effect of daily closeness on daily MIL through daily relatedness need satisfaction was not significant (estimate = .02, 95% CI = [-.02 - .06], SE = .02, p = .40).

I also tested whether religiosity and relationship type moderated the association between daily relationship closeness and daily MIL. First, I tested a model which included only the main effects of closeness and religiosity, as well as the interaction between religiosity and closeness. Results demonstrated that the interaction between religiosity and closeness was statistically significant (estimate = .05, p = .045), such that closeness was positively associated with MIL only for those with low (p < .001), but not high (p = .49), levels of religiosity. When I included daily positive affect, self-esteem, relatedness need satisfaction, and conflicts into the model, the interaction between closeness and religiosity became nonsignificant. The interaction between relationship type and closeness did not predict daily MIL with (estimate = -.02, p = .62) or without (estimate = -.03, p = .45) covariates in the model.

Finally, I also tested a lagged model to examine whether feelings of closeness from the prior day predicted next day MIL, after controlling for MIL on the prior day. Although MIL on the prior day was associated with MIL on subsequent days (B = .10, 95% CI = [.05 - .15], SE =
.03, \( p < .001 \), relationship closeness on the prior day was not significantly associated with MIL on subsequent days (\( B = .01, 95\% \text{ CI} = [-.02 - .05], SE = .02, p = .42 \)).

**Study 1 Discussion**

Study 1 examined whether relationship closeness predicted MIL both at the overall and the daily level. In partial support of my hypotheses, results of both sets of analyses indicated that relationship closeness predicted greater meaning in life indirectly through self-esteem and positive affect. These results provide preliminary evidence that relationship closeness has a positive influence on MIL by increasing other important contributors to MIL. Yet, given that the lagged analyses were not significant, the results of Study 1 are limited by being solely cross-sectional in nature. The goal of Study 2 was to expand on the results of study 1 by examining whether relationship closeness has a causal influence on MIL.
CHAPTER 3

STUDY 2

Method

The purpose of Study 2 was to extend and replicate the findings from Study 1 by determining whether relationship closeness plays a causal role in MIL. As such, in Study 2, I experimentally manipulated participants’ feelings of relationship closeness to examine whether those induced to experience higher levels of relationship closeness also experienced greater levels of MIL. In order to manipulate relationship closeness, I drew on methods developed and validated by Lewandowski, Aron, Bassis, & Kunak, (2006), as well as Hicks and colleagues (2010). Specifically, participants completed a supraliminal priming task in which they thought and wrote about a time when they felt either close or not close to an individual in their life. I predicted that experimentally induced feelings of relationship closeness would cause increases in MIL.

Participants

Participants consisted of 103 undergraduates who were recruited from the Kent State University undergraduate research participation pool, and completed the study in exchange for course credit. Participates were 19.75 years old on average (SD = 1.79), 70.2% female, and 76.9% White, with the largest minority ethnic group being African-American (13.5% of the sample).
Procedure

Participants came to a research lab at Kent State University and first completed a number of baseline questionnaires, including demographics, mood, religiosity, loneliness, and self-esteem. Next, participants were randomly assigned to one of two supraliminal priming conditions, based on a method developed by Lewandowski and colleagues (2006), as well as Hicks and colleagues (2010). Lewandowski and colleagues (2006) demonstrated it is possible to experimentally manipulate feelings of relationship closeness in the laboratory by simply thinking about specific relationship scenarios. Furthermore, Hicks and colleagues (2010) demonstrated a supraliminal loneliness thinking and writing task had a significant effect on MIL. Thus, in accordance with these two methodologies, participants thought and wrote about different scenarios with relationship partners. First, all participants were instructed: “Most people have one person in their life with whom they are particularly close. Before you begin this writing task, take a moment to think of the one person in your life with whom you feel the closest. Specify your relationship to that person (e.g., romantic partner, friend, mother, sibling) here”.

After listing the individual with whom they felt closest participants in the high-closeness condition read the following:

Think back to a time in your relationship when you felt at one with this person. That is, you personally shared this person’s accomplishments and disappointments. In other words, you experienced this person’s actions, feelings, and thoughts as if they were your own. Try to think of a specific time and place when you experienced these feelings in a positive way. Visualize the details as much as you can. Don’t worry about spelling or grammar; just write down as much detail about this time as possible.
Those in the low-closeness read:

Think back to a time in your relationship when you felt not at one with this person. That is, you did not personally share this person’s accomplishments and disappointments. In other words, you experienced this person’s actions, feelings, and thoughts as completely separate from your own. Try to think of a specific time and place when you experienced these feelings in a way that wasn’t particularly negative. Visualize the details as much as you can. Don’t worry about spelling or grammar; just write down as much detail about this time as possible.

Participants were given two blank sheets of paper on which to complete the writing task, and up to 15-minutes to write about the scenario of interest.

After completing the writing task, participants completed a manipulation check, which consisted of the IOS scale for the relationship of interest. Finally, participants completed a measure of MIL.

**Measures**

All measures used in Study 2 were the same as those used in Study 1. Thus, to assess self-esteem, positive affect, religiosity, and loneliness, I used the Rosenberg Self-Esteem Scale, the PANAS, the Religious Commitment Inventory, and the UCLA loneliness scale, respectively. To assess meaning in life, I again used the presence sub-scale of the MLQ. Additionally, in order to assess the quality of each individual’s response to the experimental priming task, research assistants were instructed to count the number of lines each participant completed during the thinking and writing task. In terms of the order of the measures, participants first completed assessments of all covariates, including demographics, positive affect, self-esteem, loneliness,
and religiosity. Next, participants completed the experimental manipulation, and immediately after the manipulation they completed the IOS with respect to the person of interest as a manipulation check. Finally, they completed the MLQ. (See Tables 7 and 8)

Table 7

*Descriptive Statistics for Major Variables in Study 2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning in Life</td>
<td>5.02</td>
<td>1.30</td>
<td>1.20</td>
<td>7.00</td>
</tr>
<tr>
<td>Closeness</td>
<td>5.38</td>
<td>1.45</td>
<td>2.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>3.04</td>
<td>0.72</td>
<td>1.50</td>
<td>4.80</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>3.22</td>
<td>0.52</td>
<td>1.70</td>
<td>4.00</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.81</td>
<td>0.53</td>
<td>1.00</td>
<td>3.26</td>
</tr>
<tr>
<td>Religiosity</td>
<td>2.04</td>
<td>1.12</td>
<td>1.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Table 8

*Correlations between Major Study Variables in Study 2.*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning in Life</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closeness</td>
<td>0.13</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>0.38</td>
<td>**</td>
<td>0.02</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0.65</td>
<td>**</td>
<td>0.13</td>
<td>0.42</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-0.60</td>
<td>**</td>
<td>-0.21</td>
<td>*</td>
<td>-0.3</td>
<td>**</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.46</td>
<td>**</td>
<td>0.1</td>
<td>-0.01</td>
<td>0.21</td>
<td>*</td>
</tr>
</tbody>
</table>

*Note.* + p < .10, * p < .05, ** p < .01.
Results

The data from Study 2 were analyzed using multiple linear regression. First, I tested an initial demographic covariates model to test whether the proximity variables, age, ethnicity, gender, and the length of the individual’s response predicted MIL, and results are presented in Table 9. Age, gender, ethnicity, distance, hours spent with the individual, relationship type, and response quality were not significantly associated with MIL.

Table 9

Results of Multiple Regression Analyses Predicting Meaning in Life in Study 2

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>β</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.08</td>
<td>[-0.07 – 0.23 ]</td>
<td>0.08</td>
<td>0.11</td>
<td>0.29</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.03</td>
<td>[-0.66 - 0.60]</td>
<td>0.32</td>
<td>-0.01</td>
<td>0.92</td>
</tr>
<tr>
<td>Race</td>
<td>-0.01</td>
<td>[-0.66 - 0.66]</td>
<td>0.33</td>
<td>-0.01</td>
<td>0.99</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.10</td>
<td>[-0.25 - 0.05]</td>
<td>0.08</td>
<td>-0.14</td>
<td>0.19</td>
</tr>
<tr>
<td>Hours</td>
<td>-0.05</td>
<td>[-0.23 - 0.13]</td>
<td>0.09</td>
<td>-0.06</td>
<td>0.59</td>
</tr>
<tr>
<td>Relationship Type</td>
<td>0.44</td>
<td>[-0.21 - 1.08]</td>
<td>0.33</td>
<td>0.15</td>
<td>0.18</td>
</tr>
<tr>
<td>Response Quality</td>
<td>0.02</td>
<td>[-0.01 – 0.06]</td>
<td>0.02</td>
<td>0.14</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Next, I tested whether the manipulation had a significant effect on closeness. Results indicated that condition was not significantly associated with relationship closeness, $B = .05$, $SE = .29$, $p = .85$. Thus, the manipulation failed in the current study.

Although the manipulation failed, I still wanted to test whether the experimental condition predicted MIL. When including only the experimental condition as a predictor, the
condition had no effect on MIL ($B = 0.23$, $SE = .26$, $\beta = .09$, $p = .37$). Similarly, as presented in Table 10, inclusion of positive affect, loneliness, religiosity, and self-esteem did not alter the nature of the results, and the experimental condition was still not significantly associated with MIL. Because the manipulation failed, I did not test whether the experimental condition influenced MIL indirectly through self-esteem, positive affect, or social relatedness.

Table 10

Results of Multiple Regression Analyses Predicting Meaning in Life in Study 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>95% CI</th>
<th>SE</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Affect</td>
<td>0.30</td>
<td>[0.03 - 0.57]</td>
<td>0.14</td>
<td>0.17</td>
<td>0.03</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-0.71</td>
<td>[-1.13 - -0.29]</td>
<td>0.21</td>
<td>-0.29</td>
<td>0.00</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.40</td>
<td>[0.25 - 0.55]</td>
<td>0.08</td>
<td>0.35</td>
<td>0.00</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0.76</td>
<td>[0.31 - 1.21]</td>
<td>0.23</td>
<td>0.30</td>
<td>0.00</td>
</tr>
<tr>
<td>Experimental Condition</td>
<td>0.06</td>
<td>[-0.29 - 0.41]</td>
<td>0.18</td>
<td>0.02</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Given that the manipulation failed, I tested a number of possible reasons for why the thinking and writing task failed to influence feelings of closeness. First, I wanted to ensure that the manipulation did not have an effect simply because some participants did a poor job of following study instructions. For instance, it is possible that some participants did not adequately complete the writing task, and instead wrote about other topics. Each participant’s writing task was extensively screened for any discrepancies which may have threatened the efficacy of the manipulation. Participants were removed from the data if they did not properly follow instructions, if they wrote about a different person than they listed as the closest person in their
life, or if they wrote about a time when they were close with the person of interest, when they were supposed to be writing about a time when they were not close with the person (or vice versa). This screening of the data resulted in the removal of 14 participants, however removal of these participants did not change the results of the study, as the manipulation still failed to have an effect on relationship closeness ($\beta = .09, p = .43$).

Next, I tested whether the quality of participants’ responses, as assessed by the number of lines they wrote about, moderated the extent to which the manipulation influenced closeness. It is possible that the manipulation was only effective for those participants who wrote in some detail about the person of interest. Results of a regression analysis indicated that the length of participants’ responses did not predict their closeness ($B = -0.03, p = .92$), and did not interact with condition to predict closeness ($B = 0.03, p = .44$).

In order to examine whether participants in the close and not close condition were significantly different on any major study variables, I examined descriptive statistics and conducted a series of independent groups t-tests. Results are presented in Table 11. Although there were no significant differences between the two conditions on any variables, there was a trend such that individuals in the not-close condition reported marginally greater religiosity than participants in the close condition.\footnote{In order to ensure this trend was not responsible for the inefficacy of the manipulation, I re-examined whether the manipulation influenced closeness while controlling for religiosity. Even when controlling for religiosity, the manipulation still did not significantly influence closeness.}

Next, I wanted to test whether demographic factors, including age, gender, geographic distance from the person of interest, number of hours spent with the person of interest, relationship type, and ethnicity, moderated the extent to which the experiment had an effect on closeness. Age, gender, distance, and hours spent with the individual were not significantly
associated with closeness, and none of them significantly interacted with the manipulation to predict closeness. Race and condition significantly interacted to predict closeness \((B = 2.53, p = .001)\). Simple slopes analyses revealed that the manipulation affected closeness in the wrong direction (i.e., the high closeness condition predicted lower feelings of closeness) for non-White participants \((B = -2.00, p = .002)\), while the manipulation was not significantly associated with closeness for White participants \((B = .52, p = .10)\). I also tested whether the manipulation predicted closeness only for those participants who wrote about romantic relationships, and even when including only those participants, the manipulation did not significantly predict closeness \((p > .05)\).

Next, I wanted to explore the potential reasons why the efficacy of the manipulation was different for white and nonwhite participants. First, I tested whether White and non-White
participants were significantly different on age, proximity, hours spent with their partner, or the type of relationship they wrote about. Results revealed that White and non-White participants were not significantly different on any of these demographic variables (see Table 12). Next, I tested whether White and non-White participants came to the study with significantly different starting values on major study variables, including mood, self-esteem, positive affect and religiosity. Results of independent groups t-tests revealed White and non-White participants were not significantly different (all $p$’s >.05) on any major study variables.

Table 12

*Descriptive Statistics for White and Nonwhite Participants in Study 2.*

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Non-White</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>19.81</td>
<td>19.55</td>
<td>-0.61</td>
<td>.54</td>
</tr>
<tr>
<td><strong>Distance from person</strong></td>
<td>2.65</td>
<td>2.54</td>
<td>-0.23</td>
<td>.81</td>
</tr>
<tr>
<td><strong>Time spent with person</strong></td>
<td>1.79</td>
<td>1.71</td>
<td>-0.21</td>
<td>.84</td>
</tr>
<tr>
<td><strong>Positive Affect</strong></td>
<td>3.04</td>
<td>3.05</td>
<td>0.08</td>
<td>.93</td>
</tr>
<tr>
<td><strong>Self-Esteem</strong></td>
<td>3.20</td>
<td>3.28</td>
<td>0.68</td>
<td>.50</td>
</tr>
<tr>
<td><strong>Loneliness</strong></td>
<td>1.76</td>
<td>1.96</td>
<td>1.61</td>
<td>.11</td>
</tr>
<tr>
<td><strong>Religiosity</strong></td>
<td>1.93</td>
<td>2.42</td>
<td>1.87</td>
<td>.06</td>
</tr>
</tbody>
</table>

Finally, I tested whether positive affect, self-esteem, loneliness, and religiosity moderated the effect of the manipulation on closeness. The interactions between condition and positive affect ($B = -.10, p = .76$), self-esteem ($B = .34, p = .38$), loneliness ($B = -.18, p = .65$), and religiosity ($B = .03, p = .87$) were all not significant.
Although the manipulation failed, I also tested whether participants’ self-reported feelings of relationships closeness predicted MIL. Closeness did not significantly predict MIL for the entire sample ($\beta = .13, p = .21$), or when I tested only participants without discrepancies in their data ($\beta = .11, p = .30$). I also tested whether religiosity and relationship type moderated the association between closeness and MIL in Study 2. The interaction between relationship type and closeness did not significantly predict closeness ($B = -03, p = .90$). However, results indicated there was a significant interaction ($B = -.22, p = .02$) between closeness and religiosity, such that closeness was only associated with MIL for individuals with high levels of religiosity ($B = .29, p = .01$), but not individuals with low levels of religiosity ($B = -.18, p = .18$). Similar to Study 1, when I entered positive affect, self-esteem, and loneliness into the model, the interaction between religiosity and closeness was not significant. Finally, I tested whether closeness was indirectly associated with MIL, through positive affect, self-esteem, and loneliness. Results of bootstrapped, multiple mediation analyses demonstrated that all three indirect effects were not significant (all $p$’s > .05).

**Study 2 Discussion**

The goal of Study 2 was to expand on the correlational findings of Study 1 in order to examine whether experimentally manipulated relationship closeness causally increases MIL. However, because the manipulation failed to influence participants’ feelings of closeness, Study 2 cannot make causal claims into the link between relationship closeness and MIL. These results suggest that a different, less subtle experimental manipulation may be needed in order to adequately affect relationship closeness.
CHAPTER 4
DISCUSSION

Based on self-expansion theory, I examined whether feelings of relationship closeness promote the feeling that life is meaningful. Results of two studies provided mixed evidence for my hypotheses. A daily diary study conducted over 10 days among 83 university undergraduates suggested that on days in which individuals feel closer to a relationship partner, they also feel life is more meaningful. Further analyses indicated that this association was an indirect one, and that relationship closeness promotes meaning in daily life by increasing daily positive affect and self-esteem. Moreover, the link between relationship closeness and MIL was particularly applicable to those with low levels of religiosity. I also attempted to provide causal evidence that relationship closeness promotes MIL by conducting a supraliminal priming manipulation of relationship closeness; however, this manipulation failed to influence feelings of closeness. Thus, Study 2 was not able to provide evidence for (or against) a causal link between relationship closeness and MIL. Yet, Study 2 did show that self-rated feelings of relationship closeness predicted MIL for individuals with low religiosity (similar to what was found in Study 1). The implications of these findings are discussed below.

Relationship Closeness Promotes MIL Through Positive Affect and Self-Esteem

Results from the daily diary study provide evidence that relationship closeness is associated with MIL in two ways. First, at the initial laboratory session, when participants reported their overall feelings of closeness and MIL, greater feelings of relationship closeness significantly predicted greater MIL. Second, results of multilevel analyses confirmed these
findings by showing that daily relationship closeness was significantly and positively associated with daily MIL. Results of this study further suggest that relationship closeness may be particularly influential to contemporaneous feelings of MIL, because lagged analyses failed to find that feelings of relationship closeness from the prior day have any impact on MIL the next day. This finding is consistent with prior research which suggests that immediate, situational factors (e.g., positive mood; King et al., 2006) have a more potent influence on MIL. Thus, the results of the daily diary study cohere with prior research and theory in suggesting that immediate feelings of relationship closeness are especially predictive of MIL.

It is important to note that, in both sets of analyses, after entering self-esteem, positive affect, and broad feelings of social relatedness into each model, relationship closeness no longer significantly predicted MIL. When I tested for indirect effects in both the initial lab session and in daily life, I found relationship closeness indirectly predicted MIL through positive affect and self-esteem, but not through broad feelings of social relatedness. In light of these findings, the question arises: why did relationship closeness only predict MIL indirectly through positive affect and self-esteem? A good deal of prior research has supported the “mood-as-information” hypothesis regarding MIL judgments, whereby individuals use their current feelings as a heuristic when making overall judgments about life’s meaning (Schwarz & Clore, 1996; Schwarz & Strack, 1999). This hypothesis is based on research which suggests that, instead of taking all the possibly relevant information into account, people tend to interpret their current mood or feelings about the self as relevant to broad, evaluative judgments, such as MIL (Schwarz & Strack, 1999). As such, when in a positive mood (or similarly, when people have strong positive feelings about the self), people tend to put forth less cognitive effort when making these broad evaluative judgments (Schwarz & Clore, 1996). The “mood-as-information” theory could
explain why positive affect and self-esteem mediated the association between relationship closeness and MIL.

Another question that arises is why closeness promoted MIL through self-esteem and positive affect, but not through overall social relationships. A good deal of research suggests that relationship closeness plays a self-affirmative function, whereby feelings of closeness enhance the self (Gardner, Gabriel & Hochschild, 2002; Graham, 2008). On the other hand, loneliness and relatedness need satisfaction assess more broad evaluations regarding one’s social relationships, such as the presence of healthy relationships, or satisfaction with one’s existing relationships. Although it is undoubtedly positive to have better overall feelings about one’s social relationships (as reflected in measures of loneliness and relatedness need satisfaction), broad social relatedness is not necessarily a self-affirmative feeling in the same way that relationship closeness is. Thus, it is possible relationship closeness promotes MIL specifically through self-esteem and positive affect, but not through loneliness or relatedness need satisfaction, is because relationship closeness affirms and expands the self.

Problems with the Manipulation in Study 2

The goal of the experimental study was to extend the correlational findings of Study 1 by determining if relationship closeness has a causal effect on MIL. Although the experimental procedure was based on a successful manipulation used in prior research (Lewandowski et al., 2006), the manipulation failed to influence relationship closeness in the current study. Thus, this experiment cannot speak to my main study hypothesis regarding causality.

I conducted a thorough examination of the potential reasons why the manipulation failed in the current study, but this process revealed few clues. First, I closely examined participants’ manipulation essays to determine whether they adequately followed study instructions. After
excluding participants who did not correctly complete the thinking and writing task, I re-conducted all analyses to determine whether the manipulation was unsuccessful due to the fact that some participants did not follow instructions. Regardless of whether or not I included the participants who did not follow instructions, the manipulation failed to influence feelings of closeness. Thus, the fact that the manipulation was not successful does not appear to be due to participants not following instructions.

Another possibility was that the detail of participants’ responses could have influenced the efficacy of the manipulation. That is, it is possible participants who wrote in great detail about a time when they felt close or not close to their partner would be influenced by the manipulation, whereas participants who only wrote a few lines would fail to be influenced by the manipulation. To assess the detail of participants’ responses, I counted the number of lines in each response, and tested whether this variable predicted the manipulation check, or interacted with condition to predict the manipulation check. Once again, the detail of participants’ responses was not significantly associated with closeness in either analysis. This suggests that a lack of detail in participants’ responses was not responsible for the inefficacy of the manipulation.

It is also possible that the manipulation failed because random assignment failed to randomize individuals on important demographic and psychosocial variables. To explore this possibility, I examined whether participants in each condition were different on age, gender, race, relationship type, positive affect, self-esteem, loneliness, and religiosity. The only significant difference between the two conditions was that participants in the high closeness condition tended to reported higher initial positive affect. While this suggests random assignment failed with respect to positive affect, if anything, this issue would have only enhanced the efficacy of the experimental manipulation, as those in a positive mood would be more likely to report
closeness to their experimental partner and greater MIL. Thus, it appears that the inefficacy of the manipulation also cannot be explained by problems with random assignment.

Another potential explanation for the failure of the manipulation is that it is possible the manipulation only worked for certain groups of people, such as older, White, or female participants. To explore this possibility, I conducted a number of analyses to determine whether the effect of the experimental manipulation was moderated by demographic factors, including age, gender, geographic distance from the person of interest, number of hours spent with the person of interest on the day of the study, and race/ethnicity. Only one of these analyses emerged as significant. Race/ethnicity significantly interacted with condition such that the manipulation affected relationship closeness for non-White participants, but not for White participants. Surprisingly, this analysis indicated that the manipulation actually had the reverse effect on closeness for non-White participants, such that non-White participants in the “not close” condition reported *more* closeness than participants in the “close” condition. Given that I have conducted dozens of supplementary analyses, I am hesitant to interpret this finding as substantively meaningful. I suspect that, given the large number of analyses I conducted, and the counterintuitive nature of the finding, the significance of this finding is a Type I error. This interpretation is reinforced by the fact that there were no differences between White and non-White participants in terms of major study variables and other demographic characteristics. Furthermore, only 23.1% of the sample in Study 2 was non-white, meaning the validity of this finding is questionable.

Another possibility is that writing about certain types of relationships may influence feelings of closeness differently. For example, writing about closeness with a romantic partner may influence feelings of closeness differently than writing about closeness with friends or
family members, and this could have influenced the efficacy of the manipulation. As such, I conducted a number of analyses to determine whether the manipulation was efficacious for certain relationship types. First, I included only those participants who wrote about their romantic partner, and when doing so the manipulation still did not influence closeness. Similarly, I examined whether the influence of the experimental condition on MIL interacted with relationship type. Once again, relationship type did not significantly interact with condition. Thus, the inefficacy of the manipulation does not appear to be due to the fact that participants wrote about many different types of relationships.

In summary, a thorough examination of the demographic and psychosocial characteristics of the individuals in Study 2 revealed that there were few sample specific reasons as to why the manipulation failed. In all likelihood, the manipulation was simply too subtle to successfully influence feelings of closeness. That is, thinking and writing about a particular time when individuals felt close with a social relationship partner appeared to be too abstract to influence participants’ actual current feelings of closeness. Instead, thinking and writing about their partner may have simply primed whatever existing feelings participants had, rather than causing participants’ feelings to change to either low or high closeness.

It is also possible that the wording of the manipulation caused participants to be too self-focused with regards to closeness in the relationship. The IOS measure involves an assessment of how both members of the relationship feel, as represented by the two overlapping circles representing each relationship partner. This measure is thusly able to assess how close the individual feels to the partner, and how close the individual thinks their partner feels to them. On the other hand, the manipulation in Study 2 was directly only towards the individual’s feelings about the partner (by asking them about a time when they felt close to their partner).
without referencing the partner’s feelings of closeness. If the manipulation had directed the individual to think about both their own and their partner’s feelings, it may have been more effective in manipulating closeness as assessed by the IOS.

It is particularly surprising that the manipulation was not successful, given that the sample in Study 2 was larger than the one used by Lewandowski and colleagues (2006), and was very similar in terms of sample characteristics. Although this prime was a published and previously validated manipulation, a common problem in the psychological literature in general (and the relationships literature specifically) is that successful attempts at manipulating constructs are published, while unsuccessful attempts are not published (Finkel et al., 2015). It is possible that other authors have attempted to use this manipulation, and similarly failed to influence feelings of closeness. Because these results would not have been published, it is difficult for me to know whether this manipulation has been successfully replicated without other published research on the topic. It is also possible that the manipulation failed because I directed participants to think about the one person they were closest with, while Lewandowski and colleagues (2006) simply had participants think about their romantic relationship partner. Although participants in my study theoretically should have been able to think about a time when they were not close with this person, it is possible that the high initial level of closeness with this person washed out any effect of the manipulation.

In future research, I would draw upon other manipulations used by Aron and colleagues (2000) to test whether self-expansion promotes MIL. Self-expansion theory argues for the importance of novel, arousing tasks in the presence of one’s partner (Aron & Aron, 1997; Aron et al., 2000). Although the manipulation I used proved effective at manipulating relationship closeness in prior research, it was not a novel or arousing one, nor was the relationship partner
present during the study itself. I suspect that a manipulation focused more closely on arousing self-expansion specifically by bringing relationship partners into the laboratory would have greater efficacy in manipulating closeness. For instance, Aron and Aron (Aron et al., 2000) have used a laboratory-based obstacle course to arouse feelings of novelty and arousal among couples, which promotes self-expansion and closeness. This task was not used in the current dissertation due to time, resource, and space constraints, but I suspect that couples would experience increases in meaning in life after undertaking this task.

**Moderation Analyses**

The results of moderation analyses testing whether religiosity moderated the influence of closeness on MIL were not consistent. In the daily-initial session, the analysis was not significant, whereas in the daily analysis and experimental study, the results were significant in the opposite directions. Overall, given the conflicting results between the three analyses (one not significant, two significant in opposing directions), I feel there is no consistent pattern of results with respect to religiosity interacting with closeness to predict MIL. Instead, I feel that this pattern of results supports my original argument, and the predictions of self-expansion theory, which suggests that the self-expansion experienced as a result of relationship closeness should be fundamentally meaningful to all people, regardless of their religious beliefs.

It is also important to note, even in the two statistically significant analyses, the interaction between religiosity and closeness was not significant after I entered the covariates of positive affect, self-esteem, loneliness or relatedness need satisfaction. The fact that the interaction between closeness and religiosity became non-significant could again be explained by the *mood-as-information* hypothesis. The mood-as-information hypothesis argues that positive feelings act as a heuristic that are easily drawn upon, and thus often used when people make
broad evaluative judgements (Schwarz & Clore, 1996). Thus, the overall finding of this dissertation is that closeness predicts better meaning in life through greater self-esteem and positive affect.

Although the moderation analyses for the initial laboratory session indicated that feelings of closeness towards romantic relationship partners were especially predictive of MIL, this finding was not replicated in the daily diary analyses, or in Study 2. Thus, in accordance with the assertions of self-expansion theory (Aron & Aron, 1986), my dissertation suggests that feelings of closeness are predictive of well-being regardless of relationship type. Similarly, demographic factors such as relationship length, proximity, and age of participants did not influence the nature of the association between relationship closeness and MIL.

**Limitations**

The current dissertation has a number of limitations. First, as discussed at length, the manipulation in Study 2 failed, meaning my dissertation cannot speak to causality or the hypothesized temporal ordering of the variables I examined. It is possible, for example, that the association between relationship closeness and MIL could be in the opposite direction that I hypothesized, and that feelings of meaning contribute to greater feelings of relationship closeness by promoting more overall positive evaluations. It is also possible that the two variables are not causally related, and that relationship closeness and MIL are correlated simply because people who tend to make positive evaluations overall will tend to make positive evaluations regarding both variables. Given that the substantive findings of the current dissertation are cross-sectional, it is impossible to causally link relationship closeness and MIL, or establish the directionality of the link between these two variables. Thus, future research should focus on finding an effective manipulation for relationship closeness, and longitudinal
methods with a longer longitudinal time-lag, in order to better establish the nature of the relationship between closeness and MIL.

Another limitation of the current study is it included only one member of each relationship. Evaluations of relationship quality, including relationship closeness, are interdependent variables (Cook & Kenny, 2005), such that one partner’s feelings of relationship closeness depend upon the other partner’s feelings of relationship closeness. Although my hypotheses were directed at the individual level, it is possible that controlling for the interdependence between partners’ feelings of closeness would provide important information into the nature of the link between relationship closeness and MIL. For example, it is possible that a partner’s feelings of relationship closeness may positively influence the individual’s MIL. Thus, future research should include both members of the relationship to examine the dyadic interplay between relationship closeness and MIL.

Another limitation of the current dissertation is that I relied solely on self-report assessments of relationship closeness. Although the assessments of relationship closeness I used are well-validated and reliable measures, there are a number of other ways to measure relationship closeness, including cognitive and behavioral assessments (e.g., Agnew et al., 1998). Future research would benefit from utilizing multiple methodologies to assess closeness, to ensure any results replicate across multiple methods of assessment.

Finally, my dissertation is limited because I used a convenience sample. Participants in both studies were college students who were largely White, young, and female. Although prior research examining the determinants of MIL has frequently utilized college student samples (e.g., Hicks et al., 2010; King et al., 2006), it is important to replicate the findings of this dissertation in samples of more demographic diversity.
Conclusion

The current studies provide evidence that relationship closeness and MIL are linked concurrently. Positive affect and self-esteem appear to explain the associated between relationship closeness and MIL, such that relationship closeness promotes greater positive affect and self-esteem, which then predict MIL. Moreover, I found that the link between relationship closeness and MIL is strongest for those with low levels of religiosity. The current study has therefore made strides in demonstrating a new contributor to the experience of MIL, and future research should continue to explore ways to promote this important and unique aspect of psychological well-being.
REFERENCES


APPENDIX A

STUDY MEASURES
APPENDIX A

STUDY MEASURES

Relationship Closeness and Meaning in Life

Demographics and covariates

1. How many years old are you? ______________________________

2. What is your gender? _____________________________

3. What is your race/ethnicity? ___________________________
The Meaning in Life Questionnaire

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

<table>
<thead>
<tr>
<th>Absolutely Untrue</th>
<th>Mostly Untrue</th>
<th>Somewhat Untrue</th>
<th>Can’t Say True or False</th>
<th>Somewhat True</th>
<th>Mostly True</th>
<th>Absolutely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I understand my life’s meaning.
2. I am looking for something that makes my life feel meaningful.
3. I am always looking to find my life’s purpose.
4. My life has a clear sense of purpose.
5. I have a good sense of what makes my life meaningful.
6. I have discovered a satisfying life purpose.
7. I am always searching for something that makes my life feel significant.
8. I am seeking a purpose or mission for my life.
9. My life has no clear purpose.
10. I am searching for meaning in my life.
Inclusion of Other in Self Scale and Conflicts

In our lives, we have relationships with many different people. Take a moment to think of the one person in your life with whom you feel closest with.

1. What is your relationship to the person in your life who you feel closest with?
   a. Romantic relationship partner  b. Friend  c. Mother  d. Father  e. Sibling  f. Aunt or Uncle  g. Other (please specify) __________

2. With reference to the individual in your life with whom you feel the closest (who you just selected above), please circle the picture that best describes how you feel about your relationship with this person right now.

   a. Self (S)/Partner(P)  b.  c.  d.  e.  f.  g. 

3. With reference to the individual in your life with whom you feel the closest, on a scale of 1 = none and 7 = many, TODAY how many conflicts or negative events did you experience with this person?
The URCS
Dibble, Levine, and Park (2012)

Instructions:

The following questions refer to your relationship with the individual in your life with whom you feel the closest. Please think about your relationship with the person you listed above as being the closest person in your life when responding to the following questions. Please respond to the following statements using this scale:

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

1. My relationship with my _____ is close.

2. When we are apart, I miss my _____ a great deal.

3. My _____ and I disclose important personal things to each other.

4. My _____ and I have a strong connection.

5. My _____ and I want to spend time together.

6. My _____ is a priority in my life.

7. My _____ and I do a lot of things together.

8. When I have free time I choose to spend it alone with my _____.

9. I think about my _____ a lot.

10. My relationship with my _____ is important in my life.

11. I consider my _____ when making important decisions.
The PANAS

The following scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment.

1 very slightly  2 a little  3 moderately  4 quite a bit  5 extremely
or not at all

Interested _____
Excited _____
Strong _____
Enthusiastic _____
Proud _____
Alert _____
Inspired _____
Determined _____
Attentive _____
Active _____
Self-Esteem

Please indicate the extent to which you agree with each of the following items.

1= Strongly agree
2= Agree
3= Disagree
4= Strongly disagree

_____ 1. I feel that I’m a person of worth, at least on an equal basis with others.
_____ 2. I feel that I have a number of good qualities.
_____ 3. All in all, I am inclined to feel that I am a failure.
_____ 4. I am able to do things as well as most other people.
_____ 5. I feel I do not have much to be proud of.
_____ 6. I take a positive attitude toward myself.
_____ 7. On the whole, I am satisfied with myself.
_____ 8. I certainly feel useless at times.
_____ 9. At times I think I am no good at all.
_____10. I wish I could have more respect for myself.
Relatedness Need Satisfaction

Feelings I Have

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

not at all true  somewhat true  very true

1  2  3  4  5  6  7

1. I really like the people I interact with.
2. I get along with people I come into contact with.
3. I pretty much keep to myself and don't have a lot of social contacts.
4. I consider the people I regularly interact with to be my friends.
5. People in my life care about me.
6. There are not many people that I am close to.
7. The people I interact with regularly do not seem to like me much.
8. People are generally pretty friendly towards me.
The Religious Commitment Inventory


Each item is rated on the following scale:

1 = not at all true of me, 2 = somewhat true of me, 3 = moderately true of me, 4 = mostly true of me, or 5 = totally true of me

1. My religious beliefs lie behind my whole approach to life.
2. I spend time trying to grow by understanding my faith.
3. It is important for me to spend periods of time in private religious thought and reflection.
4. Religious beliefs influence all of my dealings in life.
5. Religion is especially important to me because it answers many questions about the meaning of life.
6. I often read books and magazines about my faith.
7. I keep well informed about my local religious group and have some influence on its decisions.
8. I make financial contributions to my religious organization.
UCLA Loneliness Scale (Version 3)

Russell (1996)

**Instructions:** The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided. Here is an example

How often do you feel happy?

If you never felt happy, you would respond “never”; if you always feel happy, you would respond “always.”

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. How often do you feel that you are “in tune” with the people around you?
2. How often do you feel that you lack companionship?
3. How often do you feel that there is no one you can turn to?
4. How often do you feel alone?
5. How often do you feel part of a group of friends?
6. How often do you feel that you have a lot in common with the people around you?
7. How often do you feel that you are no longer close to anyone?
8. How often do you feel that your interests and ideas are not shared by those around you?
9. How often do you feel outgoing and friendly?
10. How often do you feel close to people?
11. How often do you feel left out?

12. How often do you feel that your relationships with others are not meaningful?
13. How often do you feel that no one really knows you well?
14. How often do you feel isolated from others?
15. How often do you feel you can find companionship when you want it?
16. How often do you feel that there are people who really understand you?
17. How often do you feel shy?

18. How often do you feel that people are around you but not with you?

19. How often do you feel that there are people you can talk to?

20. How often do you feel that there are people you can turn to?
Experimental Manipulation

After completing all the initial measures (self-esteem, religiosity, relatedness need satisfaction, loneliness, other covariates, etc.), participants were randomly assigned to one of two supraliminal priming conditions: high closeness or low closeness. All participants read the following passage:

We are interested in how students describe certain life experiences. For this task, **think of the one person in your life with whom you feel closest**. What is your relationship to this person?

1. What is your relationship to the person in your life who you feel closest with?
   
   f. Aunt or Uncle  g. Other (please specify) ____________

2. How many hours have you spent with this individual today? _______________

3. How many miles away do you live from this individual? ________________

Participants in the **high closeness condition** then read:

“Think back to a time in your relationship when you felt at one with this person. That is, you personally shared this person’s accomplishments and disappointments. In other words, you experienced this person’s actions, feelings, and thoughts as if they were your own. Try to think of a specific time and place, when you experienced these feelings in a positive way. Visualize the details as much as you can. Don’t worry about spelling or grammar; just write down as much detail about this time as possible."

Those in the **low closeness condition** read:

“Think back to a time in your relationship when you felt not at one with this person. That is, you did not personally share this person’s accomplishments and disappointments. In other words, you experienced this person’s actions, feelings, and thoughts as completely separate from your own. Try to think of a specific time and place, when you experienced these feelings in a way that wasn’t particularly negative. Visualize the details as much as you can. Don’t worry about spelling or grammar; just write down as much detail about this time as possible.”

All participants were then be given up to 15-minutes to write about this experience. They will then complete a manipulation check (the IOS scale) and a measure of MIL.