

**LONELINESS AND MATTERING: INVESTIGATING DISTINCTIONS AMONG
UNIVERSITY STUDENTS**

by

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Abstract

Perceived mattering, or the psychological tendency to evaluate the self as significant to others, and loneliness are two constructs that have received increasing attention in the past several decades. However, there is a dearth of literature on the relationship between mattering and loneliness. The purpose of this study was to empirically test the relationship between the two constructs, as well as to determine whether perceived mattering has a compensatory or additive effect in accounting for variance in loneliness. The secondary aim of this study was to test for any moderating effects of gender on the relationships between loneliness and mattering to various referents. The data were gathered from a convenience sample of university students ($N = 99$; 77% female, $n = 76$; 23% male, $n = 23$). Stepwise regressions, with loneliness as the dependent variable and perceived mattering to various referents as the independent variables, were conducted. Interaction terms were created and entered into regressions to test for compensatory and moderating effects. The results revealed that perceived mattering and loneliness were not inversely related although they were significantly negatively associated. Mattering to various referents (mothers, fathers, friends, and romantic partners) had an additive effect in accounting for variance in loneliness. Lastly, gender moderated the negative relationship between mattering and loneliness when the referents were mothers and fathers. Implications for future research and social work practice are discussed.

Preface

This study used data gathered in a previous study approved by the UBC Behavioural Research Ethics Board. The number of the original Certificate of Approval is B01-0372.

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Introduction

Generally speaking, human beings have an innate drive to belong and to form relationships with others (Baumeister & Leary, 1995). A lack of connection to others may lead to feelings of loneliness and, conversely, the sense that one does not matter to others. With the exception of those who choose to be alone, the experience of loneliness can be distressing. As a corollary, the perception that one does not matter to others is akin to rejection, which may contribute to feelings of loneliness (Elliott, 2009).

Loneliness is not an uncommon phenomenon and it is likely that most of us have felt lonely at some points in our lives. However, there may be periods along the lifespan when one is more susceptible to loneliness, whether due to transitions or loss of relationships. Young adulthood presents such a time. According to Rokach (2000), young adulthood (between the ages of 19 and 30) is a period in which people are often confronted with loneliness. In particular, loneliness seems to be a common experience among university undergraduates (Schultz & Moore, 1986). In Cutrona's (1982) New Student Study at the University of California in Los Angeles (UCLA), 75% of the participants reported occasional loneliness, while over 40% reported moderate to severe loneliness since their arrival at campus. University students may experience stress and depression and these feelings may heighten a sense of loneliness (S.K. Dixon & Robinson Kurpius, 2008). Young adults entering university may have moved away from home, leaving behind the comfort and safety of family and friends (Marshall, Liu, Wu, Berzonsky, & Adams, 2010; Ozdemir & Tuncay, 2008; Ponzetti, 1990). This uprooting and upheaval can create difficulty in forming new social bonds. According to one study, 40% of first year university students reported not making any new friends within the first ten weeks of school (Collins & Madsen, 2006). Although loneliness may be most acutely felt in the first year, it is

possible that loneliness persists through subsequent years (Cutrona). Furthermore, a sense of loneliness may be exacerbated by a perceived expectation that one ought to be in a romantic relationship in this life stage (Collins & Madsen). Loneliness is one of the reasons that students cite for feeling depressed or attempting suicide (Furr, Westefeld, McConnell, & Jenkins, 2001). Therefore, there are potentially very serious mental health implications of loneliness during young adulthood.

Perceived mattering is the sense that one is significant to other people. It is possible that loneliness and mattering are inversely related (Raque-Bogdan, Ericson, Jackson, Martin, & Bryan, 2011), but the association between the two has not yet been established empirically. Whether or not these two constructs are inversely related, it is intuitive to presume that greater feelings of loneliness may be associated with a lower sense of mattering and vice versa. Parallel to the literature on loneliness, researchers have speculated that university students may feel a lack of mattering because they are removed from significant social connections, such as family and friends (S.K. Dixon & Robinson Kurpius, 2008; Marshall et al., 2010). Therefore, loneliness and mattering appear to go hand in hand.

The purpose of this study was three-fold. The first objective was to explore the relationship between loneliness and mattering in young adults. Although both constructs have received growing interest in the past few decades, the relationship between the two has not yet been articulated. We do not know whether loneliness and mattering are empirically related, nor do we know how they are related. Thus, one aim of this study was to test the association of loneliness and mattering. Secondly, I sought to understand whether mattering to different specific others (mother, father, friends, or romantic partner) has a compensatory or additive

effect in accounting for variance in loneliness. The final objective was to determine whether gender moderates the relationship between loneliness and mattering.

The Importance of Studying Loneliness and Perceived Mattering

Studies have shown that loneliness can have detrimental effects on physical and mental health. Loneliness places people at risk of physical ailments, such as poor cardiovascular health and impaired immune responses (Hawkley & Cacioppo, 2010). Loneliness is also associated with mental health issues, such as psychoses, personality disorders, impaired cognitive functioning, low self-esteem and depression (Hawkley & Cacioppo; Peplau & Perlman, 1982; Russell, 1996). Particularly concerning is the correlation between loneliness and suicide or suicidal ideation. Stravynski and Boyer (2001) found that people who reported feeling distress about being alone were more likely to have suicidal thoughts and to attempt suicide. Young adults in university, in particular, may be susceptible to loneliness and its associated mental health concerns. As noted, students may be living away from home and adjusting to a new and unfamiliar setting. These are environmental factors which may cause or exacerbate loneliness.

Contrary to loneliness, mattering may have positive effects on physical and mental health (Raque-Bogdan et al., 2011). Mattering helps one to feel a sense of belonging, which contributes to a sense of meaning (Marshall, 2001). Marshall found that mattering was positively correlated with a measure of purpose in life. Perceived mattering may help buffer against psychological malaise. In their pioneering work, Rosenberg and McCullough (1981) found that adolescents who felt that they mattered to their parents reported lower anxiety and depression, as well as higher self-esteem. In a more recent study (A.L. Dixon, Scheidegger, & McWhirter, 2009), mattering was also found to be negatively associated with anxiety and depression in adolescents. S.K. Dixon and Robinson Kurpius (2008) found that university undergraduates who felt that they

mattered to friends and parents reported lower stress and depression. In their study, Taylor and Turner (2001) found a negative correlation between mattering and depression for both men and women. However, the relationship between mattering and depression appears to be stronger for women. For men, the effect of mattering on depression may be masked by mastery and social support. Using a longitudinal design, Taylor and Turner also found that mattering predicted depression over time for women, but not for men.

While loneliness is associated with an increased risk of suicide, perceived mattering may be a protective factor against it. Elliott, Colangelo, and Gelles (2005) found that mattering was negatively related to suicidal ideation for youth between the ages of 11 and 18. These findings are not surprising, as a lack of mattering may be perceived as rejection, resulting in a sense of shame and worthlessness (Elliott, 2009). According to Elliott, a sense of mattering may also protect against antisocial behaviours and self-destructive behaviours other than suicide, such as theft, physical violence, and drug use. Elliott posits that self-esteem mediates the relationship between mattering and antisocial behaviours. However, his claims that mattering reduces antisocial and self-destructive behaviours should be interpreted with caution, as his research was based on cross-sectional, rather than longitudinal, data.

On a relational level, mattering helps form a cohesive bond between two people. Mattering appears to be reciprocal; we care about those to whom we think we matter (Rosenberg & McCullough, 1981). In an adolescent sample, mattering was positively associated with frequency of interactions with friends and negatively associated with peer rejection (Marshall, 2001). Demir, Ozen, Dogan, Bilyk, and Tyrell (2010) administered Marshall's (2001) Mattering to Others Questionnaire (MTOQ) to college students, with the "other" referring to the participant's best friend in one study and three closest friends in another study (romantic partners

were excluded). Demir et al. tested whether mattering mediated the relationship between friendship quality and happiness or whether friendship quality mediated the relationship between mattering and happiness. The authors found that the first model was a better fit than the second one. Perceived mattering is, thus, associated with friendship quality and happiness. Mattering might also be an important factor in maintaining romantic relationships. Using the Mattering to Romantic Others Questionnaire (MTROQ) with undergraduates, Mak and Marshall (2004) found that mattering is positively associated with investment in a relationship and relationship satisfaction. An implication of this study is that when people feel they matter to their partners, they are more likely to commit themselves to the relationship.

Loneliness

Defining Loneliness

Loneliness is described in the literature as having three elements. The first assumption is that loneliness is an unpleasant, even distressing experience (Peplau & Perlman, 1982; Russell, Cutrona, Rose, & Yurko, 1984). The second element is that loneliness is subjective (de Jong Gierveld, Tilburg, & Dykstra, 2006). Hawkley and Cacioppo (2010) assert that loneliness stems from perceived social isolation, rather than objective isolation. Lastly, loneliness implies deficiencies in one's social relationships (Peplau & Perlman). Therefore, a feeling of loneliness occurs when relationships do not meet one's needs, such as the need for companionship or the need for close attachments.

Although loneliness and social isolation appear to overlap, the two constructs are distinguished from each other in the literature. Social isolation is typically measured in terms of quantity; that is, the number of social connections (de Jong Gierveld et al., 2006). Loneliness, on the other hand, is the perception of both quantitative and qualitative deficiencies in one's relationships (Hawkley & Cacioppo; Murphy & Kupshik, 1992; Russell et al., 1984). In short, social isolation refers to an objective construct, while loneliness is subjective.

Theories of Loneliness

There are many theories on loneliness, but it would be beyond the scope of this paper to expand on these individually. However, I will present an overall theme I have observed in my review of the literature. A common element of the various theories is the interplay of personal characteristics and environmental factors (Hawkley & Cacioppo, 2010; Larose, Guay, & Boivin, 2002; Peplau & Perlman, 1982; Weiss, 1973). Weiss postulated that loneliness occurs when one's relationships fail to fulfil personal needs. Weiss's conceptualization of loneliness is

grounded in attachment theory; loneliness in adulthood is akin to separation from a secure attachment figure in childhood. In their cognitive discrepancy model, Peplau and Perlman emphasized the role of cognition. The cognitive discrepancy refers to the mismatch of one's desired and achieved levels of social contact. Desired levels of social contact are subjective and are based on comparisons to past or present relationships, as well as social and cultural norms (Peplau, Miceli, & Morasch, 1982; Murphy & Kupshik, 1992; Ponzetti, 1990).

Hawkey and Cacciopo (2010) have articulated a model for understanding how personality traits may predispose people to interact with the social world in such a way that perpetuates and reinforces loneliness. According to this model, lonely people have a tendency to view the world negatively, and therefore, see the world as unsafe. Lonely people become hypervigilant by expecting negative interactions and interpreting social cues negatively. These people then behave in a manner consistent with their beliefs, which may elicit the very responses they expected. In essence, this model suggests a self-fulfilling prophecy.

Larose et al. (2002) explored two models of loneliness in their study. In the social network mediation model, the emphasis is on the influence of personal dispositions, such as shyness and neuroticism, on interactions. In the cognitive bias model, loneliness stems from negative interpretations of interactions. Interestingly, the authors found evidence supporting both models.

Suffice it to say, loneliness is influenced by both personal and environmental factors (Weiss, 1982). It is difficult to establish directionality in the relationship between these two factors. Personal characteristics associated with loneliness include low self-esteem, introversion, low assertiveness, and heightened sensitivity to rejection (Cutrona, 1982). Loneliness is also associated with cynical attitudes toward people, a sense of alienation, minimal self-disclosure,

and low levels of social risk-taking (Jones, 1982). Environmental factors relevant to university students include separation from family and friends, the large size of classes, and a culture of competition that is inherent in post-secondary institutions.

Conceptual and Measurement Issues

Various measures have been developed to tap into loneliness. A conceptual issue that is worth mentioning is whether loneliness is a unidimensional or multidimensional construct. Unidimensionality implies that there is a common loneliness experience across different groups, while multidimensionality suggests different manifestations of loneliness (Russell, 1982). According to Weiss (1973), loneliness can be separated into two types: emotional loneliness and social loneliness. However, Weiss (1989) later cautioned that his definitions of the two types needed further clarification and refinement. Emotional loneliness is a feeling that stems from a lack of intimate attachments, typically involving romantic partners (Green, Richardson, Lago, & Schatten-Jones, 2001). Social loneliness, on the other hand, refers to a feeling stemming from the absence of a social network. Emotional loneliness is more likely to occur with the loss of an important relationship, while social loneliness tends to occur when one moves to a new social environment (Russell et al., 1984). Weiss's typology has been brought into question by some researchers. In Russell et al.'s study, students were asked to read two statements, each describing either emotional or social loneliness, and rate themselves as to the extent to which they experienced either condition. Participants also completed the UCLA Loneliness Scale. Russell et al. found high intercorrelations between emotional and social loneliness with particular items from the UCLA Loneliness Scale, which suggests that the two types are experienced differently. However, the single-item scores representing either type also correlated significantly with the total scores from the UCLA Loneliness Scale. This substantial overlap

suggests that there is a core experience of loneliness that is common to both types of loneliness. Likewise, Baumeister and Leary (1995) question Weiss's concept of social and emotional loneliness. They assert that it is difficult to differentiate between the two types, and that there is likely considerable overlap between them.

However, Weiss's typology has received some empirical support, as well. Building upon Russell et al.'s self-report items, Green et al. (2001) explored correlations between the two types of loneliness and types of relationships. They found that emotional loneliness was most strongly related to not having a romantic partner, while social loneliness was negatively related to having a close friend. This would suggest that there are two types of loneliness, each stemming from a deficit in specific relational needs.

The debate surrounding dimensionality of loneliness is relevant to this study, insofar as it helps us to situate the measure employed in my study in the larger discussion. In synthesizing the literature on loneliness, I concluded that there is a core loneliness experience underlying the two types of loneliness (social and emotional). The measure used in this study, the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978; Russell, Peplau, & Cutrona, 1980; Russell, 1996) is a global, unidimensional measure; that is, the scale was developed with the assumption that there is a common loneliness experience, regardless of circumstance (Russell, 1982).

Perceived Mattering

Defining Mattering

Although different conceptualizations of mattering exist, the essence of mattering is a perception that we are significant to others and that we are objects of concern to others (Marshall, 2001; Elliott, 2009; Rosenberg & McCullough, 1981). Marshall (2001) defines mattering as “the psychological tendency to evaluate the self as significant to specific other people” (p. 474). I have adopted this definition for the current study. It is important to bear in mind that mattering may be positive or negative. For example, it is possible to interpret criticism as an indication that one matters to another person. However, the underlying assumption of this study is that mattering occurs through positive social exchanges.

A sense of mattering is important for identity formation and self-concept (A.L. Dixon, et al., 2009; Marshall, 2001; Elliott, 2009). Rosenberg (1979) describes the self-concept as “the totality of the individual’s thoughts and feelings having reference to himself as an object” (p. 7). The self-concept is, thus, composed of the self-as-knower and the self-as-object (James, 1890; Leary & Tangney, 2003). Rosenberg points out that “the self-concept is not the ‘real self’, but, rather, the *picture* of the self” (p. 7, emphasis in the original). According to James, the self is an integrated whole composed of different components, of which the social self is one. William James and Charles Cooley viewed the social self-concept as the perception of how much one is liked and admired by others (Berndt & Burgy, 1996). Although mattering happens independently of approval (Rosenberg & McCullough, 1981), it nonetheless relates to the social self-concept because it involves a perception of how one is seen by others. The formation of the social self occurs through symbolic interaction; the way we view ourselves is shaped by

linguistic exchanges (Harter, 1999; Prus, 1996). Moreover, the ability to see ourselves as we think others see us, known as the “looking glass self”, informs our self-concepts (Cooley, 1956).

Mattering appears to overlap with other constructs, but remains distinct in itself. For example, self-esteem has been purported to overlap with mattering. Self-esteem describes the extent to which one feels a sense of worth (Elliott, 2009). Rosenberg and McCullough (1981) demonstrated that a sense of mattering occurs independently of self-esteem by controlling for the latter. They found that the relationship between mattering and the dependent variables of anxiety and depression remained significant when self-esteem was controlled for. Findings from two other studies (Dixon & Kurpius, 2008; Marshall, 2001) suggest that mattering and self-esteem are related, but the correlation is not substantial enough to warrant subsuming the former within the latter. A sense of mattering may also relate to a sense of belonging (Marshall, 2001). However, one might feel part of a group, but not necessarily feel as though he or she is important to the people in that group (France & Finney, 2009). Mattering can also be differentiated from self-efficacy. Taylor and Turner (2001) hypothesized that self-efficacy, namely mastery, taps into the ability to connect to the social world in such a way that one feels a sense of mattering. A factor analysis revealed that mattering is distinct from mastery and is, thus, not a dimension of self-efficacy. Lastly, mattering is not the same as social support. Social support is often measured in terms of responses to specific material or emotional needs. A factor analysis by Taylor and Turner revealed that mattering and social support are different constructs. Therefore, the perception that one matters can still exist in the absence of received social support (Elliott, 2009).

Conceptual and Measurement Issues

There are two main measurement issues when studying perceived mattering. The first concerns the dimensionality of the construct. Rosenberg and McCullough (1981) proposed that mattering has four components: attention, importance, dependence, and ego extension. Because a measure of mattering had not yet been developed, Rosenberg and McCullough used proxy measures of mattering with adolescent samples. Elliott, Kao, and Grant (2004) developed a 24-item measure based on Rosenberg and McCullough's conceptualization of mattering, but omitted the dimension of ego-extension. Elliott et al. labelled their dimensions as awareness, importance and reliance. France and Finney (2009; 2010) adapted Elliott et al.'s measure to reflect mattering in a university setting. However, they hypothesized and confirmed through factor analysis that ego-extension is indeed a fourth dimension of mattering. These studies assume that mattering is multidimensional. The second measurement issue is whether mattering refers to mattering in a general sense or mattering to specific others. An example of the former is the General Mattering Scale (Schieman & Taylor, 2001; Taylor & Turner, 2001), which is a five-item scale that does not specify a referent. An example of the latter is the College Mattering Inventory, developed to measure mattering to instructors, counsellors, and other students (Tovar, Simon, & Lee, 2009).

In the current study, mattering is assumed to be a unidimensional construct that is measured with respect to specific others, in accordance with Marshall's (2001) conceptualization. Marshall's MTOQ and Mak and Marshall's (2004) MTROQ will be discussed in more detail in the Method section. Unlike Rosenberg and McCullough's (1981) conceptualization of mattering, Marshall's model assumes that there is a core essence of mattering, as opposed to different forms of mattering. A unidimensional conceptualization

aligns with Marshall's definition of mattering as a "psychological tendency". This implies that mattering is essentially a perception of the self in relation to others. Rosenberg and McCullough's forms of mattering and multidimensional measures of the same ilk (Elliot et al., 2004; France & Finney, 2009) tap into the ways people come to know that they matter. For example, the dimension of reliance is the extent to which one feels needed by others. I recognize that being relied upon may contribute to feelings of mattering. However, the dimension of reliance seems to be adjudged by objective indicators, such as being asked for advice. Thus, the measure of mattering appears to exist outside of the person, rather than within. Rosenberg and McCullough's dimension of importance is also problematic. This dimension includes the feeling that one's successes are acknowledged by others, as well as the sense that one's needs are attended to. It might be debated, however, that the acknowledgement of successes relates to approval, while unmet needs relates to social support. Therefore, I chose Marshall's unidimensional conceptualization of mattering because it emphasizes that mattering is, at its core, a perception within the individual based on attention to and interpretation of social stimuli, as opposed a multidimensional conceptualization, in which types of mattering are formed through various social exchanges.

Theory of Mattering

Perceived mattering, as a part of self-concept, is shaped within a social context. Marshall (2001) posits that perceived mattering is construed through the attention received from others and the interpretation of this attention. Social learning and cultural norms influence the behaviours we choose to attend to, as well as our interpretation of these behaviours (Elliott, 2009). Interpretation depends upon social comparison; that is, comparing how much attention another person gives to other objects or people, social norms, and past experiences (Mak &

Marshall, 2004). Mak and Marshall demonstrated the association between social comparison and mattering in their study. The authors measured the quality of alternatives, or the attention that participants received from sources other than the referent (in this case, the romantic partner). They found that quality of alternatives was negatively associated with mattering. Thus, people compare the amount of attention they receive from their partners to attention from other sources and then make inferences as to how much they matter to their partners.

Perceived mattering is also made possible by role-taking or the ability to see ourselves as how we think the other sees us, also known as the “looking-glass self” (Cooley, 1956). The looking-glass self involves seeing the self as it may appear to others, imagining judgments or appraisals from the other’s perspective and forming an emotional response, such as pride or shame (Tice & Wallace, 2003). The self-concept develops through a dynamic interplay of personal characteristics, self-views, and social interactions. Therefore, the extent to which we feel we matter to others depends on the stimuli we receive, but also on our own cognitive processing of this information. Perceived mattering is, thus, subject to the phenomenon of self-verification (Swann Jr., Stein-Seroussi, & Giesler, 1992). Self-verification is the tendency to selectively attend to information, encode and retrieve information, and interpret stimuli in a manner that confirms self-views (Swann Jr., Rentfrow, & Guinn, 2003).

In short, mattering is developed through the dialectic between interpersonal and intrapersonal processes, which is best summed up in Mak and Marshall’s (2004) model. Attending behaviours of specific others occur at the interpersonal level. These attending behaviours are processed intrapersonally via selective attention, assignment of meaning, comparison, role-taking, and self-attribution. This interaction between interpersonal and intrapersonal processes forms a feedback loop. A sense of mattering may be construed from

interpersonal interactions. At the same time, one may already have a sense of mattering, which influences attention to and interpretation of stimuli.

Conceptual Framework

What is the Relationship Between Loneliness and Mattering?

The first objective of this study was to understand the relationship between loneliness and mattering. The opposite of loneliness is belongingness (de Jong Gierveld et al., 2006), while mattering is a correlate of belongingness. Thus, it stands to reason that a perception of mattering may mitigate feelings of loneliness. Baldwin's (1992) notion of relational schemas provides a useful framework for understanding the relationship between loneliness and mattering.

Relational schemas are "cognitive structures representing regularities in patterns of interpersonal relatedness" (Baldwin, p. 461). Thus, past social interactions influence the way new social information is processed. A relational schema integrates interpersonal scripts, a self-schema, and a schema for the other person (Baldwin). With loneliness, for example, one might experience repeated situations wherein initiating and sustaining conversation is challenging. The person might then form a view of the self as being unlikable or uninteresting. Furthermore, the person might form a schema of the other as being aloof or hostile, and this schema will influence subsequent interactions. Conversely, one might experience repeated interactions in which a sense of mattering is reinforced. Through these interactions, one forms a self-concept of being significant to the other. Taken together, if one experiences interactions which contribute to a relational schema of mattering, it is less likely he or she will feel lonely. An aim of this study was to test the relationship of loneliness and mattering empirically. Based on the concept of relational schemas, I hypothesized that mattering and loneliness are mental representations of different things that negatively influence each other, but are not inversely related; that is, loneliness and perceived mattering are not polar opposites of a single construct. Theoretically, loneliness relates to a feeling of isolation, while mattering refers to a perception of significance

to others. Therefore, although the two constructs appear to be related, both tap into fundamentally different experiences.

Is Mattering Compensatory or Additive?

The second aim of this study was to understand whether mattering to various referents has a compensatory or additive effect in accounting for variance in loneliness. Marshall's (2001) MTOQ allows for the measurement of perceived mattering with respect to different referents. According to Harter (1999), self-worth appears to be context-specific; this is known as "relational self-worth". That is, we imagine different judgments of ourselves depending on whose eyes we are looking through. I posit that mattering operates in a similar manner to self-worth. According to Rosenberg (1979), self-esteem is related differentially to significant others, such that the views of certain people are more significant than others. Our self-concept is shaped by those closest to us and we assign weight to external judgments of ourselves based on the other's closeness to us (Tice & Wallace, 2003). In short, mattering may vary with respect to the referent other.

A compensatory view of mattering means that perceived mattering in one social relationship can be substituted for a lack of mattering in another relationship, with levels of loneliness remaining unchanged. For example, high perceived mattering to parents reduces loneliness, despite low perceived mattering to friends. According to Baumeister and Leary (1996), relationships are typically interchangeable, a phenomenon described as "substitutability". Collins and Madsen (2006) assert that relationships become more interrelated over time. The strength of influence from friends, family, and romantic partners is equally distributed, but each social category maintains its role. These observations of young adult relationships would

suggest that mattering is compensatory, since relationships tend to be interchangeable, with the influence of specific others being approximately equal.

An additive model of mattering means that perceived mattering to various referents independently contribute to variance in loneliness. Marshall's (2004) study lends support for an additive model. She found that mattering to parents and mattering to friends individually accounted for variance in the dependent variables of self-concept and behavioural conduct. To test the compensatory model, Marshall used stepwise regression and computed an interaction term for mattering to parents and mattering to friends. The interaction term was not significant, which suggests that mattering in one social relationship does not compensate for mattering in another relationship.

Marshall's (2004) study involved adolescents. It was not known whether an additive model was the best fit for the young adults in the current study. Also, it was not known how the added element of mattering to a romantic partner may affect the overall model. Although Marshall's study indicates that mattering to different referents is best explained by an additive model, the literature also suggests that a compensatory model is possible with the increasing interchangeability of relationships with age. Therefore, another aim of this study was to explore whether mattering to mothers, fathers, friends, and romantic partners is additive or compensatory in accounting for variance in loneliness.

Does Gender Moderate the Relationship Between Loneliness and Mattering?

The final aim of this study was to determine whether or not gender moderates the relationship between loneliness and mattering. Gender differences have been reported for both constructs. These differences may be explained by socialization and orientation toward relationships. Young adult women tend to report more close friendships than men (Collins &

Madsen, 2006). Women are more likely to self-disclose and seek emotional support from friends (Collins & Madsen). Foels and Tomcho (2009) posit that women are socialized to perceive relationships as dyadic, while men see them as categorical. For example, women are more likely than men to recall relationships with specific other people. Men, on the other hand, are more likely to identify relationships in terms of categories, such as groups they belong to. Therefore, women may feel a deeper sense of connection within their relationships and, as a result, feel less lonely. Given these behavioural and perceptual differences, there may be gender differences in the reporting of loneliness.

Significant gender differences in loneliness are reported in several studies. In validating the second version of the UCLA Loneliness Scale, Russell, et al. (1980) conducted two studies using university samples. In the first study, the UCLA Loneliness Scale was administered to first year students at UCLA. Russell et al. found that males rated significantly lonelier than females. In the second study, the measure was administered to a broader age range, as well as to students at another university. However, the findings from this study suggest no significant gender differences. Schultz and Moore (1986) found that males rated higher than females on the UCLA Loneliness Scale (Version 2). Moreover, males are more likely to have negative self-views and attribute their loneliness to personal failings. Administering the UCLA Loneliness Scale (Version 3) to college students, Russell (1996) found that males had significantly higher scores than females.

According to Borys and Perlman (1985), gender differences in loneliness are influenced by the measure employed. They conducted a meta-analysis of studies that used either the UCLA Loneliness Scale or measures that required participants to self-identify as lonely. The extant literature at that point would have utilized the second version of the UCLA Loneliness Scale.

Borys and Perlman found no significant gender differences with the UCLA Loneliness Scale; only four out of 28 studies revealed gender differences, with males scoring higher than female. Studies that did not use the UCLA Loneliness Scale involved measures which directly probed at whether or not respondents felt lonely. Contrary to studies using the UCLA Loneliness Scale, these studies suggest that females are more likely to label themselves as lonely. Borys and Perlman reason that there is less stigma attached to females admitting to loneliness compared to males.

Gender differences in perceived mattering have also been reported. Marshall (2001) asserts that there may be gender differences in mattering because a sense of mattering is shaped within a cultural context. Females may be socialized to attend to and interpret stimuli in a different manner than males. Marshall explored gender differences in mattering among adolescents and young adults. There were indeed statistically significant gender differences, with females reporting higher perceived mattering than males. Marshall also compared the genders with respect to three versions of the MTOQ, with the referents being mothers, fathers, and friends. Females reported higher perceived mattering to mothers and friends than males. Marshall did not find significant gender differences with respect to mattering to fathers. In another study (Marshall et al., 2010), undergraduate women scored higher on perceived mattering to parents and friends compared to men. Using the General Mattering Scale, Taylor and Turner (2001) also found gender differences. In this study, women reported higher mattering than men. As noted earlier, Taylor and Turner also found that mattering is predictive of depression for women, but not for men. Schieman and Taylor (2001) explored the effects of education, occupational status, family roles and role conflict on mattering. Again, women tended to report higher mattering than men, even when status and roles were controlled for.

Although there appear to be gender differences in mattering, some authors (A.L. Dixon et al., 2009; S.K. Dixon & Robinson Kurpius, 2008) were unable to detect significant differences.

In summary, gender differences in loneliness and mattering have been reported in some studies, although the findings are equivocal. Nonetheless, it was worthwhile to examine whether or not gender influences the relationship between loneliness and mattering, as this question had not yet been explored.

Method

Participants

Participants in this study were drawn from undergraduate family studies courses at a Canadian university. The sample ($n = 99$) comprised 23 males and 76 females. The ages of participants ranged from 16 to 32 years ($M = 21.71$, $SD = 2.59$). The self-identified ethnic backgrounds represented in the sample included European ($n = 43$; 43.4%), Chinese ($n = 35$; 35.4%), and other ethnic groups (e.g. Filipino, African, East Indian; $n = 21$; 21.2%). Relationships ranged in duration from 0.5 to 96 months ($M = 25.88$ months. $SD = 22.62$). Although romantic partners were not directly involved in this study, information regarding their characteristics was gathered. The mean age of romantic partners was 23.09 years ($SD = 4.01$). The ethnic backgrounds of the partners included European ($n = 49$; 49.9%), Chinese ($n = 28$; 28.3%), and other ethnic groups (e.g., Indian, Filipino; $n = 22$; 22.2). Two respondents indicated that they were in a same-sex relationship. In terms of level of commitment, 79 respondents (79.8%) reported spending time with one partner, 14 respondents (14.1%) were cohabiting with their partner, and 4 respondents (4.0%) were married.

Procedures

The data for this study were collected by Dr. Sheila Marshall (principal investigator) and Leanne Mak (co-investigator) as part of a larger Romantic Relationships Study. Questionnaires were administered to eligible participants; namely, people who were currently in a romantic relationship. Participants were instructed to complete the questionnaire at a convenient time and place and return the completed questionnaires to the principal investigator. Participants were informed they would not receive any course credit for completing the questionnaire.

Measures

Demographic Information. Participants responded to questions regarding their age, sex, and ethnicity, as well as their partners' age, sex, and ethnicity, and length of the current relationship.

Perceived Mattering. The construct of perceived mattering was measured using Marshall's (2001) Mattering to Others Questionnaire (MTOQ). The MTOQ is an 11-item scale that can be used with different people as the referent. Participants completed three different versions of the measure, corresponding to mothers, fathers, and friends as the referent. Scores are derived by calculating the mean of item responses, which range from 1 to 5. The anchors for the items are "not much", "somewhat", and "a lot". Higher scores reflect higher perceived mattering. Examples of items include: "I am missed by my _____ when I am away" and "My _____ notices my feelings". For two of the items, respondents are asked to imagine where they would rank if the referents made a list of things they thought and cared about. Internal consistency for this scale was high (Cronbach's alpha = 0.93)

Mattering to Romantic Others. The Mattering to Romantic Others Questionnaire (MTROQ) is a 17-item scale developed by Mak and Marshall (2004). This scale augments the MTOQ with extra items that tap into construals of attending behaviours specific to romantic relationships. Like the MTOQ, the mean of scores ranging from 1 to 5 is calculated for the overall score. The anchors for the items are "not true for me", "somewhat true", and "true for me". Again, higher scores reflect higher perceived mattering to romantic partners. Examples of items that are not found in the MTOQ include: "My romantic partner goes out of his/her way to do things for me" and "My romantic partner is often too busy for me". For two of the items,

respondents are asked to imagine where they would rank if the romantic partner made a list of things she or he thought and cared about. Cronbach's alpha was 0.83.

Loneliness. Russell's (1996) UCLA Loneliness Scale (Version 3) was administered to the participants. Responses to items are indicated on a 4-point scale, ranging from "never" to "always". A total score for each participant is calculated by summing the score of all the items. Items that are positively worded are reverse scored. Therefore, a higher score reflects a higher degree of loneliness. Sample questions include: "How often do you feel that you lack companionship?" and "How often do you feel that you are no longer close to anyone?" The Cronbach's alpha for this scale was 0.92.

Plan for Analysis

Using SPSS, I conducted a stepwise regression to test the relationships between the variables. First, I tested whether mattering is additive or compensatory by entering the different referents (mother, father, romantic partner, and friends) on separate steps and observing whether the addition of more people resulted in significant changes in accounting for variance in loneliness scores. If the slope of each referent remained significant with the addition of referents, this would suggest that mattering is additive. If, however, the slopes were non-significant with the addition of referents, this might suggest that mattering is compensatory. To test for compensatory effects, I computed interaction terms between referents and added these interaction terms in the final step of the regression. For significant interactions, I probed further to examine the strength and direction of the moderating effect following procedures outlined in Aiken and West (1991). The process involves first creating an interaction terms between the independent variable and moderator at one standard deviation above the mean of the independent variable and then creating an interaction term between the independent variable and moderator at one standard deviation below the mean of the independent variable. Separate regression equations were then conducted to assess the slopes of the independent variable.

Determining whether loneliness and mattering are inversely related flowed from the preceding process. There is an inherent challenge in examining the relationship between loneliness and mattering, in that the former is measured globally, while the latter is measured with respect to specific others. Therefore, the relationship had to be inferred from the total variance accounted for by all referents, as well as from the slopes of each referent. After conducting the stepwise regression, I looked at the total variance accounted for by all referents on the final step. If the variance accounted for was high, this would suggest that mattering and

loneliness are the inverse of each other. I also examined the slopes of each referent to ensure that the correlations were not significantly high. The cut-off used for total variance and individual slopes was .90.

Finally, to test for moderating effects of gender, an interaction term of the independent variable (mattering) and the moderator (gender) was computed. Variables were centered before computing interaction terms. I conducted stepwise regressions, entering the centered independent variable and moderator in the first step and then the interaction term on the second step. For significant interactions, I probed further to examine the strength and direction of the moderating effect.

Results

Preliminary Analysis

The means and standard deviations of each measure and the intercorrelations between mattering to different referents and loneliness are presented in Table 1. One participant did not complete the mattering to fathers scale ($n = 98$). The assumption of normality was met for all variables. Skew was not found to be significant for any of the measures. Kurtosis was high (3.21, $SE = .481$) for mattering to mothers, but within an acceptable range.

Table 1: Means, Standard Deviations, and Correlations between Mattering to Various Referents and Loneliness

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1. Mothers	99	4.20	.79				
2. Fathers	98	3.73	.92	.565**			
3. Friends	99	3.77	.70	.227*	.254*		
4. Romantic Others	99	4.51	.40	.179	.313**	.146	
5. Loneliness	99	2.42	.44	-.255*	-.317**	-.514**	-.356**

* $p < .05$, ** $p < .01$, two-tailed.

Before running the stepwise regression, I ensured that there was no risk for multicollinearity. The mattering measures were intercorrelated, but not enough to suggest potential problems with multicollinearity. It is important to note that all the mattering measures were negatively correlated with loneliness.

Is Mattering Additive or Compensatory?

The results of the stepwise regression of mattering to mothers, fathers, friends, and romantic partners predicting loneliness are presented in Table 2. I tried entering the referents in various orders. To begin, I entered the referents in a temporal order that mirrors that of real life: parents first, followed by relationships that are formed later in life. To be sure that the order of referents did not significantly alter the results, I ran several regressions, changing the order of referents. The results were very similar regardless of the order of referents.

Table 2: Stepwise Regressions of Mattering to Mothers, Fathers, Friends, and Romantic Others Predicting Loneliness

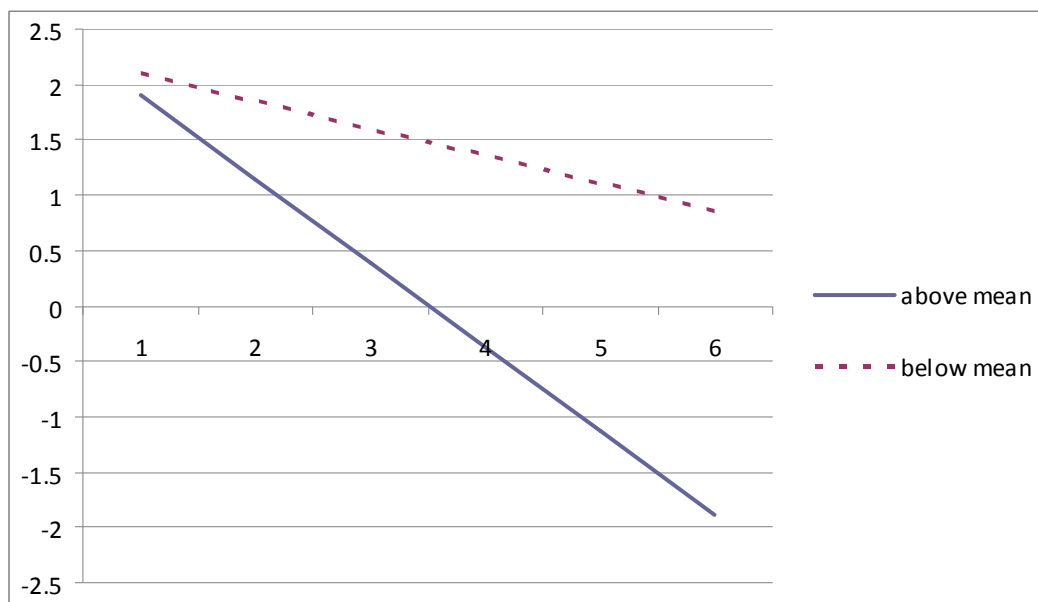
Predictor	R^2	F_{change}	$Sig.F_{change}$	β	t	p
Step 1						
Mothers	.039	4.91	.029	-.220	-2.22	.029
Step 2						
Mothers	.084	5.73	.019	-.061	-0.52	.605
Fathers				-.282	-2.39	.019
Step 3						
Mothers	.265	24.34	.000	-.018	-0.17	.868
Fathers				-.193	-1.81	.074
Friends				-.446	-4.93	.000
Step 4						
Mothers	.335	10.90	.001	-.017	-0.16	.870
Fathers				-.109	-1.04	.301
Friends				-.424	-4.92	.000
Romantic				-.289	-3.30	.001

The overall model, with all referents entered, was significant, $F = 13.23$, $p < .001$. Interestingly, the slope of mattering to mothers becomes non-significant when mattering to fathers is entered on the second step. Moreover, both mattering to mothers and mattering to fathers become non-significant in the final two steps of the regression analyses. This suggests an additive model, wherein mattering to friends and romantic partners significantly add to the prediction of loneliness. However, I could not conclude that the regression analysis confirmed an additive model without testing whether referents on the second, third, and fourth steps compensated for preceding referents. What is clear, though, is that mattering to romantic others adds to mattering to friends in predicting loneliness; both slopes are significant in the final steps of the regression.

To test for possible compensatory effects, I computed interaction terms between referents except between friends and romantic partners as these were additive in predicting loneliness in

the first model. First, I tested the interaction between mattering to mothers and mattering to fathers. The interaction between mattering to mothers and mattering to fathers was not significant ($\beta = -.128, p = .316$) when entered on the second step of the model, after the linear effects were entered on the first step. Next, I tested the interactions between mothers and friends and mothers and romantic others. I repeated the procedure for fathers. No significant interactions were found between mothers and romantic others ($\beta = -.122, p = .216$), fathers and friends ($\beta = -.155, p = .077$), and fathers and romantic others ($\beta = -.088, p = .362$).

Figure 1: Relationship Between Mattering to Friends and Loneliness for Participants Scoring Above or Below the Mean on Mattering to Mothers



A surprising finding was that the interaction between mattering to mothers and mattering to friends was significant ($\beta = -.285, p = .001$). I further probed this interaction by examining the relationship between mattering to friends and loneliness for those who scored above the mean and those who scored below the mean in mattering to mothers (see Figure 1). The relationship between mattering to friends and loneliness was stronger for those with scores above the mean (β

= $-.756, p = .000$) than below ($\beta = -.248, p = .027$) for mattering to mother. This suggests that mattering to friends adds to the prediction of loneliness to those who are already high in mattering to mothers, lending further support to an additive model. Mattering to friends also adds to the prediction of loneliness for those scoring below the mean in mattering to mothers but the slope is not as steep as for those above the mean.

What is the Relationship Between Loneliness and Mattering?

Mattering to mothers, fathers, friends, and romantic others accounted for 33.5% of the variance in loneliness scores (see Table 2). Furthermore, the slopes for each referent indicate that mattering and loneliness are negatively related, but do not approach the 0.90 cutoff that would suggest that mattering and loneliness are the inverse of each other. Therefore, loneliness and mattering are not statistically inversely related.

Does gender moderate the relationship between mattering and loneliness?

To test the moderating effects of gender, an interaction term was computed for the independent variable (mattering) and the moderator (gender). For each referent, the independent variable, moderator, and interaction term were regressed onto loneliness.

I first tested whether gender moderated the relationship between loneliness and mattering to mothers. On the first step of the regression, mattering to mothers and gender were entered. On the second step, the interaction term for mattering to mothers and gender was entered. The $F_{change}(1, 95)$ was 4.69, $p = .033$. The interaction term was significant ($\beta = .210, p = .033$). Therefore, gender does moderate the relationship between mattering to mothers and loneliness. A significant negative relationship was found for female ($\beta = -.362, p = .001$) but not for male participants ($\beta = .135, p = .539$). The procedure was repeated with mattering to fathers. The $F_{change}(1, 94)$ when gender, mattering to fathers, and the interaction term were regressed onto

loneliness is 5.71, $p = .019$. The interaction term was significant ($\beta = .229$, $p = .019$). A significant negative relationship was found for female ($\beta = -.438$, $p < .001$), but not for male participants ($\beta = .146$, $p = .507$). In short, gender moderates the relationship between mattering to parents and loneliness.

I repeated the procedure with mattering to friends and romantic others. The F_{change} (1, 95) when gender, mattering to friends, and the interaction term were regressed onto loneliness is 2.28, $p = .105$. The interaction term was not significant ($\beta = .147$, $p = .105$). The F_{change} (1, 95) when gender, mattering to romantic others, and the interaction term were regressed onto loneliness is .224, $p = .637$. The interaction term was not significant ($\beta = -.049$, $p = .637$). Gender does not moderate the relationship between either mattering to friends or mattering to romantic others and loneliness.

Discussion

The purpose of this study was three-fold: to test the relationship between loneliness and perceived mattering empirically, to examine whether mattering to various referents are additive or compensatory in accounting for variance in loneliness, and to test whether gender moderated the relationship between loneliness and mattering.

Based on my statistical analysis, loneliness and perceived mattering do not appear to be inversely related, as purported by Raque-Bogdan et al. (2011). Another way to interpret this is that loneliness is not the same as low perceived mattering, and vice versa. However, the constructs do appear to be negatively associated, as hypothesized. An implication of this finding is that perceived mattering and loneliness tap into fundamentally different experiences.

Empirically, the distinctiveness of the two constructs is inferred from three findings of this study:

1) the negative correlation between perceived mattering and loneliness, 2) the evidence indicating an additive model, and 3) the moderate slopes between mattering to each referent and loneliness. Negative correlation alone is not sufficient in explaining the distinctiveness of perceived mattering and loneliness; the correlation must be considered within the context of an additive model. Perceived mattering is measured with respect to specific others, while loneliness is measured globally. In order to correct for this, mattering to specific others was “added” together. Therefore, an additive model had to be established first, so that mattering to each referent could be inferred to contribute independently to the variance in loneliness scores. Perceived mattering to all referents accounted for 33.5% of the variance in loneliness. If perceived mattering and loneliness are inversely related, the variance accounted for by the sum of all referents should have exceed 90%, based on the cut-off used in this study. The distinctiveness of both constructs can also be inferred from the individual slopes of perceived

matter and loneliness. The slopes indicated a modest relationship between mattering to each referent and loneliness, but not a strong enough relationship (above the .90 cut-off) to indicate an inverse relationship. The finding that perceived mattering and loneliness are not polar ends of the same construct has implications for construct validity. If perceived mattering is distinct from loneliness, then separate measures are required to tap into each construct.

As noted, perceived mattering to various referents was found to be additive in accounting for loneliness scores. However, the results were not as straightforward as anticipated. Although the slopes of mattering to mothers and mattering to fathers were significant, the addition of friends and romantic partners to the regression models rendered the former two referents non-significant. To be certain that a compensatory effect was not operating, I computed interaction terms and conducted regressions. Interestingly, the interaction between mattering to mothers and mattering to friends was significant. However, upon further probing, this interaction did not indicate a compensatory effect. If high mattering to friends compensated for low mattering to mothers, we would expect to find a stronger relationship between mattering to friends and loneliness for those below the mean than for those above the mean on mattering to mothers. On the contrary, the relationship between mattering to friends was stronger for those above the mean on mattering to mothers than for those below. Nonetheless, mattering to friends still added to the prediction of loneliness for those who scored low in mattering to mothers.

From a lifespan perspective, it makes sense that mattering to friends and romantic partners accounts for a greater portion of variance in loneliness scores compared to parents. Bucx and van Wel (2008) assert that the parental bond is weaker through life transitions, such as leaving home or living with a partner, but still remains important in predicting well-being. Meanwhile, friendships and romantic relationships continue along the trajectory of adolescence

and remain a significant part of a young adult's life (Collins & van Dulmen, 2006). Carbery and Buhrmester (1998) found that young adults who are not yet married or have not had children rely on friends the most for social provisions, such as emotional support, companionship, reassurance of worth, and so forth. Therefore, friendships are critical for buffering against loneliness. It may be that young adults can depend on friends because of proximity and frequency of contact. Therefore, a relational schema of mattering to friends may be more salient than mattering to parents. The same principle may apply to romantic partners as well. This is not to say that mattering to parents is not important; it is only to say that mattering to friends and romantic partners appears to be stronger predictors of loneliness scores for young adults.

It is also worth noting that mattering to mothers was non-significant when mattering to fathers was added into the regression. This may be due to several reasons. Perhaps, perceptions of mothers and fathers become enmeshed and more difficult to disentangle because both mothers and fathers represent a parental role. Another reason might be that mothers are taken for granted, in the sense that people simply assume they matter to their mothers. Lastly, it is possible that the measure obscures the distinctiveness of either parent. There may be common method variance as a result of using the same measure to assess mattering to both parents.

The final aim of the study was to ascertain whether or not gender moderates the relationship between perceived mattering and loneliness. Gender was found to moderate the relationship between mattering to mothers and fathers and loneliness. The relationship between mattering to parents and loneliness was stronger for female participants compared to male participants. However, gender did not moderate the relationship between mattering to friends or romantic others and loneliness. The finding that perceived mattering to parents may be more of a protective factor against loneliness for women than it is for men echoes the findings of Taylor

and Turner's (2001) study. The authors found that mattering predicted levels of depression for women, but not for men. The current study parallels Taylor and Turner's study, in that loneliness and depression tend to co-occur. As noted earlier, university students often cite loneliness as a contributing factor to depression (Furr et al., 2001). Gender differences may have emerged in this study because women and men are socialized to attend to cues of mattering differently and may form relational schemas accordingly. For example, it may be that women who rate themselves high on perceived mattering because they attend to salient social cues, which in turn contributes to a relational schema of being significant to others. This sense of significance then contributes to lower levels of loneliness. There may also be gender differences because women may place more emphasis on mattering than men do. Therefore, relational schemas frame the perception and interpretation of social cues and the importance assigned to these cues.

Limitations

There are several limitations of this study, which need to be considered for future studies. The first issue concerns sampling. This study employed a convenience sample of university students. Blieszner and Adams (1992) assert that different subcultural norms apply to students compared to non-student populations. Therefore, the transferability of the results is limited. Another limitation of this study is the small number of male participants. Although there were enough men to answer research questions, the disproportionate number of men compared to women limits the conclusions that can be drawn about the effect of gender on the relationship between perceived mattering and loneliness. Lastly, the cross-sectional design of this study limits my ability to determine the directionality of the relationship between the two constructs. In the current study, mattering appears to predict loneliness scores. However, it is also possible

that those who are lonely interpret social cues in such a way that they perceive they do not matter.

Future Research

It would be worthwhile to replicate this study using different populations to test for compensatory versus additive effects, as well as to test for moderating effects of gender. For example, the measures could be administered to non-student populations. Another opportunity for further research is to study the relationship between perceived mattering and loneliness for different age groups, such as adolescents or older adults. Marshall (2004) found correlations between perceived mattering and indicators of psychological well-being in adolescents. As an offshoot of Marshall's study, one possibility might be to study the link between perceived mattering and loneliness as an indicator of psychological well-being in this age category.

As this study was cross-sectional, it is recommended that future studies use a longitudinal design. A longitudinal design would allow researchers to track any changes in perceived mattering and loneliness over time as a function of age or different life circumstances, such as finishing college or getting married. It would be interesting to see whether perceived mattering fluctuates over time and whether certain referents account for greater variance in loneliness scores at different time periods.

Implications for Social Work Practice

The perception of mattering to different people helps to protect against loneliness. Perceived mattering appears to have an additive effect, such that mattering to parents, friends, and romantic partners all contribute lower loneliness scores. Mattering to friends, in particular, is a key protective factor against loneliness in young adulthood because friendships are salient in this life stage. For professionals working with young adults in a counselling context, it is

worthwhile to explore the person's perception of mattering to others. A useful tool might be to use eco-maps to visually represent various relationships and the strength of perceived mattering to these different people. Blieszner and Adams (1992) suggest helping the individual to re-shape self-schemas and schemas of the other, as well as helping the individual to enhance social skills. Likewise, those in romantic relationships may benefit from working through issues that stem from, or contribute to, a perceived lack of mattering from their partners.

Overall, it is important for social workers to bear in mind that the consequences of loneliness can be devastating. Loneliness may contribute to depression and other mental health issues. Therefore, social workers need to be aware of and sensitive to indicators of loneliness, so that they may help individuals counteract loneliness through a sense of mattering.

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Appendix A: Demographic Information

Please tell us about yourself:

1. Your gender: ☐ female ☐ male

2. Your ethnic background _____

3. Your age? _____

5. How old were you when you had your first romantic relationship? _____

4. Your current relationship status:
 - ☐ single, not involved with anyone
 - ☐ single, spending time with one partner
 - ☐ single, spending time with more than one partner (for the purposes of the questionnaire, select one partner for whom you will respond)
 - ☐ partnered (marriage relationship)
 - ☐ partnered (cohabiting relationship)
 - ☐ divorced
 - ☐ separated
 - ☐ widowed

6. How long have you been in the relationship marked above? _____

7. How many previous romantic partners (not counting the current partnership) have you had?

Please tell us about your current partner:

8. Your partner's gender: ☐ female ☐ male

9. Your partner's ethnic background: _____

10. Your partner's age? _____