

WHAT BECOMES OF THE BROKENHEARTED:
AN INVESTIGATION OF PSYCHOLOGICAL DISTRESS IN
UNIVERSITY STUDENTS FOLLOWING A ROMANTIC
RELATIONSHIP BREAK-UP

by

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Abstract

University students frequently engage in relationships with a romantic partner. These relationships often end after one to two years (Stanley, Rhoades & Fincham, 2011), leaving many students in distress following the dissolution. Several factors have been thought to influence the degree of distress, including the two that were the focus of this study: the quality of the relationship, and the gender of the individual who experiences the break-up. Hierarchical multiple regression was used to test three hypotheses in a sample of 141 undergraduate students from Atlantic Canada: (a) experiencing a recent romantic relationship break-up is significantly associated with mental health levels, (b) this relationship is moderated by gender, and (c) this relationship is mediated by the perceived quality of the former relationship. None of the hypotheses were supported. Furthermore, exploratory post-hoc analyses failed to find significant direct effects of gender or relationship quality on mental health. Limitations of sample size and a less than desirable measure of mental health were thought to influence the results.

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Chapter 1

In North America and other Western societies, post-secondary education is a period of academic and personal growth. Young adults are often living separately from their immediate families for the first time in their lives (Hendy et al., 2013). One of the ways in which young adults explore their newfound freedom is through establishing romantic relationships. Romantic relationships are a common developmental experience for young adults in university (Rhoades & Stanley, 2014). Beginning in middle and high school, the development of romantic relationships is a means for young people to establish a sense of intimacy. Relationships formed in high school are typically short and casual, while relationships formed in university tend to be longer-lasting and increasingly serious (Shulman & Connolly, 2013). Although, on average, romantic relationships in university last longer than those in high school, break-ups are still a common occurrence, and have the possibility of leading to serious psychological distress (Boelen & Reijntjes, 2009; Field et al., 2009; Frazier & Cook, 1993; Hendy, Can, Joseph, & Scherer, 2013; Simpson, 1987). Given that approximately 1.3 million students are registered in university programs throughout Canada today (Statistics Canada, 2014), it is important that research be conducted to better understand the needs of these students following a romantic break-up.

Study Details

This thesis research focused on university students only, excluding students in other forms of post-secondary education such as community college or vocational schools, as they were outside the scope of this study. The research was also limited to unmarried young adults aged 18-29. Although academic distress is also a common

occurrence for those who experience a break-up in university, this study is limited to exploring psychological distress only. Other important operational details will be defined below.

Definition of Key Concepts

For the purposes of this study, the term *romantic relationship* is defined as “ongoing voluntary interactions that are mutually acknowledged, and marked by expressions of affection, including physical and sexual relations” (Collins, 2003). The terms *break-up* and *romantic relationship dissolution* will be used interchangeably in this study, and are defined as “the process of the breaking up of the romantic relationship, by the voluntary activity of at least one partner” (Relationship dissolution, 2003). *Relationship quality* is defined as “the degree to which interactions reflect mutual caring, trust and emotional closeness; sensitivity to one another’s needs and wishes; deep sharing of experience; and enjoyment of each other” (Ostrov & Collins, 2007, p.585). *Mental health* is defined as “a state of complete physical, mental and social wellbeing in which an individual realises his or her own abilities, is able to cope with the normal stresses of life, works productively, and contributes to his or her community” (WHO, 2005). Finally, *psychological distress* is defined as “a continuous experience of unhappiness, nervousness, irritability and problematic interpersonal relationships” (Chalfant, Heller, Roberts, Briones & Aguirre-Hochbaum, 1990).

Literature Review

The following literature review will provide an overview of the key research concerning romantic relationship dissolution and its psychological effects on mental health, with an emphasis on research conducted with university students. Firstly, the

development of romantic relationships in adolescence and the benefits of this form of social support will be detailed. Secondly, a description of the dissolution of a romantic relationship and its effect on mental health will be discussed. Following this, the factors that have been suggested in the literature to affect mental health and psychological distress levels post-dissolution will be explored. Finally, three measures of relationship quality will be described and compared.

Development of Romantic Relationships

Romantic relationships often begin to form in adolescence, and provide a means for youth to explore and develop their sense of intimacy and sexual identity (Connolly & Goldberg, 1999; Connolly & McIssac, 2009; O'Sullivan et al., 2007; Seiffge-Krenke & Shulman, 2012; Shulman & Connolly, 2013). By the age of 16, about 40-50% of adolescents are in a romantic relationship at any given time, (Connolly & Johnson, 1996; Connolly & Konarski, 1994; Kuttler & La Greca, 2004; Shulman & Scharf, 2000). Although romantic relationships are common during this developmental period, they are often exploratory, casual, and typically not long-lasting (Shulman & Connolly, 2013). In two separate studies, researchers found that adolescents were involved in an average of four romantic relationships during their time in high school (Seiffge-Krenke, 2000; Zimmer-Gembeck, 1999).

As adolescents transition into university, relationships become more stable and enduring, with an increased sense of intimacy and commitment (Shulman & Connolly, 2013). In a 2011 study, Stanley, Rhoades and Fincham found that 57% of undergraduate university students identified as being in a committed romantic relationship, with a further 29% identifying that they would like to be involved in a romantic relationship,

even though they were not. Furthermore, the researchers in this study found that the median length of university relationships is one to two years.

Dissolution of Romantic Relationships and Impact on Mental Health

Existing information about the high prevalence and relatively short duration of romantic relationships in university suggests that romantic relationship dissolution is a normative developmental experience for many university students (Stanley et al., 2011). Although common, break-ups can be a highly distressing event in the lives of university students (Boelen & Reijntjes, 2009; Field et al., 2009; Frazier & Cook, 1993; Hendy, Can, Joseph, & Scherer, 2013; Simpson, 1987). A relationship break-up has the potential to be one of the most psychologically distressing events in one's life (O'Sullivan & Thompson, 2014; Sbarra, 2006). Research has suggested that university students in their teens and early 20s are more prone to experiencing break-up distress, as they are often living away from their families, friends and other social support systems for the first time in their lives (Hendy et al., 2013).

Although distress levels vary from person to person, relationship dissolution in older adolescents has been shown to be a predictive factor for the onset of Major Depressive Disorder (MDD), and other psychiatric illness (Monroe, et al., 1999; Overbeek et al., 2003). Monroe and colleagues' (1999) study found that, for students who developed MDD in senior high school, 46% of these participants had experienced a break-up in the past year, compared to 24% of depressed individuals who did not experience a break-up. Furthermore, through functional MRI (fMRI) imaging, Najib et al. (2004) discovered that the brains of women who had recently experienced a break-up showed signs of clinical depression.

Symptoms of depression and anxiety are common in university students who have experienced a recent romantic break-up. For example, a study examining relationship dissolution in this population found clinically significant levels of depression in 40% of participants one week following a break-up (Mearns, 1991). Similarly, a study focusing on break-up distress in university students found high levels of anxiety and depression, consistent with a diagnosis of MDD and Generalized Anxiety Disorder (GAD) in participants who had experienced a break-up in the previous four months (Field et al., 2009). Anxiety also was present at statistically significant levels in a study of 5,000 Internet respondents who had just experienced the break-up of a romantic relationship. In that study, participants reported symptoms of anxiety that were related to the inability to detach from the romantic relationship. Participants were not only pre-occupied with thoughts of their former partners, but also experienced anxiety when their attempts to contact their former partners were unsuccessful (Davis, Shaver, & Vernon, 2003).

The psychological effects of a break-up can still be quite severe even if university students do not develop a diagnosable mental illness. Field and colleagues (2009) described the psychological distress experienced by some university students as a form of *complicated grief*, a term most often reserved to describe the effects following a major loss, such as a death. Horowitz and colleagues first used the term in 2003 to describe a set of grief symptoms that include “unwanted memories or intrusive thoughts, severe episodes of emotion related to the loss of the relationship, a strong desire for the relationship to still exist, the feeling of being alone, sleep disturbances, and loss of interest in activities that normally provide comfort or pleasure to the individual” (p.

909). In the aforementioned study by Najib et. al. (2004), half of the participants showed symptoms of complicated grief, at a median time of 44 days post break-up.

Several studies have examined the symptoms of complicated grief on an individual basis. Intrusive thoughts are defined in the literature as compulsive and highly upsetting thoughts that are unwanted in nature, and difficult to control (Simpson, 1987; Fields et al., 2013). They have repeatedly been tied to traumatic or stressful events, including romantic relationship dissolution (Davis et al., 2003; Field et al., 2009; Pierce, 2007). In a study of university students who had experienced a break-up in the preceding two years, participants reported significantly higher levels of intrusive thoughts than in a control sample of medical students (Chung et al., 2003). Furthermore, Sbarra and Emery (2005) found that university student participants who had high levels of intrusive thoughts post break-up also experienced high levels of sadness and a lower sense of closure of the relationship.

Sleep disturbances are another common symptom of psychological distress (Ford & Kamerow, 1989). Much research has been dedicated to sleep disturbances during a bereavement (Ford & Kamerow, 1989; Fraley & Shaver, 1999). In a study of undergraduate students who had lost a close loved one in the preceding two years, almost one quarter of the participants experienced insomnia or other regular disturbances in sleep immediately following the loss (Hardison, Neimeyer, & Lichstein, 2005). Research examining sleep in the context of a romantic relationship dissolution is much more limited. However, Field et al. (2009) found university students showed high scores on a clinical measure of sleep disturbances and insomnia following a break-up.

Factors Influencing Levels of Psychological Distress Post Break-Up

Romantic relationships are often a source of social support, and research has demonstrated that social support buffers against mental health problems (Beck, 2007). Social support is especially key to positive mental health in the university population, as higher rates of mental health issues have been found in this population, as compared to the general public (Adlaf, et al., 2001; Stallman, 2010). Break-ups involve the loss of a potentially vital source of social support, and they may lead to symptoms of psychological distress. The literature has identified several factors that may influence the intensity and duration of psychological distress following a break-up, including gender, amount of time since dissolution, initiator status, social support following a break-up, and the quality of the relationship pre-dissolution.

Gender. Research on the role of gender as an influence on post-relationship psychological distress levels has been mixed. Davis, Shaver and Vernon (2003) reported women in their study experienced more feelings of hostility and anger after a break-up than male participants. Field et al.'s 2009 study of university students post romantic relationship break-up, found being female to be positively correlated with distress levels three months following a break-up. In a study using both Chinese and Australian undergraduate students, females in both countries reported higher levels of distress (specifically symptoms of anxiety, depression and stress) than their male counterparts (Leung et al., 2011). Locker and colleagues (2010) found that women who saw their partners less in the months immediately preceding the break-up had a longer recovery time than women who interacted with their partners more frequently. Interestingly, for the men in Locker's study, the results were reversed; men who saw their significant others less often in the months before a break-up had a shorter recovery time in terms of

psychological distress, than men in the study who had spent more time with their partners pre break-up. Additionally, Perilloux and Buss (2008) discovered in their research with first year university students that women experienced more negative emotions that were higher in severity than men following a break-up.

In a study of adolescents aged 13-18, the volume and intensity of stressful life events (such as a romantic relationship break-up) were directly tied to depressive symptoms in females, but neither the amount, nor severity of stressful life events were related to males' experiences of depression (Meadows, Brown & Elder, 2006). Another study using an adolescent sample found that girls were more likely to develop MDD following a break-up, and were also more likely to report the event of the break-up to the researchers (Monroe et al., 1999).

Despite this robust body of literature supporting gender differences in psychological distress levels following a break-up, other research on the effect of gender has failed to find significant differences between the genders in terms of levels of psychological distress (Moller et al., 2003; Sprecher, Felmlee, Metts, Fehr, & Vanni, 1998). In addition, two research studies with undergraduates have found male students experienced more difficulty recovering from a romantic relationship than female students, as measured by levels of joy and pain (Choo, Levine, & Hatfield, 1996; Knox, Zusman, Kaluzny, & Cooper, 2000). It has been suggested in the literature that women may have less psychological symptoms than men after a break-up because they have less romanticized beliefs about their relationships. For example, Sprecher and Metts (1989) found that men had more idealized ideas about romance, such as the belief in "love at first sight" and "soulmates". This finding corresponds with research

examining gender differences in sexual attitudes by Thompson and O'Sullivan (2012) which discovered men were more attracted to photos of romantic situations (i.e. a couple walking holding hands) than sexual stimuli (i.e. a couple engaged in sexual intercourse). In addition, researchers have found women have more extensive friend networks than males, who rely more on their romantic partners for social support. After a break-up, men are more likely to lose their largest source of social support (Locker et al., 2010). As previous work has linked the loss of social support to negative mental health outcomes, the loss of a partner has the potential to have a more negative effect on mental health for men than women (Beck, 2007).

Time. An additional factor that has been found to have an influence on the levels of psychological distress experienced by university students post-break up is the amount of time since dissolution. Participants from Sprecher et al.'s 1998 study retrospectively rated their distress levels as significantly higher at the point of dissolution than at the time of the survey. Locker et al. (2010) discovered that time since break-up was inversely related to recovery time for their student participants; the more time since the break-up, the further along in the recovery process the students were. They also discovered that the amount of time taken to find a new dating partner significantly improved levels of distress related to the dissolution of the former relationship. Similarly, Moller et al. (2003) reported that time since break-up was directly related to feelings of loneliness expressed by university students; as time passed, feelings of loneliness subsided.

Initiator. Being the receiving partner rather than the initiator of the break-up has been strongly tied to psychological distress post dissolution (Leung et al., 2011;

Perilloux & Buss, 2008; Waller & MacDonald, 2010). Perilloux and Buss (2008) found that research participants who were on the receiving end of the dissolution experienced greater feelings of depression, low self-esteem, and ruminating thoughts after a break-up, as compared to partners who initiated the break-up. Working with university students, Waller and McDonald (2010) found that participants who were asked to imagine a scenario where they were rejected by a romantic partner felt more distressed than those participants who imagined a scenario where they were initiating the rejection. However, this finding was moderated by the levels of self-esteem of the person who was asked to imagine being rejected; those participants in the imaginary rejection scenarios who had low base measures of self-esteem experienced much greater levels of emotional distress and further lowering of their self-esteem post imagined dissolution.

Social support. Social support is an extremely important factor in maintaining positive mental health (Beck, 2007). According to the literature, it is also crucial to the recovery of mental health following the dissolution of a romantic relationship. In a study of stressful life events for adolescents (of which a romantic relationship break-up was included as a stressful event), Meadows et al. (2006) found that parental support following the stressful event was inversely related to levels of depression. Furthermore, older adolescents in the study who had replaced support from their parents with support from friends, peers and partners, still exhibited equivalent reductions in depression. In a different study with a university student sample, the feeling of social connectedness after a break-up was significantly associated with higher levels of adjustment (Moller et al., 2003). The researchers defined perceived social support as one's personal relationships and perceived social connectedness as one's place in the larger society. For

example, a student may feel he is lacking friends in his chemistry class (perceived social support) but having just voted in a provincial election, he may feel a strong connection to his community (perceived social connectedness). Interestingly, in Moller and colleagues' study, perceived social support in the participants' lives did not predict levels of adjustment following a break-up; only the feeling of perceived social connectedness to a wider community significantly predicted levels of adjustment. Additionally, in an online study with 85% of the 5248 participants aged 15-29, Davis, Shaver and Vernon (2003) found participants experienced reduced levels of anxiety after a break-up when they reached out to family and friends for support.

Relationship quality. A final factor that has been found to influence levels of psychological distress following a break-up is the quality of the romantic relationship prior to the dissolution. Working with a sample of university students, Simpson (1987) discovered that closeness, which was measured as both degree of emotional attachment and length of relationship before the break-up, was an important factor in predicting post break-up distress. Simpson also found that levels of immediate distress after a break-up was tied to shared goals and events that partners were planning to carry out together; the more shared goals, the higher the psychological distress felt by the participants immediately following the break-up. Davis, Shaver and Vernon (2003) measured levels of emotional distress following a romantic relationship dissolution, and found higher psychological distress, self-blame and guilt reactions were all related to higher levels of emotional attachment to a partner before the break-up. Rhoades, Kump Dush, Atkins, and Markmans' (2011) study of unmarried young adults adds to the literature supporting the effect of prior relationship quality on distress levels post-dissolution. In their study,

when levels of commitment were high, as operationally defined as couples living together or planning to be married, the participants' life satisfaction levels immediately plummeted after dissolution.

Research also links relationship quality to psychological distress after a break-up in university students. Field et al. (2009) found that relationship quality accounted for 21% of the amount of variance in levels of psychological distress following a break-up. Similarly, Locker et al., (2010) found that the more time university student partners spent together in activities and working towards mutual goals before the break-up, the longer their recovery time post dissolution.

There is also an emerging body of literature that suggests a link between relationship dissolution and subsequent psychological growth (Bevino & Sharkin, 2003; Lewandowski & Bizzocos, 2007; Mearns, 1991; Perilloux & Buss, 2008; Tashiro & Frazier, 2003). Specifically, Lewandowski and Bizzocos (2007) found that participants who ended a low-quality relationship had a higher chance of experiencing post-dissolution growth; in other words, positive mental health levels rose after the termination of a low-quality relationship. In this study, relationship quality was defined as the amount of change the partner had inspired in the participant. In Tashiro and Frazier's (2003) study, 92 undergraduate participants were given a measure of post-traumatic growth following a recent break-up, and they reported an average of five positive events or changes that had followed the dissolution of a romantic relationship.

Measuring Relationship Quality

Gender (Choo et al., 1996; Davis et al., 2003; Field et al., 2009; Knox et al., 2000; Leung et al., 2011; Locker et al., 2010; Perilloux & Buss, 2008), time since break-

up (Locker et al., 2010; Moller et al., 2003; Sprecher et al., 1998), initiator status (Leung et al., 2011; Perilloux & Buss, 2008; Waller & MacDonald, 2010), social support (Davis et al., 2003; Meadows et al., 2006; Moller et al., 2003) and relationship quality (Bevino & Sharkin, 2003; Davis et al., 2003; Field et al., 2009; Lewandowski & Bizzocos, 2007; Locker et al., 2010; Mearns, 1991; Perilloux & Buss, 2008; Rhoades et al., 2001; Simpson, 1987; Tashiro & Frazier, 2003) have all been associated with psychological distress levels in the literature on romantic relationship break-ups. The factor which is of interest in the current study is relationship quality. This factor was chosen because it has received less research attention than the other correlates of psychological distress following a break-up. Given this focus, it is important to consider and evaluate the various measures of relationship quality that have been most frequently used in research with emerging adult populations.

Quality of Relationships Inventory. The 1994 version of the Quality of Relationships Inventory (*QRI*) is a 25-item, self-report measure using a 4-point Likert scale, with a range of (1) *not at all* to (4) *very much* (Avtgis, Rocca, & Martin, 2000). The *QRI* was originally developed by Pierce, Sarason and Sarason in 1991 to measure three dimensions of social support styles, including: social support (e.g. "To what extent can you turn to this person for advice about problems?"), interpersonal depth (e.g., "How significant is this relationship in your life?"), and relationship conflict (e.g., "How often does this person make you feel angry?"). The study created by the authors to validate the *QRI* asked participants to complete the measure six times, using both parental figures (e.g., "Mom and Dad") and four other important (yet not necessarily positive) relationships in their lives. The authors stated that they were interested in

developing a measure that was suitable for use in relationships with high conflict levels, and not necessarily just those that had a high relationship quality (Pierce et al., 1991).

The current version of the *QRI* measures the quality of relationships in general, and does not specify types of relationships. Researchers have modified the questions, in order to suit the specific sample they are working with (Avtgis, 2000). Since the *QRI* was developed and refined in the early 1990s, it has been used in studies measuring many different relationship types, such as parent-child, spouses, same and opposite sex friends, and particularly important to this study, romantic relationships (Aseron et al., 1992; Grissett & Norvell, 1992; Keeker et al., 1991).

A strength of the *QRI* is that it measures the levels of social support provided by specific relationships, and not one's overall level of perceived social support. The measure has been found to have high reliability, high test-retest stability, and adequate construct validity for the three social support styles that it was designed to measure. Specifically, Peirce and colleagues found the *QRI* to have high internal consistency, with Cronbach's alpha scores from 0.7 to 0.9 (Pierce, Sarason, & Sarason, 1991; Pierce, 1997). In Nakano's (2002) research, internal consistency scores were even higher, at 0.89 and 0.95 for the factors of supportive and conflictual aspects of a relationship, respectively. The test-retest correlations between Nakano's original testing session and a session given 12 months later ranged from 0.48 to 0.79, providing adequate to good test-retest stability (Nakano et al., 2002). Verhofstadt et al. (2006) found a high level of construct validity with correlations of 0.50 to 0.77 across the three factors of support, conflict and depth that the *QRI* measures.

The Marriage Satisfaction Inventory-Revised. The Marriage Satisfaction Inventory (*MSI*) is a self-report measure created to assess the marital dissatisfaction of couples in distress (Snyder, 1979). It was originally composed of 280 items, with eleven scales, including: a validity scale, a global distress scale and nine subscales measuring affective communication, problem-solving communication, leisure time together, disagreement about finances, sexual dissatisfaction, role orientation, family history of distress, dissatisfaction with children, and conflict over childrearing (Scheer & Snyder, 1984). The revised version of the instrument (*MSI-R*) was shortened to 150 true-false items. The wording was also altered to reflect the diverse make-up of couples, incorporating dating and same-sex couples, in addition to married couples. The *MSI-R* measures two components of distress: overt conflict (disharmony) and emotional distance (disaffection). The *MSI-R* has been found to have high discriminative validity, criterion-related validity, and internal consistency with both married and non-traditional couples. Herrington and colleagues (2008) performed several tests of evaluation on the revised version of the *MSI*, and found a discriminative validity of $r = 0.31$ in the ability of the test to distinguish between individuals in a community sample, and individuals in a clinical sample. Test data from a clinical sample of 323 couples in marriage counselling revealed that the disharmony and disaffection sub-scales of the instrument were internally consistent, with Cronbach's alphas of 0.84 and 0.80, respectively. Equivalent reliability was found in a study examining the use of the *MSI-R* with a community sample of cohabiting heterosexual couples, with Cronbach's alpha coefficients that ranged from 0.77 to 0.93 (Means-Christenson et al., 2003).

Other measures of relationship quality. Several other researchers have either devised their own measure of quality, or used measures that are less well validated in studying break-ups. In his study examining the factors involved in emotional distress and relationship stability following a break-up during university, Simpson (1987) used the *Closeness Inventory* (Berscheid, Snyder, & Omoto, 1987), to measure the quality of the current relationships of students in the research. The *Closeness Inventory* is composed of three parts: a component to assess the amount of time a couple spent together by themselves, a component to gauge the number of activities the couple engaged in weekly, and finally, a component to measure the influence the other partner had on the individual's future goals and plans. In 2011, Rhoades et al. used the *Dyadic Adjustment Scale* to measure relationship quality (Sabourin, Valois, & Lussier, 2005; Spanier, 1976). The measure asked participants currently in a relationship to rate their thoughts about the possibility of a break-up, how often the partners confided in one another, and generally how they viewed their relationship on a 4-point scale (higher scores indicating a higher relationship quality). These measures are not suited to the current research, as they were often tailored to the authors' specific research questions and lack established reliability.

Mearns (1991) created a relationship survey for his study on mood regulation and depression following a break-up, based upon several factors that Hinde (1984) had identified as increasing the risk of developing depression following a break-up, of which "the intensity of the subject's love or infatuation with the partner" was one factor (p. 329). Simpson (1987) also created his own measure of closeness, using three questions and a 5-point Likert scale to assess quality (e.g. "How close was your relationship?").

More recently, in their study examining predictors that influence the length of time a university student takes to recover from a break-up, Locker and colleagues (2010) created a survey which asked participants to “Think of the most significant relationship that you’ve had that broke up” (p. 570). Following this directive, students were asked to rate how in love they were with their former partners, on a scale from 1 (*not at all*) to 6 (*madly in love*).

Although relationship quality has been measured in many different ways in the literature, the most frequently used instrument, and the one best suited to the current research study, is the *QRI-R*. In addition to its well-established reliability and validity over many years and studies, the *QRI-R* is a suitable length, as compared to the aforementioned measures, which range in length from one question (Frazier and Cooke’s 1993 self-created measure) to 150-items (*MSI-R*). The *QRI-R*, at 25 items, is detailed enough to provide a comprehensive understanding of an individual’s self-assessment of the quality of their romantic relationship, but not so lengthy as to make the task of completing it too arduous or overwhelming.

In conclusion, this first chapter of the thesis provided an overview of the research in the field of non-marital romantic relationship break-ups, specifically detailing the factors that have been discovered to influence the duration and intensity of psychological symptoms following a romantic relationship dissolution in university. The next chapter in this paper will focus on the present study, its methodology, and results.

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Chapter 2

Consistent with the UNB School of Graduate Studies' regulations and guidelines for manuscript style theses, Chapter 2 has been written in the form of a journal article manuscript. Specifically, it has been written to conform to the submission requirements of the *Canadian Journal of Counselling and Psychotherapy*. The author guidelines for the submission of articles to this academic journal may be found online at <http://ejcrcc.ucalgary.ca/ejc/index.php/rcc/about/submissions#authorGuidelines>

Abstract

The dissolution of a romantic relationship for university students has been shown in the literature to be a psychologically distressing experience. Although divorces have been studied frequently, break-ups in university students have been studied much less extensively. In the present study, using a secondary dataset, university students aged 18-29 were used to assess the associations between quality of a romantic relationship pre-dissolution, the gender of the participant, romantic relationship dissolution, and subsequent mental health levels. Multiple regression analyses revealed no statistically significant relationship experiencing a romantic relationship break-up and post-dissolution mental health levels. Limitations to this research include a relatively low portion of the sample having experienced a break-up, and the use of a non-specific measure for mental health.

Keywords: university students, mental health, break-up, dissolution, distress

What Becomes of the Brokenhearted: An Investigation of Psychological Distress in University Students Following a Romantic Relationship Break-Up

In a post-industrial society that strongly values higher education, approximately 41% of Canadians are enrolled in a university program by the age of 24 (Statistics Canada, 2014). This translates into more than 880,000 Canadian students enrolled annually in undergraduate and graduate programs at universities throughout Canada (Statistics Canada, 2014). For a significant portion of these students, mental health issues are a predominant concern. In a comprehensive survey of Canadian undergraduate students, approximately one-third of respondents displayed four or more symptoms of psychological distress, and 31% reported feeling unhappy or depressed (Canadian Institutes of Health Research, 2008). Other research suggests university students in Canada have higher levels of psychological distress (42%) compared to young adults aged 18-29 not enrolled in university (17%) (Adlaf, Gliksman, Demers, & Newton-Taylor, 2001).

Romantic relationships are a common developmental experience, engaged in by approximately half of the university student population (Rhoades & Stanley, 2014). Romantic relationships have repeatedly been shown in the marriage literature to promote positive mental health and to buffer against psychological distress (Coombs, 1991; Cotten, 1999; Simon, 2002). Research on university students in dating relationships has yielded similar results: those in romantic relationships experienced fewer mental health problems than students who were single (Braithwaite, Delevi & Fincham, 2010).

Romantic relationships are a common experience for university students and over half experience a relationship dissolution every two years, creating a risk factor for the development of mental health issues (Rhoades & Stanley, 2014; Stanley, Rhoades & Fincham, 2011). Specifically, romantic relationship dissolution has been linked to many negative outcomes for university students, including sleep disturbances, self-blame, disinterest in pleasurable activities, sadness, and anger (Boelen & Reijntjes, 2009; Sbarra & Emery, 2005). Researchers have classified a break-up one of life's most stressful events (O'Sullivan & Thompson, 2014; Sbarra, 2006). For some students, the psychological distress caused by a break-up can endure, and lead to the development of a depressive disorder, anxiety, and other mental health difficulties (Field, Diego, Pelaez & Delgado, 2009; Monroe, Rohde, Seeley, & Lewinsohn, 1999). University students in particular are vulnerable to the effects of break-up distress, as they are often living away from their families and other sources of support for the first time in their lives (Hendy et al., 2013). Two studies have shown clinically significant levels of depression and anxiety in 40% of students surveyed within four months post break-up (Field et al., 2009; Mearns, 1991). In particular, some evidence suggests that the quality of the romantic relationship can mediate levels of psychological distress; the higher the quality of the relationship, the more psychological distress experienced following the dissolution of that relationship (Field et al., 2009; Simpson, 1987). As the effect of the quality of one's romantic relationship pre-dissolution on post-dissolution mental health has not been sufficiently examined in the university student dating population, it is a factor of interest in the current study.

The Current Study

Given the prominence of romantic relationships in the lives of young adults in university, and the elevated risk of psychological problems following a break-up, it is imperative to examine the strength of the association between experiencing a break-up and subsequent levels of psychological distress, as well as how the relationship between these variables may be influenced by the nature of the relationship itself. Specifically, it is necessary to examine the impact of pre-dissolution relationship quality on post-dissolution distress levels, so that university practitioners are better informed as when to provide support following a break-up, and when this support may not be required. Building on the strong research support linking psychological distress and mental health issues to romantic relationship dissolution, as well as evidence of the mediating role of relationship quality, the study aimed to expand knowledge of this subject matter. Missing from the literature is a Canadian perspective of romantic relationship break-ups. As the majority of the break-up literature presented in this article was conducted using students from the United States, Australia, and Europe (Boelen & Reijntjes, 2009; Field et al., 2009; Leung et al., 2011; Lewandowski & Bizzocos, 2007; Mearns, 1991; Perilloux & Buss, 2008; Tashiro & Frazier, 2003; Simpson, 1987) it is necessary to replicate and update the findings from other countries to a Canadian context, because it cannot be assumed that the socio-cultural context of this country is the same as other countries.

This study was designed to identify the strength of the relationship between experiencing a recent dissolution of a romantic relationship and self-reported mental health levels in a sample of university students from Canada. In particular, the role of relationship quality was examined, as a potential mediator of the relationship between

experiencing a relationship dissolution and psychological distress, as well as the potential moderating effect of gender.

Relationship quality is believed to be a potential mediator in the relationship between a romantic relationship dissolution and mental health levels following the break-up, as it has been previously shown to be strongly associated with psychological distress outcomes following a break-up (Bevino & Sharkin, 2003; Davis et al., 2003; Field et al., 2009; Lewandowski & Bizzocos, 2007; Locker et al., 2010; Mearns, 1991; Perilloux & Buss, 2008; Rhoades et al., 2001; Simpson, 1987; Tashiro & Frazier, 2003). The quality of one's relationship pre-dissolution has been found to mediate the relationship between experiencing a break-up and psychological distress levels, as research has suggested that people have a high degree of expectations that those closest to them will provide support in their time of need (Pierce, Sarason, & Sarason, 1991). Therefore, those who feel closest to their partners may experience higher levels of distress following a break-up than those feeling less close, as they are missing this high degree of social support from their significant other.

Gender is believed to be a potential moderator in the relationship between a romantic relationship dissolution and mental health levels following a break-up, as it has also been determined in the literature to have an effect on mental health outcomes (Choo et al., 1996; Davis et al., 2003; Field et al., 2009; Knox et al., 2000; Leung et al., 2011; Locker et al., 2010; Perilloux & Buss, 2008). Some research indicates that females experience more distress following the break-up of a romantic relationship (Meadows, Brown & Elder, 2006; Monroe et al., 1999; Perilloux & Buss, 2008). Other studies have suggested that males are more likely to experience distress, as their beliefs about love

are more romanticized, and they rely more strongly on their partners to provide social support than women with larger friendship networks (Choo, Levine, & Hatfield, 1996; Knox, Zusman, Kaluzny, & Cooper, 2000; Locker et al., 2010; Sprecher & Metts, 1989; Thompson & O'Sullivan, 2012).

There is a need to expand research with this population, as the counselling offered in university centres becomes increasingly time-limited due to increased demand and diminished resources (Gibbons & Shurts, 2010). It is essential that students who have recently experienced a break-up are provided with programming and treatment that is effective in reducing their symptoms of psychological distress following a break-up and which also matches their levels of distress (i.e. does not assume a break-up equals distress) (Ghetie, 2007). Enhancing knowledge on the influence of romantic relationship break-ups better equips campus-based service providers, such as medical doctors, counsellors and psychologists, to deal with this prevalent developmental event in the lives of university students.

Conceptual framework

The guiding conceptual framework for this study was the theory of social support proposed by Pierce, Sarason and Sarason (1991). This theory is based upon earlier models of social support that state that people have generalized expectations about how likely it is that others will be able or willing to provide social support, when they are in need (Cohen et al., 1985; Cutrona & Russell, 1987). In terms of university students, romantic relationships may be an important source of social support, and the loss of that support following the dissolution of the relationship is likely to have a negative effect on students' mental health. Pierce et al.'s theory develops this line of

thinking further by proposing that not only do people have generalized expectations regarding social support, they also have specific expectations based upon the individual relationships in their lives. Specifically, these expectations are created from a history of interactions that have shaped the unique views of the individual. Based upon past interactions, expectations for social support vary greatly from person to person within one's social circle, and also across cultures. Therefore, it is expected that the quality of one's romantic relationship at Time 1 (high degree of expectation of social support) will explain the fluctuation in mental health levels following a break-up.

Hypotheses

Guided by Pierce et al's (1991) theory and the existing research on the connections between mental health, romantic relationship status, romantic relationship quality and gender, three specific hypotheses were tested in the present study:

1. It was hypothesized that, after controlling for the influence of age and pre-existing mental health status, romantic relationship status would significantly predict levels of self-reported mental health, such that individuals who have experienced a recent dissolution of a romantic relationship would have lower levels of mental health than people whose romantic relationship has remained intact.
2. It was hypothesized that the association between romantic relationship status and self-reported mental health would be moderated by gender, such that the association is stronger in women than men.
3. It was hypothesized that the association between romantic relationship status and self-reported mental health would be mediated by the perceived quality of the

former relationship, with an inverse relationship between relationship quality and mental health level.

Method

Data Source, Sample, and Ethics Approval

The present study is a secondary analysis of data originally collected for a longitudinal study of life experiences, social supports and career outcome expectations in university students (Domene, 2012). Permission to use the data was obtained from the authors; no new data were collected. The participants in the original study were university students from three universities in Atlantic Canada. The sample size in the original study was 988 at Time 1 and 399 at Time 2. Data for the original study were collected using online self-report surveys, at six-month time intervals, beginning in the autumn of 2009. Data were collected online using *LimeSurvey*.

For the present study, data collected in Autumn 2009 (Time 1), and Spring 2010 (Time 2) were used. Specifically, demographic questions, items from the revised *Quality of Relationships Inventory (QRI-R)* and the *Short Form 36 Health Survey (SF-36)* were used. In order to be included in the present study, participants needed to be undergraduate students between the ages of 18 and 29, to have self-reported as being in a committed romantic relationship at Time 1 of the study, and needed to have completed the questions related to the outcome variable at Time 2. (Note that the attrition rate between Time 1 and Time 2 was 59.6%). There were 141 participants who met these criteria; all were included in the present study. There were 102 female participants, and 39 male participants, with a mean age of 21 years; the mean length of their romantic relationships was 1.89 years. A power analysis using *G*Power* was conducted to assess

the adequacy of the sample size. The results revealed that, with $\alpha = .05$, power = .80, a medium effect size, and 5 independent variables, the minimum sample size required is 92 participants. (Note that the regression model with the highest number of variables is the moderation analysis conducted to test Hypothesis 2, which included 5 independent variables in the model).

All procedures in the larger study were reviewed and approved by the University of New Brunswick Research Ethics Board.

Measures

Quality of romantic relationship. The *QRI-R* measures three dimensions of social support (Pierce, Sarason & Sarason, 1991). Participants were asked to complete the instrument in reference to their romantic partner at the time of the survey. Developed in 1991 and subsequently updated by Pierce, Sarason, and Sarason, the measure is a 25-item self-report questionnaire. The *QRI-R* was first validated on undergraduate university students, and has been used with both the student population, and young adults multiple times (Herberman et al., 2014; Pierce, Sarason & Sarason, 1991; Pierce et al., 1997). The *QRI-R* is an appropriate measure of relationship quality, as it has been found to have high reliability, validity (e.g. discriminant and predictive) and high test-retest stability for the three constructs of social support styles it measures (Nakano et al., 2002; Pierce, Sarason, & Sarason, 1991; Pierce, 1994; Verhofstadt et al., 2006). In the present study, QRI scores demonstrated good internal consistency, Cronbach's $\alpha = .76$.

Mental health. Mental health was operationally-defined as scores on the mental health sub-scale of the Short Form 36 Health Survey, a tool used to measure health-

related quality of life (Sarkin et al., 2013). The SF-36 asks participants to think back over several time periods (e.g. “in a typical day”, “in the past four weeks”) to assess their symptoms and functioning across eight different dimensions of health (Sarkin et al., 2013). The mental health subscale (MHI-5) consists of five items designed to assess symptoms of depression, anxiety, and positive mental health (Butterworth & Rodgers, 2008; Sarkin et al., 2013). It has been shown to have strong validity, reliability, and has been found to be an excellent screening tool for the presence of mood disorders (Berwick et al., 1991; Hoeymans, Garssen, Westert & Verhaak, 2004; McHorney & Ware, 1995). In Hoeymans and colleague’s 2004 study, doctors diagnosed psychological symptoms of mental illness in 30% of their patients that had an elevated score on the mental health subscale of the SF-36, indicating a high degree of validity. Cronbach’s alpha coefficient in McHorney and Wares’ 1995 study was 0.89, indicating a high level of internal consistency reliability. Reliability was also high in the present study, with Cronbach’s alpha = .95.

Data Analysis Procedures

The primary method of analysis used to test the hypotheses and to conduct a post hoc exploratory analysis was hierarchical multiple regression, with Time 2 mental health scores as the dependent variable, age and Time 1 mental health scores entered in a preliminary block to control for their influence, and the variables of interest entered into the model in subsequent blocks. It should be noted that one of the control variables (Time 1 mental health) accounted for a substantial amount of variance in all the models. To assess for the possibility that the influence of this variable could account for the pattern of results that emerges, the analyses also were conducted without the control

variables in the model. Equivalent results were obtained, so the original analyses, with both Gender and Time 1 controlled for, are reported below.

Results

Data Screening and Preparation

The first stage of the analysis involved screening the dataset for missing data. Missing data analysis revealed that one participant was missing on the quality of relationships variable, and one participant was missing on the age variable. These missing values were estimated using mean substitution.

Next, screening was conducted to identify outliers and overly influential cases. Outliers were examined using boxplots. Six outliers were found for the *QRI* variable, one outlier was found for the pre-existing mental health variable, and 11 outliers were found for age. The scores for these outliers on *QRI* and pre-existing mental health were changed to the score at three standard deviations from the mean. Original scores for the outliers on the age variable were retained because it would have been conceptually inappropriate to change the participants' ages.

The assumptions of multiple regression analysis were then assessed. Specifically, multiple regression assumes appropriate variable types, non-zero variance, independence of errors, homoscedasticity, normally distributed errors, and an absence of perfect multicollinearity (Field, 2013). The dependent variable is continuous, the potential mediator is continuous, and the predictor variable and potential moderator are dichotomous, categorical variables. As such, the variable types are suitable for use in multiple regression. A review of descriptive statistics for the data reveals at least some variation in all the variables, satisfying the requirement of non-zero variance. The

Durbin-Watson test score was found to be 1.69, suggesting that the assumption of independence of errors is likely to have been met. *Levene's* test scores revealed that the assumption of homoscedasticity was met, $F = .440, p = .509$. The *Kolmogorov-Smirnov* test for age was, .32, $p < .001$, for the *QRI*, .08 $p < .05$, for pre-existing mental health, .18 $p < .001$ and for current mental health, .12 $p < .001$. This pattern of results indicates that none of the continuous variables were normally distributed. The possibility of multicollinearity was examined by looking at variance inflation factors (VIF) and tolerance values. VIF's ranged from 1.01 to 1.02, and tolerance values ranged from 0.98 to 0.99, therefore it can be concluded that there is no problem with multicollinearity (Field, 2013).

Hypothesis 1

The first hypothesis was tested by constructing a hierarchical regression model with the predictor variable of having experienced a break-up (Yes versus No) as the predictor variable, and mental health scores as the dependent variable. The effects of age and Time 1 mental health status were controlled for by entering those two variables in a preliminary block, prior to the block consisting of the predictor variable. Due to the identified violation to the assumptions of normality, this regression analysis was conducted using bootstrapping. This analysis revealed that the first hypothesis was not supported; no statistically significant relationship was found between experiencing a romantic relationship break-up and differing levels of mental health following the dissolution, $\Delta R^2 = .00001, F = .02, p > .05$ (see Table 2).

Hypothesis 2

Hypothesis 2 was tested using Baron and Kenney's (1986) recommendations for moderation analysis. Specifically, the two control variables were entered into a preliminary block in the regression model, followed by Break-up in a second block, Gender in a third block and, finally, a Gender by Break-up interaction terms was entered into the model in a fourth block. Results of this analysis (see Table 3) revealed that Hypothesis 2 was not supported: The interaction effect was non-significant ($\Delta R^2 = .0003$, $F = .06$, $p > .05$), which indicated that gender does not moderate the relationship between experiencing a break-up and mental health. Moreover, the main effect of gender was also non-significant ($\Delta R^2 = .01$, $F = 1.9$, $p > .05$), which suggested that there were no gender differences in terms of participants' self-reported levels of mental health functioning, for this sample of university students.

Hypothesis 3

As there was no significant direct relationship between experiencing a break-up and participants' mental health levels, there is no effect that could be mediated by the quality of relationship. Therefore, it can be concluded that Hypotheses 3 is not supported without conducting additional analyses.

Post hoc analysis

Although it made no sense to examine the mediating effect of quality of relationship given the absence of a significant effect of break up on participants' mental health, the possibility still existed that, relationship quality could have a direct influence on mental health. Therefore, post hoc exploration was conducted to examine the direct effect of relationship quality as a predictor of mental health functioning, after

controlling for pre-existing mental health and age was completed. These results were also non-significant, $\Delta R^2 = .29$, $F = .43$, $p > .05$, (see Table 3).

Discussion

The analyses revealed that none of the hypotheses was supported, and the post-hoc tests revealed no statistically significant relationships. This pattern of results was unexpected, given the previously strong research support linking break-ups in university to changing mental health levels following a break-up. Several studies have found a link to changing mental health levels following a break-up (Boelen & Reijntjes, 2009; Field et al., 2009; Frazier & Cook, 1993; Hendy, Can, Joseph, & Scherer, 2013; Simpson, 1987). Boelen and Reijntjes (2009) found that scores on depression and anxiety inventories were significantly higher for undergraduate students who had recently experienced a break-up than mean scores for the general Dutch population. Monroe et al. (1999) found that almost half of their sample of older adolescents with a mean age of 17 years who had experienced a break-up in the previous year went on to develop Major Depressive Disorder. Conversely, a study by Lewandowski and Bizzoco (2007) found that some students flourished after the break-up of a romantic relationship, suggesting there may be factors influencing psychological distress levels following a romantic dissolution.

There are several factors that may have influenced the results of the present study, causing them to differ from previous literature. Two factors in particular are worthy of mention: the study's limitations and the composition of participants in this study. A significant factor is this study's limitations. Using a secondary dataset limited the researcher's ability to design research and create a participant pool specifically

tailored to the present study. As a result, the proportion of students who experienced a break-up was low, and the measure used for mental health was not specific enough to target the anxiety and depression symptoms that have previously been shown in the literature to be common after a break-up (Field et al., 2009; Mearns, 1991; Monroe, et al., 1999; Overbeek et al., 2003). The limitations to this study will be expanded upon further in this document.

One of the factors that may influence psychological distress levels following a break-up in university that was of interest in the present study was relationship quality. Although the mediating role of relationship quality on post-dissolution mental health could not be tested due to the non-significant result of Hypothesis 1, a post hoc test was conducted to see if there were any direct effects of relationship quality on mental health post-dissolution. This post hoc test revealed no significant direct connection between pre-existing relationship quality and mental health levels post break-up in this sample, a finding that contradicts previous research. Specifically, Sbarra (2006) found that students self-reporting the highest levels of love and commitment with their partners experienced higher levels of sadness and anger following the break-up than students with lower levels of love and commitment. Again, the present study's limitations and geographical region may have caused the results to differ from other studies. Sbarra's study was performed on students from the Southwest United States, and used a data collection method that allowed for detailed data to be collected over a period of four weeks (Sbarra, 2006).

Another factor of interest in the present study was gender. Gender did not function as a moderator (as experiencing a break-up was not significantly associated

with mental health levels to begin with) and a post hoc exploration of the direct relationship between gender and mental health yielded no significant results. This contrasts with the results of previous, larger studies, which do indicate differences in how genders experience distress (Field, 2009; Leung et al., 2011; Meadows, Brown & Elder, 2006; Monroe et al., 1999; Perilloux & Buss, 2008). Gender may not have been a moderating factor in the present study due to design limitations. Using a secondary dataset with specific inclusion criteria limited the number of males in the study to 39, or 27% of the participant pool, a relatively small number, as compared to the 102 female participants (72%).

Although none of the hypotheses was met in the current study, there were several limitations that most likely influenced the results, which will be detailed below.

Limitations

The first set of limitations in the current research involves the characteristics of the sample itself. Using a secondary dataset always brings a distinct set of challenges related to the fact that the data were obtained for the purposes of unrelated research, and that limits the researcher in what is available. Specifically, although power analyses conducted prior to running the data determined that there was a sufficient sample size to conduct the analyses, a relatively low proportion of the sample had experienced a break-up (18%). Given existing knowledge about the high prevalence of break-ups in university students (Stanley et al., 2011) and the fact that the attrition rate between Time 1 and Time 2 in the original data set was approximately 60%, it is possible that many individuals who experienced a break-up chose not to remain in the study at Time 2. Thus, it is possible that the sample is not fully representative of the general population

of university students in Canada, in ways that could have had a substantive impact on the results. Another characteristic of the pre-existing data set that may have influenced the results, was that the average length of relationships for those participants who did not experience a break-up was double the length of those who did experience a dissolution in this sample. Perhaps the results of the study would have been different if the researcher had been able to collect original data, with a larger portion of the participants having experienced the recent romantic relationship dissolution of a longer term relationship or if there were an additional exclusion criterion limiting participation only to individuals who were in shorter-term relationships.

The second major limitation to this research was the constraint of using a measure of mental health that was not optimally suited to this research. The mental health subsection of the *SF-36*, although a valid measure of mental health, is not designed to specifically assess symptoms of depression and anxiety, two of the most common groups of symptoms displayed after a romantic relationship break-up (Monroe et al., 1999). Therefore, it is possible that this measure was not sensitive enough to capture the influence of experiencing a break-up on people's mental health functioning. Using measures that are specifically designed to assess depression and anxiety in university students may have yielded a different set of results.

Future Research Directions

Considering the limitations described above, future research in this area would benefit from ensuring that there is a higher proportion of students who have recently experienced a break-up, as well as measures tailored to assess the symptoms of depression and anxiety, two features that have been shown in the literature to be

commonly experienced by students who have just experienced a break-up. A replication of the current study with these changes is required before any definitive conclusions can be made about how Atlantic Canadian university students' mental health is affected by experiencing the dissolution of a romantic relationship, and the role of gender and relationship quality in this phenomenon.

Another promising avenue of future research may take a more holistic approach to documenting the changes in health after a break-up. There is overwhelming research support tying mental health to physical health (Beck, 2007). In addition to examining a romantic relationship's effect on mental health levels, future research may examine changes in physical, social, environmental, spiritual, or other measures of health that were outside the scope of this research. Incorporating other aspects of health into future studies allows researchers to gather a more complete picture of the effects of a relationship break-up on the individual, as a whole.

Although the post hoc analysis revealed that quality did not have a significant influence on mental health levels following a break-up, the strong support for this factor in prior research suggests the need to continue exploring the effects of pre-dissolution relationship quality on post-dissolution mental health levels. Future quantitative research may probe deeper into the effects of the various distinct components that make up relationship quality. For example, future studies may ask, "What aspects of relationship quality are the strongest mediator of the relationship between mental health levels and romantic relationship dissolution? Is it the length of time the individual has spent in the relationship? Is it the number of shared goals and plans?" Furthermore, future

qualitative work may provide a more detailed understanding of university students' experiences of the pre-dissolution quality of their relationships.

Another potentially promising area of research is positive growth following the dissolution of a relationship. Although the focus of this and many other studies have been distress and negative mental health changes caused by a romantic relationship dissolution, there is an expanding body of research that examines growth following traumatic events, including studies on growth following a romantic break-up (Lewandowski & Bizzoco, 2007; Tashiro & Frazier, 2003). The research on positive growth suggests that, although a break-up may be difficult, it also provides an opportunity for individuals to challenge themselves, discover new abilities, and break free from past self-defeating beliefs (Lewandowski & Bizzoco, 2007; Tashiro & Frazier, 2003). Research on the positive effects of romantic relationship dissolution may be vitally important to our understanding of break-ups in university.

Conclusion

Backed by a large amount of literature supporting the connection between a romantic relationship break-up and the change of mental health levels post break-up, the present study was designed to explore the connections between break-ups and mental health in a sample of university students from the Atlantic Canadian region.

Unfortunately, the present study did not reach any conclusions that would support these previous findings. The severe limitations imposed by using a secondary dataset and a non-specific measure of mental health likely contributed to the non-significant findings. Future research designed to overcome these limitations would be beneficial in advancing our knowledge of university students, break-ups, and mental health.

Chapter 2 References

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Table 1

Bivariate Correlations Among the Variables Used in the Study (N = 141)

	Mental Health	Prior MH	Age	Rel. Break- up	Rel. Quality
Prior Mental Health	.61**				
Age	-.02	-.04			
Relationship Break-up	-.01	.02	-.04		
Relationship Quality	.04	.20*	.18	-.13	
Gender	-.01	.01	.05	n/a	.03

* $p < .05$

** $p < .01$

Note: Pearson product-moment correlations were used for the relationships between two continuous variables, point-biserial correlations were used for the relationships between one dichotomous and one continuous variable, and no data was recorded for the relationships between two dichotomous variables.

Table 2

Hierarchical Regression Analysis for Mental Health Levels as a Function of Relationship Break-up (N = 141)

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	<i>p</i>
Age	.16	.02	.77	.16	.02	.77
Prior mental health	-.60	-.55	.00	-.60	-.55	.00
Relationship Break-up				-.17	-.01	.96
R^2		.30			.30	
ΔR^2					.00	
F for ΔR^2		29.88			.01	
p		.00			.96	

Table 3

Hierarchical Regression Analysis Exploring Gender as a Moderator of the Relationship Between Relationship Break-up and Mental Health Levels (N = 141)

Variable	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	<i>SE B</i>	<i>p</i>									
Age	.16	.02	.77	.16	.02	.77	.16	.02	.77	.16	.02	.77
Prior mental health	-.60	-.55	.00	-.60	-.55	.00	-.60	-.55	.00	-.60	-.55	.00
Relationship Break-up				-.17	-.01	.96	-.17	-.01	.96	-.17	-.01	.96
Gender							-4.12	-.10	.17	-4.12	-.10	.17
Interaction (break up x gender)										1.89	.08	.81
R^2		.30			.30			.36			.37	
ΔR^2					.00			.01			.00	
F for ΔR^2		29.8			.01			1.9			.06	
		8										
p		.00			.96			.17			.81	

Table 4

Hierarchical Regression Analysis for Mental Health Levels as a Function of Relationship Quality (N = 141)

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	<i>p</i>	<i>B</i>	<i>SE B</i>	<i>p</i>
Age	.16	.02	.77	.16	.02	.77
Pre-existing mental health	-.60	-.55	.00	-.60	-.55	.00
Relationship Quality				-3.81	-.05	.56
R^2		.30			.30	
ΔR^2					.00	
F for ΔR^2		29.88			.43	
p		.00			.51	

Chapter 3: Implications for the Profession of Counselling

Each year, approximately 8.5 % of the university student population in Canada and the United States attends on-campus mental health counselling (Gallagher, 2007). Of the student suicides reported by 272 directors of university mental health centres in the United States and Canada, it was estimated that the suicide was directly related to relationship problems in 24% of the cases (Gallagher, 2007). It can be safely assumed that at least a portion of these suicides classified as “relationship problems” were due to the strain or dissolution of a romantic relationship. As break-up distress can quickly escalate to more severe mental health difficulties, it is imperative that break-ups be recognized as a potential serious risk for the development of depression, and potentially, suicide.

In addition to the increased risk of suicide, mental health issues in university students have been linked to serious academic consequences. In one study, depression was found to lower a student’s grade point average by half a letter grade (Hysenbeemic, Hass & Rowland, 2005). In another study, break-up distress accounted for 16% of the variance in levels of concentration, homework and test performance for undergraduate university students (Fields et al., 2012).

The current study was not able to link the experience of a break-up to changes in mental health levels. However, the methodological limitations of the current study and the strong body of evidence from previous studies supporting this link provides this researcher with a firm belief that it remains important to continue investigating mental health following a break-up.

Implications for Mental Health Counselling in Universities

Advancing knowledge on the topic of break-up distress in university students is important for counsellors working with this population, especially service providers in the university setting. Despite the limitations of the present study, there is a continued need to educate university-based counsellors on this painful developmental experience; although common, not everyone has experienced a break-up in university and, although not universal, it is possible that some students are at an elevated risk of developing serious mental health issues after the loss of a romantic relationship. At the same time, counsellors must not assume that a romantic relationship break-up is always a devastating occurrence. For example, some students may be resilient to the effects of a break-up. Similarly, for some students in abusive or stressful romantic relationships, a break-up may be a catalyst for personal growth. Conducting future research to identify the factors that place students at risk for the development of mental health problems following a break-up will inform best practice for those who seek counselling following a relationship break-up.

In addition to individual counselling, if future research demonstrates a link between relationship dissolution and mental health levels, it may be beneficial for university counselling centres to offer group counselling or another form of a support group to those students who have just experienced a break-up. Group counselling may offer a form of social support to replace the support a student has immediately lost from their romantic partner. Social support has been found to be a buffer against mental health difficulties (Beck, 2007), so the support gained from a counselling group may make a significant difference in preventing a grieving student from developing a mental health issue as the result of a difficult romantic relationship dissolution.

Implications for Career Counselling

University career counsellors may also benefit from knowledge concerning the possible effects of a break-up for students in university. Several studies have shown that students in high quality, committed relationships make career decisions in tandem with their romantic partners (Amundson et al., 2010; Domene et al., 2012; Motulsky, 2010; Ranta, Dietrich & Salmena-Aro, 2013). Students draw on their romantic partners as a resource and source of support when dealing with career decision-making difficulties (Brosseau, Domene & Dutka, 2010). The romantic partner is often a secure emotional base for the student to return to in times of distress (Amundson et al., 2010; Motulsky, 2010; Schultheiss, 2006). When a beneficial romantic relationship is dissolved, the student attending career counselling may not only have lost a source of emotional support, but his or her future career plans may be dramatically impacted. Career counsellors should be attuned to this.

When career counsellors become aware that their client has experienced a recent break-up, it may be beneficial to explore how the relationship dissolution may affect their future career plans. The counsellor should be aware that the student may have drawn on the former partner as a resource and source of support in making career plans, and be sensitive to the fact the student has just lost this potentially important support.

Conclusion

The present study examined links between romantic relationship break-ups and changed mental health levels subsequent to a break-up in a sample of Atlantic Canadian university students aged 18-29. Despite a strong body of research linking these concepts, none of the hypotheses were supported. Possible limitations included problems with the

sample associated with using a secondary dataset with a small proportion of students who had experienced a break-up, and using a non-specific mental health measure. Keeping these limitations in mind, it is important to continue conducting research into the field of break-ups in university and their connection to mental health.

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