Social Networks and Dyadic Relationships: A Mixed Methods Approach to Exploring Outcomes and Processes during Young Adulthood.

by

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ABSTRACT

SOCIAL NETWORKS AND DYADIC RELATIONSHIPS: A MIXED METHODS APPROACH TO EXPLORING OUTCOMES AND PROCESSES DURING YOUNG ADULTHOOD

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Social networks have been studied as a source of support, well-being, and change. However, relational quality has not been well conceptualized or has been implicitly studied with regards to social networks and their membership. Two studies were conducted using an explanatory sequential mixed methods design. Study 1 looked at the positive and negative mental health outcomes associated with social network membership, specifically for family and peer relationships among young adults using research informed by the personal relationships literature and attachment theory. Using an 8 month longitudinal design and quantitative measures that represented positive and negative dimensions of relational quality and mental health, this study found continuity between family and peer relationship quality. Further, mother relational quality was related to negative mental health outcomes while father relational quality was related to positive mental health outcomes. Peer relational quality was related to both positive and negative mental health outcomes. This study also provided support for an integrated approach to the study of social networks and relational quality by combining theoretical approaches.

Study 2 investigated the internal decision making process that underlie changes to relationships, specifically the dissolution of non-romantic peer relationships. A subset of the sample recruited for Study 1 was used to explore dissolution processes. Twenty-two young adults were interviewed about a relationship they had identified as "changing", and their experiences of change, and how they understood change. The qualitative thematic analysis demonstrated that participants were actively detecting, monitoring, and interpreting the changes they experienced in their peer relationships. The findings support that change processes are active, dynamic, emergent, and that change is not a static event. The final discussion argues for the use of mixed methods in exploring macro and micro levels of analysis and their interaction.
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CHAPTER ONE
Introduction and Overview of Study Goals

Individuals experience many kinds of personal relationships simultaneously and throughout the life span. Personal relationships are dyadic in nature but multiple relationships are conceptualized as social networks. Social networks provide a way for individuals to organize and identify the important individuals and relationships in their lives (Kahn & Antonucci, 1980). Relationships have been researched at micro and macro levels of analysis. Bowlby (1969/1997) proposed that attachment relationships are developed through a history of sensitive and responsive care at the dyadic or micro level and are later generalized to other relationships or macro level. Similarly, Hinde (1979) proposed that relationships are formed through a history of interactions at the dyadic level (micro) and these dyadic relationships are embedded within and influenced by a larger social group (macro). Thus, dyadic relationships do not develop independently because their development is influenced by other dyadic relationships in an individuals’ network of personal relationships.

Macro levels of analysis are used to identify associations between variables that are suspected to be causally related (Patterson, 1997). Research on social networks has typically explored macro levels of analysis, specifically the structure of social networks. Structure refers to the overall size of the network as well as the relationships included in the network such as mothers, fathers, and friends (Pescosolido & Levy, 2002). There are theoretical associations between network size, relationships, and the content or quality of relationships at the macro level that may influence the dyadic interactions between members of the social network (Hinde, 1979; Pescosolido & Levy, 2002). Micro levels of analysis are used to understand underlying processes of social interactions (Patterson, 1997). Micro levels of analysis explore how the members of social networks are similar or different in their dyadic interactions as well as the process of relationship formation and dissolution. Micro levels of analysis have less frequently been studied with regard to social networks but are important because they may shed light on the process by which dyadic interactions influence macro level social network size and membership. Therefore, to provide a comprehensive understanding of social networks, both levels should be investigated.

The goal of this dissertation is to examine relationship quality as an important feature of dyadic relationships that influences how relationships operate at the macro and micro levels. Relationship quality is conceptualized as a mediator that affects the outcomes and processes
within social networks (e.g., McCabe, Cummins, & Romeo, 1996). At the macro level, when relationship quality is high or low, it may change the outcome or the effect of the network on the individual. At the micro level, when relationship quality is high or low, it may influence how the dyad functions as well as membership within the social network. The following literature review will explore macro and micro processes in the relationships of young adults. The literature review will begin with Hinde’s (1979) relationship theory, which describes key concepts for understanding the relationship between micro experiences of relationships and how these are related to social networks at the macro level. Next, the literature review will discuss the developmental transitions of adolescents and young adults within their social networks, the importance of peer networks, and the association between family and peer relationships.

**Hinde’s Theory of Relationships**

Hinde's (1979) relationship theory is used in this dissertation as an overarching theory to understand micro and macro levels of social networks, from interactions between individuals to the larger social context. Hinde (1979) proposed that relationships are based on a *history of interactions* between individuals. Within each interaction, each person has expectations about the other persons’ behaviour that includes qualities such as the potential for intimacy and conflict. For example, a young adult who regularly experienced high levels of social support from a parent in the past may develop expectations that this behaviour will occur in present and future interactions when the individual seeks social support.

Interactions are also *emergent and dynamic*. This means that the relationship between members of a dyad can change based on new interactions experienced within the relationship (Hinde, 1979). Relationships are influenced by the dyads’ past and present interactions. Individuals share a pattern of interacting with one another and each relationship will have its own distinct history and quality of interactions (Hinde, 1979). Past interactions influence present interactions, and based on the experience of interactions occurring in the present, individuals may carry forward their present expectations into future interactions (Hinde, 1979; Lollis, 2003). For example, Hinde (1979) proposed that individuals review their past interactions or even imagine future ones and this may affect the future of the relationship.

Hinde (1979) also proposed that relationships formed at the dyadic level are embedded within a larger social group, such as a social network. The various dyadic relationships within a social network could include family members and peers who are sources of support during
stressful periods of development. Hinde's theory was used in the current dissertation to provide an overall framework that integrates macro and micro levels of social networks. Hinde's theory also provides a means of integrating the literature on social networks. Research on networks tends to focus on macro level research questions concerning membership and network size while the literature on peer relationships tends to focus on micro level research questions concerning dyadic interactions. Both literatures have explored dyadic and network research questions independently of one another, however using Hinde as a theoretical framework provides a connection between macro and micro levels of social networks and an opportunity to understand the relationship between peer relationships and social networks.

Few studies have explicitly explored change or the developmental outcomes associated with social networks at the macro or micro levels. Research on social networks has mainly focused on describing the qualities and functions of networks. Researchers such as Doherty and Feeney (2004) and Trinke and Bartholomew (1997) provided descriptive information on the size and membership of social networks while others have focused on describing the membership of the network (Levitt, Guacci, & Ordogui, 1991; Levitt, Weber, & Guacci, 1993). Research has also explored the fulfillment of network functions such as social support (Colarossi, 1996; Frey & Röthlisberger, 1996) and security (Freeman & Brown, 2001; Furman & Buhrmester, 1992), as well as differences in parental and peer membership in both community (Feiring & Lewis, 1993; Knoester, Haynie, & Stephens, 2006; McLaughlin, Horwitz, & Raskin-White, 2002), and clinical samples (Milburn et al., 2005; Tyler, 2008). Research on social networks has yet to study the outcomes associated with the quality of network relationships at the macro level or how individuals make decisions about who will or will not be a member of their social network at the micro level.

In summary, Hinde (1997) provides a framework for understanding the micro level processes involved in dyadic relationships that are embedded within the macro level structures of social networks. The majority of research on social networks has focused on the macro level of analysis, specifically the network size, membership, and function of social networks. However, little research has addressed the micro level dyadic relationships, such as stability and change in network relationships, that comprise the social network and the importance of different network relationships, such as peer relationships, and the outcomes associated with different network relationships.
Social Networks during Adolescence and Young Adulthood

Social networks are collections of close personal relationships that include family members, friends, and romantic partners (Kahn & Antonucci, 1980; Levitt, Guacci-Franco, & Levitt, 1993). Members of an individual’s network fulfill a variety of functions throughout the lifespan including social support (Frey & Röthlisberger, 1996) and security (Hazan & Zeifman, 1994). Networks are important during stressful periods of development because individuals may be able to use their networks as a resource to fulfill various functions. Several researchers have argued, as a resource, having many relationships is more valuable than having only one or two close dyadic relationships. For instance, empirical research by Perry (2006), Pressman et al. (2005), and Ueno (2005) found that having multiple relationships that provide strong support may prevent the onset of various forms of psychological distress such as depression. During adolescence (13-17 years) and young adulthood (18-28 years), social networks are an important source of comfort and support because young adults experience life transitions that are often reported to be quite stressful. These life transitions include changes to the parent-child relationship, attending university, and moving away from home (Arnett, 2007).

A particularly important transition involves the inclusion of peer relationships into a network previously dominated by family relationships. Adolescents and young adults spend more time developing peer relationships, such as friendships and romantic relationships, than spending time with their family of origin (Youniss & Smollar, 1985). Peer relationships become more important during adolescence and young adulthood because they are the first voluntary relationships in which individuals experience reciprocity, mutual goals, and egalitarian relationship dynamics (Laursen & Bukowski, 1997). As peer relationships become more important, adolescents and young adults also experience decreases in family interactions, especially if they no longer reside with their family of origin (Arnett, 2007; Collins & Laursen, 2004).

The shift in frequency of interactions from parents to peers is thought to be accompanied by a process of renegotiating the parent-child relationship. During middle childhood, parents are viewed as authority figures (Youniss & Smollar, 1985). However, in adolescence and young adulthood, children begin to change their perception of their parents. Parents are now perceived as individuals who are capable of making mistakes and who are not authorities in all areas of knowledge (Youniss & Smollar, 1985). With this realization, adolescents and young adults see
their peers as having more expertise than parents in certain areas, however parents are still perceived as being more competent in other areas. For example, Frey and Röthlisberger (1996) found that adolescents relied on their peers more than parents for everyday expressive support such as spending time together and confiding in one another. However, parents were relied on more than peers for everyday instrumental support (i.e., asking a favour) and emergency expressive and instrumental support, such as being consoled after the death of a close friend or relative and career advice.

The transition to university is another important and stressful period of development for adolescents and young adults that is characterized by change and exploration (Arnett, 2004). Stressors experienced during this transition can promote change because young adults must reconstruct and re-negotiate their relationships with family members (Tao, Dong, Pratt, & Pancer, 2000) as their frequency of contact may have decreased. When young adults transition to university, it may be their first separation from their family of origin. This transition provides a context to develop new peer relationships that support their exploration of different identities and their desire for independence (Arnett, 2004, 2007). Relationships with parents and peers may have the potential to alleviate or exacerbate these various stressors during the transition.

The parent-child relationship has been characterized as having a positive influence during the transition to university by alleviating stressors for young adults. Lefkowitz (2005) found that young adults who reported changes in their relationship with their parents reported positive changes that included improved relationship quality, more open communication, feeling closer to their parent, and viewing their relationship as more mature or friendship like. Positive effects of the parent-child relationship were also reported by Operario, Tschann, Flores, and Bridges (2006), who found that greater parental warmth was associated with less anxiety, depression, and anger. Researchers have also found that maintaining family support during the first year of university was positively associated with psychological health (Hurtado, Carter, & Spuler, 1996). Therefore, parent and family relationships appear to be a positive factor that alleviates stress for young adults.

Peer relationships with friends and romantic partners alleviate as well as exacerbate stress during the transition to university. However, the research findings suggest different reasons why peer relationships might have two opposite effects. Operario et al. (2006) found that peer relationships exacerbated stressors because greater support received from peer relationships was
associated with more emotional distress, especially if the individual reported low parental warmth. In contrast, Hurtado et al. (1996) found that peer relationships alleviated stressors. They found that socializing with peers during the transition to university was positively associated with social adjustment because both university and non-university friends were identified as providing the most support. Therefore, the quality of parent-child and peer relationships are important factors to consider during this developmental transition.

In summary, the transition to university is an important context for the current dissertation. This life transition is characterized as a period of stressful development because changes occur in several areas of the individual’s life (Arnett, 2007) that include creating, maintaining, and ending relationships that vary in the types of support provided. Also, the quality of family relationships is associated with alleviating stressors while the quality of peer relationships is associated with both alleviating and elevating stressors during this transition. Because peers can have both a positive and negative effect for young adults, the literature on the function and development of peer networks is reviewed next.

The Importance of Peer Networks

The relationships formed during university are conceptualized as peer relationships. Hartup (1980) suggested that peer relationships are an important part of the socialization process because individuals continue to develop their competence in communication and role taking outside of their family system. Peer relationships, or friendships, are defined as strong affective bonds between two individuals who are not romantically involved and who support the socio-emotional goals of each person (Hartup & Stevens, 1997). Expectations between friends vary throughout the lifespan and include sharing common activities, interests, and beliefs, intimate interactions through self disclosure, receiving and providing social support, and feeling accepted and understood by others (Bukowski, Motzoi, & Meyer, 2009).

Friendships have also been defined as including reciprocated liking, responsivity, cooperation, coordination, and similarity (Bukoswki et al., 2009). One of the basic features of distinguishing a friendship from a non-friendship is whether two individuals show a mutual or reciprocated liking for one another. Also, friendships are responsive and involve cooperation and coordination. According to Bukoswki et al., responsiveness within friendships is symmetrical, in that each friend contributes equally to the interaction and ideally, neither partner dominates the other. Friends are more likely than non-friends to cooperate and show more positive social
behaviours (Dunn, Cutting, & Fisher, 2002) as well as use more negotiation, fewer winner-take-
all strategies, and have equal resolutions that benefit both individuals (Hartup, Laursen, Stewart, & Easton, 1988). Individuals also may create friendships with others who are more similar to
them in terms of pro-social or antisocial behaviour (Liu & Chen, 2003), level of sociability,
popularity, academic achievements, and motivation (e.g., Altermatt & Pomerantz, 2003; Gest,

Depending on the quality of the relationship, friendships can either have a beneficial or a
detrimental effect (Hartup, 1996). Few studies have explored the beneficial and detrimental
effects of having high quality friendships during adolescents and adulthood. For example,
individuals with friends report greater psychological well-being throughout adulthood than
individuals who do not have friends (Gupta & Korte, 1994). However, there are also detrimental
effects to friendships. For instance during adolescence, conflict and contention with friends has a
negative association with attitudes towards school (Berndt, 1989).

**Associations between Family and Peer Relationships**

The quality of friendships is influenced by one's family of origin (Rubin, Bukowski, &
Parker, 2006). Patterns of relational expectations and behaviors developed within a family
system influence the relationships developed outside of the family system directly and indirectly
(Ross & Howe, 2009). Direct influence includes parental efforts to arrange and supervise peer
encounters, intervene during conflicts, or coach children on how to interact with peers (Ross &
Howe, 2009). For example, children of mothers who use effective coaching during conflict have
a higher peer status than children of mothers who use less effective coaching (Finnie & Russell,
1990).

Indirect influence occurs through patterns of family interactions that the individual may
use in their future relationships outside of their family of origin (Parke & Ladd, 1992). For
example, if a child experiences negative interactions such as sibling aggression and punitive
parenting, these types of patterns could be carried into their peer relationships (Ross & Howe,
2009). However, if a child experiences positive interactions, such as companionship and
enjoyable interactions, these types of relational patterns could also be carried into their peer
relationships. For example, parental warmth and praise are related to pro-social behaviour and
peer group acceptance (Eisenberg, Faves, & Spinrad, 2006). Also, parental expressions of
positive behaviours and affect during parent-child play are related to social competence in children within their peer interactions (LaFreniere & Dumas, 1992).

Cooper and Cooper (1992) proposed continuity and compensation as two processes that explain the association between family and peer relationships. The continuity model implies that adolescents who experience adequate family relationship patterns will re-enact these patterns in their peer relationships in a manner that is similar to Bowlby’s (1969/1997) conception of internal working models. Hartup (1980) theorized that family and peer relationship systems were continuous and that early family relationships provide the foundation for social competence in peer relationships. In contrast, the compensatory model suggests that if family relationships are inadequate for supporting the adolescent’s needs for psychological well-being, adolescents will seek out their peers for the experiences they require to fill this void (Sroufe, England, & Carlson, 1999).

Evidence has been found for both continuity and compensatory patterns. Bognschneider, Wu, Raffaelli, and Tsay (1998) provides evidence for the continuity model of relationships. They found that mothers with high levels of responsiveness and less disapproving values towards alcohol use were associated with adolescents who reported lower orientation to peers and lower scores on substance use. In contrast, Lansford, Criss, Pettit, Dodge, and Bates (2003) provides evidence for the compensatory model of relationships. They found that adolescents with friends and peer groups perceived to be low in antisocial behaviour buffered against the effects of unilateral or harsh parental decision making. Both of these processes and the examples of supporting research provide insights into the importance of family relationship quality and the effect it can have on the development and socialization of young adults.

**Summary and Goals of the Current Research**

In summary, the social networks of adolescents and young adults change at both the macro and micro levels as individuals move through several important developmental transitions, such as the transition to university. One of these changes are the incorporation of peer relationships into social networks that were previously dominated by family relationships. The influence of family relationship quality directly and indirectly influences the quality of peer relationships during early and middle childhood (Parke & Ladd, 1992; Ross & Howe, 2009). Continuity and compensatory models have been suggested as a mechanism by which this may occur.
Regardless of the type of model used to understand the relationship between family and peer systems, what is unclear is how the quality of family and peer relationships are associated within macro and micro levels of social networks. With regards to macro levels, research is needed to understand the importance of family and peer relationship quality within social networks. The inclusion of peer relationships is a developmental milestone during adolescence and young adulthood (Youniss & Smollar, 1985), and therefore one could assume that are positive and negative outcomes associated with the quality of relationships that are initiated and maintained within a social network. With regards to micro levels, research is needed to understand how individuals make decisions about who will or will not be a member of their social network. It is unclear what processes underlie the decision making process and what information adolescents and young adults consider when making choices about their network relationships. Exploring the importance of family and peer relationships during young adulthood would further our understanding of how these relationships operate at macro and micro levels of social networks.

Hartup and Stevens (1997) proposed two recommendations for studying the importance of friendships across the lifespan that were incorporated into this dissertation. The first recommendation is that researchers need to explore the variability in friendships during important developmental transitions, specifically during adulthood. In the current dissertation, a sample of young adults between the ages of 18-28 years undergoing the transition into university and moving away from their family of origin were used to investigate relationship variability within social networks. The second recommendation is that researchers should explore the quality of friendships because friendships will differ in their level of quality with varying benefits (Hartup & Stevens, 1997). Therefore, relationship quality was incorporated into the two studies of this dissertation.

Study 1 used a macro level of analysis to examine the structure and composition of social networks and the positive and negative mental health outcomes associated with network relationship quality. Study 1 had two objectives. The first objective was to describe the size and composition of social networks. The second objective investigated the associations between relational quality and mental health outcomes. The second objective had four research questions: 1) What is the association between parent-child and peer relationship quality?; 2) What is the relationship between parent-child and peer relationship quality with psychological distress and
psychological well-being?; 3) What changes occurred in social networks during the university year?; and 4) What is the association between relationship quality and attachment security with psychological distress and psychological well-being?

Study 2 used a micro level of analysis that focused on the processes that underlie changes in social network membership. Study 2 explored the internal decision making process of young adults making a change to a dyadic relationship within their social network, specifically for a non-romantic peer relationship. Very little is known about the decision making process that underlies changes to social network membership and it is unclear what information or factors are considered when making changes to relationships, specifically a friendship. Study 2 used a qualitative interview that asked participants to discuss their experience of a peer relationship that was in the process of change. Interview questions included asking participants to describe their relationship before and after it started to change, their ideas about why the relationship was changing, as well as any moments or events that were related to the change in their friendship.

**Rationale for Mixed Methodology**

This dissertation used a short-term 8 month longitudinal mixed methods design. Specifically, a mixed-methods sequential explanatory design was used to collect and analyze quantitative data and then qualitative data in two consecutive phases (Ivankova, Creswell, & Stick, 2006). Within a sequential explanatory design, the second or qualitative phase of the study needs to build upon the first or quantitative phase of the study (Ivankova et al., 2006). Using this rationale, the quantitative study provided a general understanding of how the quality of relationships are related to specific mental health outcomes at the macro level of analysis while the qualitative study elaborated on how relationship quality can be used in the decision making process at the micro level of analysis. The research design was also theoretically informed using Valsiner’s (2000, 2006) conception of the methodology cycle. According to Valsiner (2000), methodology can be understood as a process of knowledge construction that involves more than data collection or hypotheses testing. The researcher is an active agent in this process. The central goal is to understand a particular phenomenon and the researcher’s intuitive experiences and world views as well as the choice of theory and methods that are relevant in the process of knowledge construction (Valsiner, 2000).

Valsiner’s methodology cycle guided the decisions in the current dissertation. The first decision was to include both macro and micro levels of analysis to understand and study the
phenomena of social networks. The second decision was to use a mixed-methods sequential explanatory design, using quantitative methods to investigate the outcomes associated with the quality of network relationships at the macro level and using qualitative methods to explore the decision making processes underlying dyadic relationships at the micro level. It was expected that these two methodological strategies together would critically examine theory, assumptions, and methodology to further the researchers’ understanding of social networks as well as the experiences of young adults interacting with the phenomenon.

The use of quantitative and qualitative methods is an appropriate approach to study the phenomenon of social networks. Quantitative research allows for the ability to chart, predict, and examine trends, commonalities, and averages that qualitative analysis cannot address (Mason, 2006), whereas qualitative research explores process, change, and answers the “how” and “why” questions that are missing in quantitative analysis. Using both methods allowed for a more complete understanding of the phenomenon of macro and micro levels of social networks. Mason (2006) argued that social experiences are multi-dimensional and our understanding of the phenomena becomes limited and inadequate if viewed on a single dimension.

In summary, the first study was quantitative and involved the analysis of questionnaire data to investigate the mental health outcomes associated with social networks. The second study was qualitative and involved a thematic analysis of interview data to understand the decision making process that young adults engaged in when dissolving a relationship with a social network member. Although both studies investigated the same phenomenon, the unit of analyses are different. The first study examined the quantitative differences for family and peer relationship quality on measures of psychological distress and psychological well-being. The second study sought to understand the process by which individuals make changes to their social networks.

CHAPTER TWO

Study 1: Exploring the Positive and Negative Mental Health Outcomes of Social Networks

Introduction

Study 1 used a macro level of analysis to investigate the structure and composition of social networks and the positive and negative mental health outcomes associated with the quality of network relationships. Bowlby (1969/1997), Cassidy (2000), and Cooper and Cooper (1992) have all argued that the quality of family relationships influences the quality of peer
relationships. Relationship quality is an individual’s subjective evaluation of a relationship (e.g., Fincham & Rogge, 2010; Hassebrauck & Feur, 2002; Laursen & Mooney, 2008) and perceptions of relationship quality can be either positive or negative. For example, positive qualities of relationships may stem from experiences of affection, security, and intimacy while negative qualities of relationships may stem from experiences of conflict and jealousy (Laursen & Mooney, 2008). Relationship quality has been associated with positive and negative mental health outcomes. The association between relationship quality and mental health has been researched both in the developmental and family therapy literature.

Bowlby (1969/1997) and Cassidy (2000) proposed that individuals create working models of attachment from their early relationship experiences and these working models become the foundation for the development of future relationships. However, not all social relationships create supportive and positive working models (Duck, 1999). Cooper and Cooper (1992) proposed that the quality of peer relationships are dependent on the quality of family relationships. Young adults will either re-enact family patterns that ensure continuity in their peer relationships or seek out peer relationships that compensate for inadequate family models. Therefore, exploring the relationship quality of network relationships would help to understand the connection between family and peer relationship quality and any positive or negative mental health outcomes during young adulthood.

Consistent with Bowlby’s (1969/1997) conception of internal working models, Tomm (1991) proposed that internalized patterns of human interactions have a large influence on an individual’s life experiences and mental health. According to Tomm (1991), negative relationship patterns or qualities characterized by high levels of conflict and feelings of loneliness have a pathologizing effect while positive relationship patterns or qualities characterized by high levels of social support and intimacy have a healing effect. Therefore, negative and positive relationship patterns may be repeated in other close relationships, for better or for worse.

Relationship quality is important to consider during young adulthood because in addition to family members, young adults incorporate new relationships with peers into their social networks (e.g., Levitt, Crooks, Hodgetts, & Milevsky, 2005; Trinke & Bartholomew, 1997). Including peer relationships with positive qualities may have positive outcomes, such as increasing psychological well-being. However, including peer relationships with negative
qualities may have negative outcomes, such as increasing psychological distress. The following literature review will discuss the association between relationship quality and family and peer relationships during young adulthood. The literature review will begin with the research on family and peer relationships and the association to mental health outcomes. Next, it will consider how attachment theory has studied the association between family and peer relationship quality and mental health. Lastly, a proposal for a comprehensive approach for the study of relationship quality within social networks will be outlined as the basis for the current study.

**Existing Ideas about Relationship Quality**

The following literature review addresses research that has examined positive and negative relational qualities for family and peer relationships and the association with positive and negative mental health outcomes. Ideas regarding the quality of relationships comes from research on personal relationships with family and peers as well as attachment theory. The personal relationships literature has used a broad array of dimensions to assess relational quality that includes social support, intimacy, conflict, and antagonism. In contrast, attachment theory has taken a more narrow focus to the study of relational quality by focusing on the presence or absence of security. However, only social support, conflict, and attachment security have been used when studying the social networks of young adults and no studies have included both attachment security and other relational qualities within a single study. In this study, a comprehensive approach was used to assess the construct of relational quality by drawing from concepts in the personal relationships literature, specifically social support, intimacy, conflict, and antagonism, as well as from the attachment literature, specifically self- and other-models of security.

**Positive and negative dimensions of relationship quality.**

Several studies have investigated the association between relational quality and physical and mental health outcomes during adolescence and young adulthood. Researchers exploring positive and negative dimensions of relationship quality for family and peer relationships have tended to use measures of social support and conflict. Vilhalmson (1994) explored the differences between peer and parental relationships and their association to physical health promotion in a sample of adolescents (15-16 years). Vilhalmson found that parental support was related to increases in positive physical health behaviours, such as exercise, and decreases in negative physical health behaviours, such as smoking. In contrast, peer relationships were related
to increases for both positive health outcomes, such as life satisfaction, and negative health outcomes, such as smoking.

Helsen, Vollebergh, and Meeus (2000) also studied the relationship between parental and friend support and the association with mental and physical health during early (12-14 years), middle (15-17 years), late (18-20 years), and post adolescence (21-24 years). They found that across all age groups, low parental support was associated with frequent emotional problems as indicated by high scores on stress, depression, and physical health complaints. However, friend support was not associated with emotional problems.

In contrast, McLaughlin and colleagues (2002) found different results for family and peer network relationships in a sample of young adults (25-31 years). They found that young adults were more likely to report supportive rather than problematic relationships. Moreover, peer relationships had a stronger association with mental health than family relationships. Young adults who received more social support from peers reported less depression while young adults who experienced more problems with peers reported more depression. Contrary to Vilhjalmson’s (1994) and Helsen et al.’s (2000) findings on the influence of family relationships, McLaughlin and colleagues (2002) found that social support and problems with family members were not related to depression.

In summary, the few existing studies investigating both family and peer relationship quality found variations between family and peer relational quality and physical and mental health outcomes. The purpose of the current study was to build on this work in two ways. First, Study 1 used a social network measure that allowed participants to identify the relationships that constitute their social network instead of using pre-selected relationships identified by the researcher, which was the case in the previous research (e.g., Helsen et al., 2000; McLaughlin et al., 2002; Vilhjalmson, 1994). The advantage to this approach is that using a social network questionnaire in which young adults are asked to construct their social network allows for a more accurate representation of the relationships that are important during young adulthood.

Second, this study expanded the assessment of relationship quality by using multiple measures of positive and negative relationship quality. Bagwell et al. (2005) argued that research on adult friendships tends to focus on only positive friendship features as well as a limited focus on similarity and attraction. Furthermore, Berndt (2002) argued that researchers wanting to study relationship quality must recognize that relationships vary in positive and negative relational...
features. Therefore, both positive and negative features of relationships need to be explored to understand how the differences in quality are related to different outcomes. Two positive dimensions of quality, intimacy and social support, and 2 negative dimensions of quality, conflict and antagonism, were included in this study. These relational qualities were selected because of their use in previous studies on late adolescent and young adult friendship quality and mental health outcomes (i.e. Bagwell et al., 2005; La Greca & Moore Harrison, 2005). Both studies indicated positive and negative associations with mental health outcomes that were dependent on the quality of the friendship. Having 2 kinds of positive and 2 kinds of negative relational qualities allowed for a conceptually differentiated approach to measuring quality.

**Attachment theory.**

Attachment theory offers another perspective on relationship quality that focuses on security. One of Ainsworth's major contributions to the study of relationships includes the identification of patterns of parent-child attachment security as an indication of relationship quality (Bretherton, 2003). The level of felt security and protection within a close relationship is an indication of the quality of the relationship. Within the attachment literature, researchers have examined the connection between family and peer attachment as well as the positive and negative outcomes associated with the inclusion of peer relationships. The following literature review will discuss what attachment is as well as the research exploring the function of family and peer attachment relationships during adolescence and young adulthood.

Bowlby (1969/1997) argued that the attachment bond ensured survival because individuals were compelled to seek comfort from their attachment figures when distressed, ill, or afraid. Attachment relationships are distinguished by four basic functions: proximity seeking or maintaining physical closeness, safe haven or a source of comfort and closeness, separation protest or experiencing distress upon separations, and secure base, in which the attachment figure acts as a base of exploration or provides a “net” to support the individual in their exploration of their social world (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1997). By seeking comfort with their attachment figures, individuals are able to develop expectations about what to expect from their caregivers and under what circumstances.

From these early experiences, individuals develop expectations, or internal working models (IWM), about their self as well as expectations about their significant others (Bowlby, 1969/1997). Working models help the individual to regulate, interpret, and predict their
behaviors, thoughts, and feelings in close relationships, and are constantly revised to include new experiences and relationships (Bretherton, 1985; Collins, 1996; Collins & Read, 1994). Working models are proposed to exist beyond one's level of awareness and this challenge has resulted in the development of different measures of adult attachment that include interviews and questionnaires.

In addition to IWM’s, Bowlby (1969/1997) also suggested that individuals have the ability to develop multiple attachments, attachment relationships are not interchangeable, and these relationships are arranged in a hierarchy. Bowlby (1969/1997) and Ainsworth et al. (1978) proposed that individuals begin with one primary attachment figure in infancy while toddlers begin to form attachments with other caregivers and family members. During childhood and adolescence, individuals begin to form multiple attachments with individuals who are not their primary caregivers and could include peers (Weiss, 1991). Bowlby (1969/1997) and Hazan and Zeifman (1994) proposed that adolescents and young adults shift their attachment needs to their peers as part of healthy adult development.

Several researchers have explored the processes underlying the “shift” from parent to peer attachment functions during middle childhood (Nickerson & Nagle, 2005) and adolescence (Friedlmeyer & Granqvist, 2006). Researchers have also described the attachment hierarchy and membership of social networks whereby once the shift in attachment functions was made to a peer, the organization of the network contained a peer relationship at the top of the hierarchy followed by parents, in particular mothers (e.g., Pitman & Scharfe, 2010; Rowe & Carnelley, 2005; Trinke & Bartholomew, 1997). From these empirical findings, researchers noted that the individual does not remove their parents from the network, but they reposition their parent moving them down in importance for fulfillment of attachment functions (see Pitman & Scharfe, 2010; Trinke & Bartholomew, 1997). These studies investigated the process of the shift as well as the membership of social networks, however they did not test Bowlby (1969/1997) and Hazan and Zeifman's (1994) proposal. If their proposal about young adults shifting their attachment needs to their peers as part of healthy adult development is correct, there would be advantages associated with the development of peer relationships and disadvantages associated with not developing peer relationships.

Two studies have tested the proposal regarding the developmental advantages and disadvantages of peer relationships using attachment theory. Using a longitudinal design,
Mayseless (2004) explored the shift from parent to peer for Israeli adolescent males leaving home to enter into mandatory military service. Mayseless (2004) found that the shift from parent to peer was beneficial for adolescents if they avoided their parents and increased their contact with peers for fulfillment of attachment functions. For this cultural and socially specific transition, avoiding one’s parents and maintaining attachments with peers may be a protective factor for adolescents. Using a North American sample of university students, Pitman and Scharfe (2010) explored differences between family and peer relationships on measures of attachment security and psychological distress that included depression, anxiety, and physical symptoms. Pitman and Scharfe did not find any developmental advantages or disadvantages with peer relationships. However, they did find differences in the association between security and psychological distress. Individuals with family social networks had strong associations between their self-and other-model and psychological distress while individuals with peer social networks had strong associations between only their self-model and psychological distress.

In summary, the two studies exploring the outcomes associated with the development of peer attachment relationships found differences in the effect that family and peer relationships have during adolescence and young adulthood. Researchers studying attachment networks and outcomes have used attachment theory and attachment based measures to explore their research questions and have yet to incorporate other theoretical backgrounds or measures. Similarly, the research on social networks and relationship quality have yet to integrate relationship quality measures from different theoretical backgrounds, such as attachment theory. The purpose of the current dissertation was to build upon this work by including other measures of relationship quality in addition to attachment. The advantage to using various measures of relationship quality from different conceptional and theoretical backgrounds is that it creates a comprehensive understanding of the variations in relational features of relationships.

A Comprehensive Approach to Measuring Relationship Quality

An integrated approach to the study of social networks uses various measures of relationship quality and positive and negative mental health outcomes. Measures of relationship quality included social support, intimacy, conflict, and antagonism as well as concepts from attachment theory. These concepts include security in relationships, specifically positive and negative working models of self and others. Using Valsiner's (2000) methodology cycle, theories, perspectives, and methods were chosen that were relevant to the process of knowledge
construction when it comes to understanding social network relationships. It is important to understand how the quality of these relationships affect the individual during periods of transition, change, and development.

The following discussion provides conceptual definitions for social support, intimacy, conflict, and antagonism. This review will also discuss how security is measured as an indicator of relationship quality. Next, a discussion of the rationale for including positive and negative mental health outcomes and selected areas of measurement will also be addressed.

**Social support** is a positive relationship quality. The definition of social support used in the current study is the conceptualization by Sarason, Pierce, and Sarason (1990). They propose an interactional approach to social support that contains three elements: 1) motivations and expectations that a relational partner is available to provide various types of support; 2) the type, history, and context of the relationship; and 3) the type of situations or events that are perceived as being stressful. The interaction of these three elements determines the amount and type of support provided in certain situations/events by individuals within different relational contexts. Research by Furman and Buhrmester (1985) can be interpreted as being consistent with Sarason's conceptualization. Furman and Buhrmester characterized social support as providing help, advice, sympathy, and positivity. They also proposed that social support can be received from different relationship sources such as different family members or peers, social support can be provided in general or specific situations, and will vary based on the support provider.

**Intimacy**, which is another positive relationship quality, has been defined as a process of self disclosure (Prager, 1995). Disclosure is the perception of how much one partner discloses to another relational partner. Reis and Patrick (1996) proposed that intimacy develops through a process in which an individual discloses personal information, thoughts, and feelings to a partner and empirical research has found that both self disclosure and partner disclosure predicted participant's ratings of intimacy during social interactions (Laurenceau, Feldman Barrett, & Pietromonaco, 1998). Prager and Reis and Patrick's conceptualization is consistent with Furman and Buhrmester's (1985) research, in which intimacy is conceptualized as a self-disclosure based interaction with social network members.

**Conflict** has often been conceptualized as a negative relationship quality. There is no consensus on a single definition of conflict (Canary, Cupach, & Messman, 1995), however Cahn (1992) and Roberts (2006) propose that conflict occurs when there is a disagreement, difference,
or incompatibility between individuals. Conflict happens in context in which person variables, such as background and personality, interact with contextual variables, such as stressors, transitions, and cultural contexts that influence how the conflict is perceived and handled (Roberts, 2006). Research by Furman and Buhrmester (1985) can be interpreted as being consistent with Cahn and Roberts conceptualization. Furman and Buhrmester characterized conflict as different forms of disagreement and incompatibility experienced with social network members.

Antagonism, which is also a negative relationship quality has been used interchangeably with hostility. Antagonism has been associated with a nasty verbal tone as well as non-verbal behaviours such as eye rolling and glaring (Roberts, 2006). Hess (2000) identified that individuals who show antagonism in non-voluntary relationships with a disliked partner use behaviours such as lying to the other person, negotiation, hostility, rejection of the person or their remarks, and perceive the other person as lacking feelings. The purpose of these antagonistic behaviours is to create distance and lack of connection within a relational context. Roberts and Hess's conceptualization is consistent with Furman and Buhrmester's (1985) research, in which antagonism is characterized as annoyance and irritation with social network members.

The concept of security also provides a complementary approach to positive and negative relationship quality that has been missed in the literature on personal relationships. Using Bowlby's ideas and integrating previous measures of attachment, Bartholomew (1990) developed a two dimensional model of attachment security that operationalized working models of self and others. Self-models are constructions of an individual's beliefs about how they understand themselves within a relationship and their own self worth. In Bartholomew's model, individuals with positive self-models have been found to have positive self-concepts, feelings of worthiness for love and emotion, and have high self esteem (e.g., Bartholomew & Horowitz, 1991; Feeney & Noller, 1990). However, individuals with negative self-models report feeling unlovable, experience high levels of anxiety (e.g., Shaver & Brennan, 1992), and avoidance of relationships for fear of rejection (e.g., Fraley & Shaver, 1998).

Other-models are constructions of an individual's beliefs about security within a relationship. These beliefs include what to expect from significant other's and how these significant others will treat them within a relationship context. In Bartholomew's model, individuals with positive other-models view others as trustworthy (e.g., Simpson, 1990), caring
(e.g., Feeney, 1996), and available for support (e.g., Ognibene & Collins, 1998) and comfort. However, individuals with negative other-models view others as rejecting (e.g., Bartholomew, 1990), unimportant (Hazan & Shaver, 1987), and experience interpersonal distrust (e.g., Weems, Berman, Silverman, & Rodriguez, 2002).

Incorporating measures of attachment security into the current study was an exploratory analysis because attachment security and positive and negative relational qualities have yet to be combined when studying social networks. Self and other-models are similar to the concepts of social support and intimacy in that they are an indication of positive relational quality. However, self and other-models are a specific evaluation of the degree of felt security experienced within a relationship whereas social support is a broader concept that includes various resources beyond security. In addition, intimacy includes a specific dimension having to do with confidence in sharing intimate information with another person.

Positive and negative mental health outcomes were also included in the current study. Hartup and Stevens (1997) argued that to understand the developmental significance of relationships, specifically friendships, researchers must explore how the relationship experience contributes to variations in outcomes. Within the current study, positive mental health outcomes are conceptualized as measures of psychological well-being. Psychological well-being has been conceptualized as consisting of happiness, life satisfaction, the presence of positive affect, and the absence of negative affect with variations in subjective experiences (Myers & Diener, 1995). The psychological well-being measures selected for the current study included self-esteem, optimism, and life satisfaction. These measures were selected because they represent positive features of mental health and are indicators of positive affect.

Negative mental health outcomes are conceptualized as psychological distress. Psychological distress has been conceptionalized has a negative state of mental health (Canadian Institutes for Health Information, 2012). Psychological distress has been associated with feelings of depression and anxiety as well as changes in emotions, discomfort, and a perceived inability to cope effectively. The psychological distress measures selected for the current study included depression, anxiety, and loneliness. These measures were selected because they represent negative features of mental health and are indicators of negative affect.

In summary, Study 1 extends the existing literature in two ways. First, Study 1 uses multiple forms of measurement to understand the phenomenon of social networks. Study 1
incorporated a social network measure in which participants identified and constructed the membership of their social networks as opposed to using pre-selected relationships. Also, measures were included that explored both positive and negative features of relationship quality from different theoretical and conceptual backgrounds. Furthermore, measures were included that explored both positive and negative mental health outcomes to understand the trajectories that variations in relational quality could have during young adulthood. Second, Study 1 proposed an integrated approach to the study of social networks, relational quality, and mental health. This is a strength of the current study because integrating research on personal relationships and research using an attachment perspective may offer complementary perspectives on relational quality.

**Objectives and Research Questions**

There were two objectives. The first was to identify and describe the size and composition of social networks of young adults. This objective was conceptually informed by Valsiner (2002), in which the goal of research is to understand a particular phenomenon and to understand it, one must identify and describe it. This goal was accomplished using descriptive statistics that examined average network size and the number of family and peer relationships within social networks. The second objective used a systematic approach to explore the associations between relational quality and mental health outcomes with and without a measure of attachment. This objective was conceptionally informed by Hartup and Stevens (1997) who argued that to understand the developmental significance of relationships, researchers must study how the relationship experience contributes to variations in outcomes. The first 3 research questions investigated family and peer social network relationship quality using social support, intimacy, conflict, and antagonism and the association with psychological well-being and psychological distress. The last research question explored the proposed comprehensive approach that included measures of social support, intimacy, conflict, antagonism, and attachment security and the association with psychological well-being and psychological distress. The following research questions were examined:

1) **What is the association between parent-child relationship quality and peer relationship quality?**

Previous research found inconsistent associations for the quality of family and peer relationships (see Helsen et al., 2000; McLaughlin et al., 2002; Vilhjalmson, 1994). In this study
the association between parent-child and peer relationship quality was examined in two ways. First, the associations between family, mother, father, siblings, and relatives with peers were investigated using measures of social support, intimacy, conflict, and antagonism. Second, the relationship quality groupings for mother, father, and family members with the relationship quality groupings for peers were inspected to identify patterns of relationship continuity and compensation. This research question was also informed by Cooper and Cooper’s (1992) proposals of continuity and compensation, in which young adults will either re-enact family patterns that ensure continuity in their peer relationships or seek out peer relationships that compensate for inadequate family models. Therefore, analyses examined whether young adults experienced continuity in their parent and peer relational quality or compensation in their parent and peer relational quality.

2) What is the relationship between parent-child relationship quality, peer relationship quality, psychological distress, and psychological well-being?

Helsen et al. (2000), McLaughlin et al. (2002), Villhjalmson (1994), Mayseless (2004), and Pitman and Scharfe (2010) reported different mental health outcomes associated with single measures of either family and peer social support, conflict, or attachment. The goal of this research question was to build upon the existing literature by exploring positive and negative relational qualities and the association to both positive and negative mental health outcomes. This research question was analyzed using hierarchical linear regressions to understand the associations between mother, father, and peer relational quality and mental health outcomes.

3) What changes occurred in the social networks of young adults during the university year?

Using a short-term longitudinal design, Time 1 data were collected from first and third year students. Eight months later, Time 2 data were collected from the same students during their second and fourth year of study. To examine stability and change over the 8-month period, patterns of relationship quality groupings were explored for mother, father, family, and peers. Paired t-tests were also conducted to investigate mean differences between Time 1 and Time 2 measures of social support, intimacy, conflict, antagonism, attachment, psychological distress, and psychological well-being.

4) What is the association between relationship quality and attachment security with psychological distress and psychological well-being?
The goal of this research question was to understand the relationship between social support, intimacy, conflict, antagonism, and self-and other-models of attachment security and the association with psychological distress and psychological well-being. These analysis were guided by the proposal in the current dissertation for an integrated approach for studying social network relational quality and mental health outcomes. This analysis was exploratory and was conducted using structural equation modeling and invariance testing.

**Method**

**Time 1 Participants**

Participants were undergraduate students from the University of Guelph and the University of Guelph-Humber. Four hundred and forty-four undergraduate students participated in the study. Complete data was available from 262 (59%) participants while 182 (41%) participants did not complete at least one questionnaire. Participants with missing data were not included in any of the analyses. T-tests revealed no significant differences between participants with complete and incomplete data on measures of mother, father, and friend attachment security as well as no differences on measures of anxiety, depression, and self-esteem. However, there were significant differences on loneliness, life satisfaction, and optimism scores. Participants with complete data reported higher levels of life satisfaction, \( t(438) = -3.31, p < 0.001 \), and optimism, \( t(439) = -2.10, p < 0.05 \), and lower levels of loneliness, \( t(398) = 3.84, p < 0.001 \), than individuals with incomplete data. This difference may suggest that individuals with incomplete data were uncomfortable completing questions about psychological distress and psychological well-being or may have been experiencing difficulties with their own mental health.

Out of the 262 participants who had complete data, 63 participants were from the Guelph-Humber campus. Guelph and Guelph-Humber participants were significantly different on their self-model attachment scores for their mother, \( t(260) = 2.38, p < 0.05 \), and father, \( t(260) = 2.77, p < 0.01 \). Self-models of attachment security are individual beliefs and ideas about oneself that include self-esteem and self-concept. Higher scores indicate positive self-models and lower scores indicate negative self-models. Guelph students reported higher ratings on their self-model with their mother (M = 3.53) and father (M = 2.87) than Guelph-Humber students on their self-model with their mother (M = 2.75) and father (M = 1.19). To further understand these differences, the majority of Guelph-Humber students lived with their parents and commuted (51%, \( n = 39 \)) to the university campus while the majority of Guelph students lived away from
their parents either on or off campus (81%, n = 162). There are two interpretations for this difference. First, Guelph students have higher or more positive mother and father self-models because they do not live nor interact with their parents on a daily basis, which may have positive effects on the parent-child relationship. Or alternatively, Guelph students have higher or more positive mother and father self-models and were more likely to move out of their family home which in turn may have positive effects on the parent-child relationship.

The mean age of the participants was 19.42 years (Range: 18 -28 years; SD = 1.55) and the majority of participants were female (92%, n = 240) and in their first (59%, n = 155) and third year (32%, n = 84) of study. Twenty-three students who were in their second, fourth, or other year of study also completed the questionnaires. No significant differences were found on measures of attachment, psychological distress, and psychological well-being when first and third year students were compared to second, fourth, and other year students. These participants were included in the analyses of the research questions. The majority of participants were Caucasian (85%, n = 222; Guelph campus, 91%, n = 181; Guelph-Humber Campus, 65%, n = 41) and 66% were in a romantic relationship (n = 173). Table 1 contains the unstandardized means and standard deviations for the measures of attachment, psychological distress, and psychological well-being for participants with complete Time 1 data for the overall sample and for first and third year students.

**Time 1 and Time 2 Participants**

One hundred and ninety three undergraduate students participated in both Time 1 and Time 2 data collection. Complete data for both Time 1 and Time 2 was available from 105 (54%) participants while 88 (46%) participants did not complete at least one questionnaire. Participants with missing data were not included in any of the analyses. T-tests revealed no significant differences between participants with complete and incomplete Time 2 data on measures of mother, father, and friend attachment security as well as no differences on measures of anxiety, depression, self-esteem, loneliness, life satisfaction, and optimism. Out of the 105 participants who had complete data, 20 participants were from the Guelph-Humber campus. Guelph and
Table 1
Unstandardized Means and Standard Deviations for Time 1 Overall Sample and by Year of Education for Measures of Attachment, Psychological Distress, and Psychological Well-being

<table>
<thead>
<tr>
<th></th>
<th>Time 1 Overall</th>
<th>1st Year</th>
<th>3rd Year</th>
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<tbody>
<tr>
<td></td>
<td>(n = 262)</td>
<td>(n = 155)</td>
<td>(n = 84)</td>
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<tr>
<td>Mean</td>
<td>SD</td>
<td>Range</td>
<td>Mean</td>
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<td>Attachment Dimensions</td>
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<tr>
<td>Mother-self</td>
<td>3.34</td>
<td>2.28</td>
<td>-4.70 - 8.95</td>
</tr>
<tr>
<td>Mother-other</td>
<td>2.15</td>
<td>3.43</td>
<td>-10.05 - 8.15</td>
</tr>
<tr>
<td>Father-self</td>
<td>2.64</td>
<td>2.43</td>
<td>-6.45 - 7.85</td>
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<td>Father-other</td>
<td>1.06</td>
<td>3.86</td>
<td>-9.60 - 8.65</td>
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<tr>
<td>Friend-self</td>
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<td>2.36</td>
<td>-4.30 - 7.40</td>
</tr>
<tr>
<td>Friend-other</td>
<td>2.30</td>
<td>3.15</td>
<td>-7.55 - 7.75</td>
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<tr>
<td>Psychological Distress</td>
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<td></td>
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<tr>
<td>CES-D</td>
<td>20.25</td>
<td>10.32</td>
<td>1.00 - 52.00</td>
</tr>
<tr>
<td>SCL 90-Anxiety</td>
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<td>7.63</td>
<td>0.00 - 38.00</td>
</tr>
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<td>SCL 90-Depression</td>
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<td>8.47</td>
<td>0.00 - 44.00</td>
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<td>UCLA</td>
<td>50.49</td>
<td>19.61</td>
<td>20.00 - 116.00</td>
</tr>
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<td>Psychological Well-being</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>50.99</td>
<td>11.50</td>
<td>13.00 - 70.00</td>
</tr>
<tr>
<td>Optimism</td>
<td>27.30</td>
<td>6.75</td>
<td>9.00 - 42.00</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>24.90</td>
<td>6.50</td>
<td>7.00 - 35.00</td>
</tr>
</tbody>
</table>

Note. SD = Standard Deviation.
Guelph-Humber participants were significantly different on their loneliness scores, \( t(103) = 2.13, p < 0.05 \). Guelph students reported higher loneliness scores (M = 57.13) than Guelph-Humber students (M = 45.75).

The mean age of the participants at Time 2 was 20.20 years (Range: 18–29 years; SD = 1.73) and the majority of participants were female (94%, \( n = 99 \)) and in their second (54%, \( n = 57 \)) and fourth year (33%, \( n = 35 \)) of study. The majority of participants were also Caucasian (87%, \( n = 91 \); Guelph campus, 98%, \( n = 78 \); Guelph-Humber Campus, 65%, \( n = 13 \)) and were either single (41%, \( n = 43 \)) or in a romantic relationship (59%, \( n = 62 \)). Table 2 contains the unstandardized means and standard deviations for the measures of attachment, psychological distress, and psychological well-being for participants with complete Time 1 and Time 2 data for the overall sample. T-tests revealed no significant differences for participants with complete data on their Time 1 and Time 2 measures of attachment, psychological distress, and psychological well-being (see Table 2). Table 3 contains the unstandardized means and standard deviations for the measures of attachment, psychological distress, and psychological well-being for second and fourth year participants.

**Procedure**

For Time 1 data collection, participants were recruited between January 2010 to April 2010 through advertisements (see Appendix A) posted on both campuses and recruitment emails distributed through course instructors of first and third year courses in several departments that included psychology, sociology, and family relations and applied nutrition. First and third year students were targeted for recruitment because they might be experiencing more changes in their social networks. Specifically, first year students might revise the members of their social network as a result of the university transition while third year students might experience some changes with network membership as they begin to prepare for the transition out of university. This study was approved by the research ethics board at the University of Guelph (REB # 09NV007, see Appendix B). Recruitment emails and posters contained information about the study and a website link to the online survey was provided.

Before beginning the online questionnaires, participants were asked to read and consent to the online consent form (See Appendix C). In the consent form, participants were informed that if there were any questions they did not want to answer, they could skip the question or go to the next question. Participants were also informed that during the study, they could stop
Table 2

Unstandardized Means and Standard Deviations for Time 1 and Time 2 Overall Sample for Measures of Attachment, Psychological Distress, and Psychological Well-being

<table>
<thead>
<tr>
<th>Overall Sample</th>
<th>Time 1 (n = 105)</th>
<th>Time 2 (n = 105)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Range</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Range</td>
</tr>
<tr>
<td><strong>Attachment Dimensions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother-self</td>
<td>3.46</td>
<td>2.20</td>
<td>-4.70 - 8.95</td>
</tr>
<tr>
<td>Mother-other</td>
<td>2.80</td>
<td>3.38</td>
<td>-10.05 - 8.15</td>
</tr>
<tr>
<td>Father-self</td>
<td>3.01</td>
<td>2.12</td>
<td>-3.50 - 7.85</td>
</tr>
<tr>
<td>Father-other</td>
<td>1.48</td>
<td>3.85</td>
<td>-9.60 - 8.65</td>
</tr>
<tr>
<td>Friend-self</td>
<td>1.34</td>
<td>2.47</td>
<td>-4.30 - 6.60</td>
</tr>
<tr>
<td>Friend-other</td>
<td>2.35</td>
<td>2.42</td>
<td>-7.55 - 7.55</td>
</tr>
<tr>
<td><strong>Psychological Distress</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>20.31</td>
<td>10.36</td>
<td>1.00 - 52.00</td>
</tr>
<tr>
<td>SCL 90-Anxiety</td>
<td>12.01</td>
<td>8.18</td>
<td>0.00 - 38.00</td>
</tr>
<tr>
<td>SCL 90-Depression</td>
<td>15.29</td>
<td>8.39</td>
<td>1.00 - 44.00</td>
</tr>
<tr>
<td>UCLA</td>
<td>51.91</td>
<td>20.82</td>
<td>20.00 - 113.00</td>
</tr>
<tr>
<td><strong>Psychological Well-being</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>51.13</td>
<td>11.94</td>
<td>18.00 - 70.00</td>
</tr>
<tr>
<td>Optimism</td>
<td>27.85</td>
<td>7.14</td>
<td>11.00 - 40.00</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>24.89</td>
<td>6.67</td>
<td>10.00 - 35.00</td>
</tr>
</tbody>
</table>

*Note. SD = Standard Deviation*
Table 3

Unstandardized Means and Standard Deviations for Time 2 by Year of Education for Measures of Attachment, Psychological Distress, and Psychological Well-being

<table>
<thead>
<tr>
<th>Time 2 Only</th>
<th>2nd Year ($n = 57$)</th>
<th>4th Year ($n = 35$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Attachment Dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother-self</td>
<td>2.73</td>
<td>2.30</td>
</tr>
<tr>
<td>Mother-other</td>
<td>2.38</td>
<td>3.76</td>
</tr>
<tr>
<td>Father-self</td>
<td>2.67</td>
<td>2.29</td>
</tr>
<tr>
<td>Father-other</td>
<td>2.08</td>
<td>4.27</td>
</tr>
<tr>
<td>Friend-self</td>
<td>1.06</td>
<td>2.94</td>
</tr>
<tr>
<td>Friend-other</td>
<td>2.48</td>
<td>3.15</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>21.12</td>
<td>12.26</td>
</tr>
<tr>
<td>SCL 90-Anxiety</td>
<td>12.61</td>
<td>8.43</td>
</tr>
<tr>
<td>SCL 90-Depression</td>
<td>15.68</td>
<td>8.77</td>
</tr>
<tr>
<td>UCLA</td>
<td>55.35</td>
<td>21.89</td>
</tr>
<tr>
<td>Psychological Well-being</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>50.02</td>
<td>11.84</td>
</tr>
<tr>
<td>Optimism</td>
<td>27.47</td>
<td>8.10</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>24.02</td>
<td>6.80</td>
</tr>
</tbody>
</table>

*Note.* SD = Standard Deviation
participating at any time by closing their web browser. In return for their participation, participants were entered into a draw for a chance to win 1 of 3 $50 Visa gift cards. For Time 2 data collection, recruitment occurred from November 2010 to December 2010, approximately 8 months after the first wave of data collection. Participants from Time 1 who supplied their university email information were invited to participate in a follow-up study where they completed the same measures and were entered into a draw for a chance to win 1 of 3 $50 Visa gift cards.

During both waves of data collection, participants were informed that the questionnaires would take approximately 30 to 40 minutes to complete. The participants were also asked to complete a demographic questionnaire (see Appendix D) to provide general information such as age, marital status, and year of education. Following the demographic questionnaire, the participants completed measures of attachment, psychological distress, and psychological well-being as well as a social network questionnaire. The questionnaires are described in the proceeding section.

Measures
Measuring attachment.

Relation Scales Questionnaire (RSQ). The RSQ (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994a, 1994b) was used to assess the participant’s attachment security in several close relationships. The participants were asked to rate a series of 17 statements regarding their relationship with their mother (see Appendix E), father (see Appendix F), and close friends (see Appendix G). The RSQ yields four subscales, one for each of the attachment patterns: secure, fearful, preoccupied, and dismissing. Bartholomew (1990) proposed that attachment security could be measured using the dimensions of the self and other or by the four attachment patterns that result from the intersection of the two dimensions. Bartholomew's measure integrates the theory and assumptions of Bowlby (1969/1997), who proposed that during interactions with attachment figures, individuals develop a view of themselves and others. For the current study, each of the four attachment patterns were standardized and used to compute the self- and other-models for mother, father, and close friends using the following equations outlined by Bartholomew and Horowitz (1991): self-model equation = patterns characterized by positive self- models (secure + dismissing) minus patterns characterized by negative self- models (fearful + preoccupied); other-model equation = patterns characterized by...
positive other- models (secure + preoccupied) minus patterns characterized by negative other-models (dismissing plus fearful). The equations for computing self- and other-models were used only in the fourth research question and reliabilities were calculated using latent variable modelling techniques.

**Measuring psychological distress.**

The conceptual descriptions of all the scales used to reflect the construct of psychological distress can be found on pages 17-20 within the discussion of the comprehensive approach.

**Center for Epidemiological Studies Depression (CES-D).** The CES-D (Radloff, 1977) contains 20 items (see Appendix H) and when used in general populations, it measures affective symptomatology and current depressive symptoms. The CES-D is not used to make a diagnosis of depression, but is used to estimate symptom prevalence of depression. Prevalence of symptoms was rated on a 4-point scale ranging from 0 “rarely or none of the time” to 3 “most or all of the time” during the past week. Reliability for the scale was high (Time 1 $\alpha = .89$; Time 2 $\alpha = .92$) and indicates that the CES-D is a reliable measure of depressive symptoms.

**Anxiety and Depression Symptoms.** The items from the anxiety and depression scales from the SCL-90 (Derogatis & Clearly, 1977) were used to assess the degree or variety of feelings, symptoms, and complaints related to anxiety and depression (e.g., trembling and crying easily; see Appendix I). Symptoms were rated on a 5-point scale ranging from 0 “not bothered” by the symptom to 4 the symptom has been an “extreme bother” over the past month. The reliability for both the 11 item anxiety scale (Time 1 $\alpha = .87$; Time 2 $\alpha = .89$) and the 12 item depression scale (Time 1 $\alpha = .88$; Time 2 $\alpha = .89$) was high.

**The Revised UCLA loneliness scale (UCLA-R).** The items from the UCLA-R loneliness scale were used to assess subjective feelings of loneliness or social isolation (Russell, 1996; see Appendix J). The UCLA contains 20 statements, 11 items worded in a negative or lonely direction and 9 items worded in a positive or non-lonely direction on a 7-point scale ranging from 1 “strongly disagree” to 7 “strongly agree”. For a total score, the positive and negative items are summed together and higher scores indicate a greater degree of loneliness. For a score on the positive items only, the 9 positive items are summed and higher scores indicate a greater degree of non-loneliness. The reliability for the total score (Time 1 $\alpha = .93$; Time 2 $\alpha = .94$) and for the positive item summed score was high (Time 1 $\alpha = .93$). The total score was used to
explore both research objectives and the total score and the positive scale score were both used in research question #4.

**Measuring psychological well-being.**

The conceptual descriptions of all the scales used to reflect the construct of psychological well-being can be found on pages 17-20 within the discussion of the comprehensive approach.

*The Rosenberg Self-Esteem Scale (RSE).* The RSE was used to assess the participants overall sense of self worth and value (Rosenberg, 1965; see Appendix K). The RSE contains 10 items, 5 positive statements and 5 negative statements regarding one’s sense of self worth on a 7-point scale ranging from 1 “strongly disagree” to 7 “strongly agree”. Higher scores indicate higher feelings of self worth and the reliability of the scale was high (Time 1 $\alpha = .91$; Time 2 $\alpha = .91$).

*Life Orientation Test-Revised (LOT-R).* The LOT-R was used to assess individual differences in generalized optimism versus pessimism (Scheier, Carver, & Bridges, 1994; see Appendix L). The LOT-R contains 10 statements regarding one’s outlook on life on a 7-point scale ranging from 1 “strong disagree” to 7 “strongly agree”. Higher scores imply optimism and lower scores imply pessimism. The reliability of the scale was high (Time 1 $\alpha = .82$; Time 2 $\alpha = .90$).

*The Satisfaction with Life Scale (SWLS).* The SWLS is a 5 item measure of life satisfaction using a 7 point scale ranging from 1 “strongly disagree” to 7 “strongly agree” (Diener, Emmons, Larsen, & Griffin, 1985; see Appendix M). Higher scores indicate greater life satisfaction and the reliability of the scale was high (Time 1 $\alpha = .87$; Time 2 $\alpha = .89$).

**Measuring relationship quality and social networks.**

*Social Networks Questionnaire (SNQ).* Participants were asked to list up to 10 individuals who they felt were significant in their lives regardless if that relationship was positive, negative, or mixed. For each of the significant individuals listed, participants were asked to provide information about their age, type of relationship, frequency of contact, how far away the significant other lives from the participant, and the length of the relationship (see Appendix N).

For each of the significant individuals listed, participants were instructed to answer questions on four scales taken from the *Network of Relationships Inventory-Social Provisions Version* (NRI-SPV; Furman & Buhrmester, 1985). The NRI-SPV is able to examine a broad
array of relational characteristics across a number of different types of personal relationships. The most important feature of the NRI-SPV is that participants use the same set of items to describe their relationship with several members of their social network. This results in a matrix of “relationships by quality” scores that are useful for describing differences among relationship types and for describing each type of relationship in terms of a profile of qualities.

For each individual listed, participants were asked three questions for each of the following four scales of the NRI-SPV: social support (e.g., how much do you turn to this person for support with person problems?), intimacy (e.g., How much do you talk about everything with this person?), conflict (e.g., How much do you and this person get upset with or mad at each other?), and antagonism (e.g., How much do you and this person hassle or nag one another?). Participants were asked to rate their answers using a 5-point likert scale ranging from, 1 “little or none”, to 5, “the most”. Scale scores were derived by averaging the three items for each scale. Reliability was high for the four scales at Time 1 and Time 2 for all relationship types (see Table 4).

Table 4 also contains the means of the four relationship quality scales by network relationship for the overall sample for Time 1 and Time 2. Using paired t-tests to explore mean differences, no significant differences were found between Time 1 and Time 2 relationship quality scores (see Appendix O for paired t-test statistics). Table 5 contains the means of the four relationship quality scales by network relationship using romantic relationship status at Time 1. Using Time 1 data only, a one-way ANOVA using relationship status as the independent variable and the relationship quality scores for mothers, fathers, siblings, relatives, and friends as the dependent variables was conducted using the Bonferroni correction. This analyses was conducted to explore mean differences based on romantic relationship status. Significant differences were found for father conflict, F (1, 232) = 10.90, p < 0.001, father antagonism, F (1, 232) = 9.07, p < 0.01, sibling support, F (1, 191) = 4.66, p < 0.05, and sibling intimacy, F (1, 191) = 8.89, p < 0.01. Individuals not in a romantic relationship reported higher father conflict and antagonism scores as well as higher sibling support and intimacy scores than individuals in a romantic relationship.
Table 4

Time 1 and Time 2 Unstandardized Relationship Quality Means and Cronbach Alpha Co-efficients by Network Relationship Type

<table>
<thead>
<tr>
<th>Support</th>
<th>Intimacy</th>
<th>Conflict</th>
<th>Antagonism</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Mean (SD, α)</td>
<td>Mean (SD, α)</td>
<td>Mean (SD, α)</td>
</tr>
<tr>
<td>Time 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>255</td>
<td>3.49 (1.16, 0.89)</td>
<td>2.69 (1.15, 0.89)</td>
</tr>
<tr>
<td>Father</td>
<td>233</td>
<td>2.76 (1.16, 0.88)</td>
<td>1.92 (0.91, 0.88)</td>
</tr>
<tr>
<td>Siblings</td>
<td>192</td>
<td>2.55 (1.10, 0.88)</td>
<td>2.56 (1.12, 0.93)</td>
</tr>
<tr>
<td>Relatives</td>
<td>93</td>
<td>2.64 (0.96, 0.88)</td>
<td>2.21 (1.08, 0.90)</td>
</tr>
<tr>
<td>Friends</td>
<td>256</td>
<td>2.91 (0.73, 0.92)</td>
<td>2.93 (0.82, 0.93)</td>
</tr>
<tr>
<td>Romantic Partner</td>
<td>165</td>
<td>4.41 (0.81, 0.86)</td>
<td>4.45 (0.82, 0.88)</td>
</tr>
</tbody>
</table>

| Time 2  |          |          |            |
| Mother  | 101      | 3.39 (1.25, 0.91) | 2.69 (1.22, 0.92) | 2.04 (1.04, 0.93) | 2.25 (1.03, 0.90) |
| Father  | 92       | 2.68 (1.15, 0.90) | 1.88 (0.82, 0.85) | 1.91 (1.03, 0.94) | 1.91 (0.82, 0.78) |
| Siblings| 74       | 2.75 (1.09, 0.92) | 2.53 (1.15, 0.94) | 1.94 (0.78, 0.87) | 2.00 (0.91, 0.93) |
| Relatives| 34       | 2.60 (0.97, 0.83) | 2.16 (1.10, 0.93) | 1.40 (0.54, 0.84) | 1.63 (0.88, 0.89) |
| Friends | 103      | 2.96 (0.74, 0.90) | 2.96 (0.88, 0.94) | 1.46 (0.40, 0.87) | 1.55 (0.48, 0.88) |
| Romantic Partner | 64 | 4.47 (0.76, 0.84) | 4.53 (0.80, 0.93) | 1.82 (0.81, 0.84) | 1.87 (0.94, 0.85) |

Note. SD = Standard Deviations, n = number of participants who listed the relationship.
Table 5

Unstandardized Means for Time 1 Relationship Quality of Network Members by Relationship Status

<table>
<thead>
<tr>
<th></th>
<th>Support</th>
<th>Intimacy</th>
<th>Conflict</th>
<th>Antagonism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Not in a relationship (N = 89)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>85</td>
<td>3.62 (1.20)</td>
<td>2.81 (1.22)</td>
<td>2.09 (0.91)</td>
</tr>
<tr>
<td>Father</td>
<td>82</td>
<td>2.82 (1.20)</td>
<td>1.99 (1.06)</td>
<td>2.33 (0.98)</td>
</tr>
<tr>
<td>Siblings</td>
<td>63</td>
<td>2.79 (1.29)</td>
<td>2.60 (1.27)</td>
<td>2.08 (0.79)</td>
</tr>
<tr>
<td>Relatives</td>
<td>32</td>
<td>2.56 (0.87)</td>
<td>2.28 (1.11)</td>
<td>1.32 (0.55)</td>
</tr>
<tr>
<td>Friends</td>
<td>89</td>
<td>2.90 (0.69)</td>
<td>2.90 (0.76)</td>
<td>1.49 (0.37)</td>
</tr>
<tr>
<td>In a relationship (N = 173)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>170</td>
<td>3.42 (1.14)</td>
<td>2.63 (1.12)</td>
<td>2.09 (0.88)</td>
</tr>
<tr>
<td>Father</td>
<td>151</td>
<td>2.72 (1.14)</td>
<td>1.89 (0.81)</td>
<td>1.90 (0.91)</td>
</tr>
<tr>
<td>Siblings</td>
<td>129</td>
<td>2.43 (0.97)</td>
<td>2.09 (1.01)</td>
<td>1.99 (0.87)</td>
</tr>
<tr>
<td>Relatives</td>
<td>61</td>
<td>2.68 (1.01)</td>
<td>2.17 (1.08)</td>
<td>1.26 (0.38)</td>
</tr>
<tr>
<td>Friends</td>
<td>167</td>
<td>2.91 (0.75)</td>
<td>2.95 (0.85)</td>
<td>1.41 (0.42)</td>
</tr>
<tr>
<td>Romantic Partner</td>
<td>165</td>
<td>4.42 (0.81)</td>
<td>4.45 (0.82)</td>
<td>1.88 (0.86)</td>
</tr>
</tbody>
</table>

Note. SD = Standard Deviations, n = number of participants who listed the relationship within their social network. Not every participant listed the relationship within their social network.  

a. 173 participants listed they were in a relationship on their demographics questionnaire, however only 165 participants listed their romantic partner in their social network.
Creating relationship quality groupings.

A unique method was developed to examine differences in social network relationship quality. Several methods have been used in the literature to construct and classify social networks. These methods include using the most accessible or highest rated attachment relationship within a social network (e.g., Trinke & Bartholomew, 1997), using the higher percentage of family or peer relationships (e.g., Pitman & Scharfe, 2010), and measures of subjective closeness (e.g., Rowe & Carnelley, 2005). To create social network groupings based on high and low relationship quality, the four scales from the NRI-SPV were standardized. The rationale for standardizing the relationship quality scores was that a distinct cut-off value could not be distinguished using the unstandardized means. Using standardized values provided a distinct cut-off value in which values above zero were scores high on relationship quality and values below zero were scores low on relationship quality.

The standardized values were coded in two ways. If the participants' score was above the mean or values above 0 and positive, it was coded as high relationship quality. If the participants' score was below the mean or values below 0 and negative, it was coded has low relationship quality. The coding system was used to create relationship quality groupings for relationship quality scores for family, an average score of all family network relationships listed, as well as for mothers, fathers, and peers. The low and high relationship quality groupings for family, mother, father, and peer were used to test research questions #1 to #3 while family and peer relationship quality groupings were used in research question #4.

Table 6 contains the relationship quality groupings by relationship type for Time 1 and Time 2. The number of participants within each high and low relationship quality grouping is not equal because the relationship quality data was not normally distributed. Non-normality on the four relationship quality measures for family, mothers, fathers, and peers was confirmed using the Shapiro-Wilk test. The Shapiro-Wilk test compares the observed scores to a normally distributed set of scores with the same mean and standard deviation. A significant test indicates that the scores are different and that the data is not normal (Fields, 2005). Appendix P contains the normality test results for the relationship quality measures and confirms the non-normality of the data.
### Table 6

Time 1 and Time 2 Relationship Quality Groupings by Relationship Type

<table>
<thead>
<tr>
<th></th>
<th>Support</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Time 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>262</td>
<td>121 (46%)</td>
<td>141 (54%)</td>
<td>112 (43%)</td>
<td>150 (57%)</td>
<td>107 (41%)</td>
<td>155 (59%)</td>
</tr>
<tr>
<td>Mothers</td>
<td>255</td>
<td>138 (54%)</td>
<td>117 (46%)</td>
<td>107 (42%)</td>
<td>148 (58%)</td>
<td>87 (34%)</td>
<td>168 (66%)</td>
</tr>
<tr>
<td>Fathers</td>
<td>233</td>
<td>104 (45%)</td>
<td>129 (55%)</td>
<td>112 (48%)</td>
<td>121 (52%)</td>
<td>77 (33%)</td>
<td>156 (67%)</td>
</tr>
<tr>
<td>Peers</td>
<td>262</td>
<td>128 (49%)</td>
<td>134 (51%)</td>
<td>130 (50%)</td>
<td>132 (50%)</td>
<td>102 (39%)</td>
<td>160 (61%)</td>
</tr>
</tbody>
</table>

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Time 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>105</td>
<td>47 (45%)</td>
<td>58 (55%)</td>
<td>54 (51%)</td>
<td>51 (49%)</td>
<td>41 (39%)</td>
<td>64 (61%)</td>
</tr>
<tr>
<td>Mothers</td>
<td>101</td>
<td>51 (50%)</td>
<td>50 (50%)</td>
<td>44 (44%)</td>
<td>57 (56%)</td>
<td>31 (31%)</td>
<td>70 (69%)</td>
</tr>
<tr>
<td>Fathers</td>
<td>92</td>
<td>35 (38%)</td>
<td>57 (62%)</td>
<td>40 (43%)</td>
<td>52 (57%)</td>
<td>39 (42%)</td>
<td>53 (58%)</td>
</tr>
<tr>
<td>Peers</td>
<td>105</td>
<td>54 (51%)</td>
<td>51 (49%)</td>
<td>57 (54%)</td>
<td>48 (46%)</td>
<td>47 (45%)</td>
<td>58 (55%)</td>
</tr>
</tbody>
</table>

*Note. n = number of participants who listed the relationship.*
Results

To address research objective #1 regarding the size and composition of social networks, descriptive statistics and paired t-tests were conducted. For research objective #2 and the 4 research questions, the following analyses were conducted. For research question #1, correlations between relationship quality of family relationships and peer relationships were calculated as well as an analysis of continuity and compensation using the relationship quality groupings. For research question #2, hierarchical linear regressions were conducted using social support, intimacy, conflict, and antagonism as the predictor variables and the measures of depression, anxiety, loneliness, self-esteem, optimism, and life satisfaction as the outcome variables. For research question #3, an analysis of continuity and compensation using relationship quality groupings from Time 1 and Time 2 was performed. Lastly, for research question #4, structural equation modelling and invariance testing was conducted using social support, intimacy, conflict, antagonism, and attachment security with psychological distress and psychological well-being.

Research Objective #1: What is the Size and Composition of Social Networks?

The size of social networks was examined using descriptive information that included network size and relationships. At Time 1 (n = 262), the overall network size was 9.18 members (Range: 3-10 members, SD = 1.63) with an average number of 3.55 family members (Range 1-8; SD =1.35) and 5.63 peer members (Range: 1-9 members, SD = 1.83). Similar results were found for first and third year university students. First year students reported an average network size of 9.26 members (Range: 3-10 members, SD = 1.51) with an average of 3.56 family members (Range: 2-8 members, SD =1.41) and 5.70 peer members (Range: 1-8 members, SD = 1.80) within their social network. Third year students reported an average network size of 9.01 members (Range: 3-10 members, SD = 1.87) with an average of 3.61 family members (Range: 1-8 members, SD = 1.28) and 5.40 peer members (Range: 1-8 members, SD = 1.90) within their social network.

At Time 2 (n = 105), the overall network size was 8.64 members (Range 2-10; SD = 1.95) with an average number of 3.44 family members (Range 1-8; SD =1.53) and 5.20 peer members (Range: 1-9 members, SD = 1.95). Similar results were found for second and fourth year university students. Second year students reported an average network size of 8.63 members (Range: 2-10 members, SD = 2.12) with an average of 3.30 family members (Range: 1-7 members, SD =1.41) and 5.33 peer members (Range: 1-9 member, SD = 1.96) within their social
network. Fourth year students also reported an average network size of 8.40 members (Range 4-10, \(SD = 1.85\)) with an average of 3.66 family members (Range: 1-8 members, \(SD = 1.70\)) and 4.74 peer members (Range: 1-8 members, \(SD = 1.95\)) within their social network. These findings suggest that the social networks of young adults contained more peers than family members and that this was consistent across year of study.

To test for mean differences in social network size and composition, paired t-tests were conducted between Time 1 and Time 2 participants. Paired t-tests were used over more robust forms of analyses, such as repeated measures ANOVA, because of the low sample size and the presence of only two time points. Significant differences were found for network size, \(t(104) = 4.02, p < 0.001\), and number of peer relationships listed, \(t(104) = 2.38, p < 0.05\). Participants reported larger social networks and listed more peer relationships at Time 1 than at Time 2. This suggested a decrease in network size over the course of the university year.

The composition of social networks was also explored using descriptive information. Chi-square tests were also conducted to explore significant differences in the number of network relationships listed across year of study for Time 1 and Time 2. Table 7 contains the number and percentage of relationships listed within social networks at Time 1 and Time 2 as well as the chi-square values. It is important to note that not all participants listed a mother, father, sibling, relative, friend, or romantic partner in their social network. However, regardless of year of education and time, a high percentage of social networks contained mothers, fathers, and friends. Participants in their third and fourth year of study listed a significantly higher percentage of romantic partners when compared to participants in their first and second year of study. Participants in their fourth year of study listed a significantly higher percentage of siblings when compared to participants in their second year of study.

These findings suggest that the social networks of young adults contained a high percentage of mothers, friends, and fathers during the university experience and are consistent with previous research on social network membership (e.g., Pitman & Scharfe, 2010; Trinke & Bartholomew, 1997). The percentage of romantic partners increased across year of study. At Time 1, third year participants listed more romantic partners than first year students and at Time 2, fourth year participants listed more romantic partners than second year participants. The
Table 7

Relationships Listed within Social Networks with Chi-square Difference Test

<table>
<thead>
<tr>
<th></th>
<th>Overall Sample</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Year Students</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Year Students</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers</td>
<td>255 (97%)</td>
<td>150 (97%)</td>
<td>83 (99%)</td>
<td>0.92</td>
</tr>
<tr>
<td>Fathers</td>
<td>233 (89%)</td>
<td>135 (87%)</td>
<td>77 (92%)</td>
<td>1.14</td>
</tr>
<tr>
<td>Siblings</td>
<td>192 (73%)</td>
<td>110 (71%)</td>
<td>68 (81%)</td>
<td>2.86</td>
</tr>
<tr>
<td>Relatives</td>
<td>93 (35%)</td>
<td>61 (39%)</td>
<td>25 (30%)</td>
<td>2.18</td>
</tr>
<tr>
<td>Friends</td>
<td>256 (98%)</td>
<td>153 (99%)</td>
<td>80 (95%)</td>
<td>2.68</td>
</tr>
<tr>
<td>Romantic Partner</td>
<td>165 (63%)</td>
<td>90 (58%)</td>
<td>62 (74%)</td>
<td>5.83*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Overall Sample</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Year Students</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Year Students</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers</td>
<td>101 (96%)</td>
<td>54 (95%)</td>
<td>35 (100%)</td>
<td>1.90</td>
</tr>
<tr>
<td>Fathers</td>
<td>92 (88%)</td>
<td>50 (88%)</td>
<td>31 (89%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Siblings</td>
<td>74 (70%)</td>
<td>37 (65%)</td>
<td>30 (86%)</td>
<td>4.74*</td>
</tr>
<tr>
<td>Relatives</td>
<td>34 (32%)</td>
<td>20 (35%)</td>
<td>9 (26%)</td>
<td>0.88</td>
</tr>
<tr>
<td>Friends</td>
<td>103 (98%)</td>
<td>56 (98%)</td>
<td>34 (97%)</td>
<td>0.12</td>
</tr>
<tr>
<td>Romantic Partner</td>
<td>64 (61%)</td>
<td>30 (53%)</td>
<td>26 (74%)</td>
<td>4.27*</td>
</tr>
</tbody>
</table>

*Note. n = number of participants who listed the relationship.*

*<sup>a</sup> 171 participants identified having a romantic partner, however only 165 listed them in their social network.

<sup>* p < 0.05</sup>
increase in the percentage of romantic partners is consistent with research that suggests as individuals transition into young adulthood, the percentage of time spent dating increases (Collins, 2003). The increase in romantic partners is also influenced by social factors and transitions. As the individual experiences more independence, their actions become more adult like, such as forming romantic relationships (Collins, 2003). The increase in the percentage of siblings listed in social networks from second year to fourth year participants suggests that young adults may develop a new appreciation and improved relationship with their siblings when they are no longer living together and having daily contact (Cicrelli, 1995).

**Research Objective #2**

**RQ #1: What is the association between parent-child relationship quality and peer relationship quality?**

To explore the association between parent and peer relationship quality, two types of analyses were performed. First, a correlation analysis was conducted to understand the association between family and peer relationship quality scores. Second, a theoretically informed analysis was conducted using Cooper and Copper's (1992) continuity and compensatory models to explore if parent relationship quality is related to peer relationship quality.

**Correlation analysis.**

The association between relationship quality scores on social support, intimacy, conflict, and antagonism were examined. Correlations were calculated for family, a composite score of all family relationships, mothers, fathers, siblings, with peers on the four measures of relationship quality. Table 8 displays the correlations between relationship quality scores for family and peers, mothers and peers, fathers and peers, siblings and peers, and relatives and peers. Small to moderate significant positive correlations were evident for relationship quality scores between family, mothers, and relatives with relationship quality scores for peers. Relationship quality scores among siblings and fathers with peer relationship quality scores had the weakest associations.

Social support and intimacy scores for relatives were positively correlated with social support and intimacy scores for peers. Both family and mother correlations with peer relationships were related to both positive and negative relationship quality associations. Social support and intimacy scores for family and mothers were positively correlated with social
Table 8

Time 1 Correlations between Networks Members with Peers using Relationship Quality

<table>
<thead>
<tr>
<th>Peer</th>
<th>Support</th>
<th>Intimacy</th>
<th>Conflict</th>
<th>Antagonism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.23**</td>
<td>0.17**</td>
<td>-0.06</td>
<td>-0.05</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.14*</td>
<td>0.20**</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Conflict</td>
<td>-0.02</td>
<td>-0.06</td>
<td>0.13*</td>
<td>0.15*</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.06</td>
<td>-0.06</td>
<td>0.09</td>
<td>0.27**</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.13*</td>
<td>0.13*</td>
<td>-0.05</td>
<td>-0.08</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.07</td>
<td>0.10</td>
<td>-0.02</td>
<td>-0.05</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.01</td>
<td>-0.05</td>
<td>0.11</td>
<td>0.15*</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.08</td>
<td>-0.06</td>
<td>0.14*</td>
<td>0.30**</td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.22**</td>
<td>0.11</td>
<td>-0.07</td>
<td>-0.01</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.10</td>
<td>0.09</td>
<td>-0.03</td>
<td>-0.02</td>
</tr>
<tr>
<td>Conflict</td>
<td>-0.03</td>
<td>-0.09</td>
<td>0.05</td>
<td>0.11</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>Siblings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.14</td>
<td>0.11</td>
<td>-0.04</td>
<td>-0.05</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.06</td>
<td>0.14*</td>
<td>0.06</td>
<td>0.00</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.02</td>
<td>-0.08</td>
<td>0.06</td>
<td>-0.01</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.01</td>
<td>-0.11</td>
<td>-0.03</td>
<td>0.13</td>
</tr>
<tr>
<td>Relatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.29**</td>
<td>0.21*</td>
<td>-0.00</td>
<td>-0.00</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.33***</td>
<td>0.34***</td>
<td>0.00</td>
<td>0.02</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.09</td>
<td>0.08</td>
<td>0.14</td>
<td>0.16</td>
</tr>
<tr>
<td>Antagonism</td>
<td>0.03</td>
<td>0.11</td>
<td>0.05</td>
<td>0.19</td>
</tr>
</tbody>
</table>

*Note. * p < 0.05 **p < 0.01 ***p < 0.001.

a. Family is the average combined scores of mothers, fathers, siblings, and relatives.
support and intimacy scores for peers. Also, conflict and antagonism relationship quality scores for family and mothers were positively related with conflict and antagonism scores for peers. Lastly, social support scores for fathers were positively related to social support scores for peers and intimacy scores for siblings were positively related to intimacy scores for peers.

The findings suggest that relationship quality scores for family, mothers, and relatives had more frequent associations with relationship quality scores for peers than the relationship quality scores of fathers and siblings. One explanation for the few correlations between relationship quality scores for fathers and peers may be related to the role that fathers have in family dynamics. Mothers spend more time in caretaking roles and involvement in everyday activities while fathers spend more time in playmate roles and have less everyday involvement (McBride & Mills, 1993; Updegraff, Delgado, & Wheeler, 2009). The history of father involvement with children and adolescents may influence the quality of these relationships. An explanation for the infrequent correlations between sibling and peer relationship quality is related to the function of sibling relationships. The function of siblings changes from playmate (Oliva & Arranz, 2005) to an important source of companionship, affection, and intimacy during adolescence and young adulthood (Buhrmester & Furman, 1990). Siblings may be perceived as sources of intimacy and not as sources of social support, conflict, or antagonism, and this may be one explanation for the infrequent associations.

Lastly, correlations between relationship quality scores for family and relatives with relationship quality scores with peers may suggest that multiple relationships may be more important than a single individual relationship. Having a resource of individuals to choose from as opposed to only one or two dyadic relationships has been associated with benefits, such as the prevention of psychological distress (e.g., Perry, 2006, Pressman et al., 2005; Ueno, 2005). However, the quality of these multiple relationships is also important and was supported by the frequent associations between relationship quality scores for family and relatives with relationship quality scores for peers.

**Continuity and compensation relationship quality analysis.**

In addition to exploring relationship quality associations, the theoretical concepts of continuity and compensation were used to investigate if parent-child relationship quality was related to the quality of peer relationships. Four conceptually derived categories were created using the relationship quality grouping described in the methods section of this study. The four
categories created were used to explore if relationship quality groupings demonstrated continuity or compensation between family and peer relationships.

Four categories were created: 1) low scores on relationship quality for family and peer, 2) high scores on relationship quality for family and peer, 3) high scores on relationship quality for family and low scores on relationship quality for peer, and 4) low scores on relationship quality for family and high scores on relationship quality for peer. The first two categories reflect the continuity model because they demonstrate consistency between family and peer relationship quality and the last two categories reflect the compensatory model because they demonstrate that when one relationship is low or high, the other relationship compensates (see Cooper & Copper, 1992).

Using Time 1 data, Table 9 contains the categories for mother and peer, Table 10 contains the categories for father and peer, and Table 11 contains the categories for family and peer. Across all three tables, continuity categories of high/high and low/low relationship quality were more frequently experienced than compensatory categories, regardless of relationship and year of education. However, the two compensatory categories provide a novel area to understand the challenges that young adults may experience with developing peer relationships and maintaining family relationships. The low family/high peer category for support and intimacy and the high family/low peer category for conflict and antagonism may suggest that young adults develop peer relationships that compensate for their low quality family relationships (Cooper & Cooper, 1992).

The high family/low peer quality grouping for social support and intimacy and low family/high peer category for conflict and antagonism is a novel finding of this study. These findings may suggest that some young adults are reporting higher quality relationships with their family than with their peers. Young adults may experience transition difficulties with establishing high quality peer relationships and their experience of relationship quality with their family may not be transferrable to their peer relationships. Another interpretation of the findings of high family/low peer and low family/high peer relationship quality grouping is that young adults may have experienced difficulties in peer relationships before leaving high school and these relationship patterns have continued throughout the university year.
Table 9

Time 1 Mother and Peer Continuity and Compensatory Relationship Quality Categories

<table>
<thead>
<tr>
<th>Continuity Categories</th>
<th>Compensatory Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Mother/</td>
<td>High Mother/</td>
</tr>
<tr>
<td>Low Peer</td>
<td>High Peer</td>
</tr>
<tr>
<td>Low Peer</td>
<td>Low Mother/</td>
</tr>
<tr>
<td>Low Peer</td>
<td>High Peer</td>
</tr>
<tr>
<td>n (%)</td>
<td>n (%)</td>
</tr>
</tbody>
</table>

Overall Sample

| Support    | 67 (26%) | 72 (28%) | 54% | 66 (26%) | 50 (20%) | 46% |
| Intimacy   | 80 (31%) | 56 (22%) | 53% | 51 (20%) | 68 (27%) | 47% |
| Conflict   | 102 (40%)| 38 (15%) | 55% | 49 (19%) | 66 (26%) | 45% |
| Antagonism | 89 (35%) | 62 (24%) | 59% | 52 (20.5%)| 52 (20.5%)| 41% |

1st year Students

| Support    | 42 (28%) | 41 (27%) | 55% | 36 (24%) | 31 (21%) | 45% |
| Intimacy   | 49 (33%) | 30 (20%) | 53% | 30 (20%) | 41 (27%) | 47% |
| Conflict   | 50 (33%) | 28 (19%) | 52% | 35 (23%) | 37 (25%) | 48% |
| Antagonism | 45 (30%) | 41 (27%) | 57% | 39 (26%) | 25 (17%) | 43% |

3rd year Students

| Support    | 20 (24%) | 25 (30%) | 54% | 23 (28%) | 15 (18%) | 46% |
| Intimacy   | 25 (30%) | 20 (24%) | 54% | 15 (18%) | 23 (28%) | 46% |
| Conflict   | 40 (48%) | 9 (11%)  | 59% | 11 (13%) | 23 (28%) | 41% |
| Antagonism | 35 (42%) | 16 (19%) | 61% | 11 (13%) | 21 (25%) | 38% |

Note. Reading across the relationship variables, all percentage values equal 100% and bolded values are combined percentages.

a N = 255 participants listed a mother in their social network.
b N = 150, 5 participants did not list a mother in their social network.
c N = 83, 1 participant did not list a mother in their social network.
Table 10

Time 1 Father and Peer Continuity and Compensatory Relationship Quality Categories

<table>
<thead>
<tr>
<th>Continuity Categories</th>
<th>Compensatory Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Father/ Low Peer</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
</tr>
<tr>
<td>Overall Sample&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>75 (32%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>62 (27%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>95 (41%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>80 (34%)</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; year Students&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>43 (32%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>31 (23%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>53 (39%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>44 (33%)</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; year Students&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>25 (32%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>23 (30%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>34 (44%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>30 (39%)</td>
</tr>
</tbody>
</table>

Note. Reading across the relationship variables, all percentage values equal 100% and bolded values are combined percentages.

<sup>a</sup> N = 233 participants listed a father in their social network.

<sup>b</sup> N = 135, 20 participants did not list a father in their social network.

<sup>c</sup> N = 77, 7 participants did not list a father in their social network.
Table 11

Time1 Family and Peer Continuity and Compensatory Relationship Quality Categories

<table>
<thead>
<tr>
<th></th>
<th>Continuity Categories</th>
<th></th>
<th>Compensatory Categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Family/</td>
<td>High Family/</td>
<td>High Family/</td>
<td>Low Family/</td>
</tr>
<tr>
<td></td>
<td>Low Peer</td>
<td>High Peer</td>
<td>Low Peer</td>
<td>High Peer</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Overall Sample(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>87 (33%)</td>
<td>70 (27%)</td>
<td>60%</td>
<td>54 (21%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>82 (31%)</td>
<td>62 (24%)</td>
<td>55%</td>
<td>50 (19%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>103 (39%)</td>
<td>50 (19%)</td>
<td>58%</td>
<td>57 (22%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>97 (37%)</td>
<td>64 (24%)</td>
<td>61%</td>
<td>47 (18%)</td>
</tr>
<tr>
<td>1(^{st}) year Students(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>51 (33%)</td>
<td>42 (27%)</td>
<td>60%</td>
<td>33 (21%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>51 (33%)</td>
<td>35 (23%)</td>
<td>56%</td>
<td>33 (21%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>54 (35%)</td>
<td>37 (24%)</td>
<td>59%</td>
<td>34 (22%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>55 (35%)</td>
<td>38 (25%)</td>
<td>60%</td>
<td>31 (20%)</td>
</tr>
<tr>
<td>3(^{rd}) year Students(^c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>28 (33%)</td>
<td>20 (24%)</td>
<td>57%</td>
<td>14 (17%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>30 (36%)</td>
<td>21 (25%)</td>
<td>61%</td>
<td>10 (12%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>37 (44%)</td>
<td>10 (12%)</td>
<td>56%</td>
<td>18 (21%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>34 (40%)</td>
<td>19 (23%)</td>
<td>63%</td>
<td>12 (14%)</td>
</tr>
</tbody>
</table>

Note. Reading across the relationship variables, all percentage values equal 100% and bolded values are combined percentages.

\(^a\) N = 262 participants.
\(^b\) N = 155 participants.
\(^c\) N = 84 participants.
RQ#2: What is the relationship between parent-child relationship quality, peer relationship quality, psychological distress, and well-being?

Two types of analyses were conducted to investigate the association between parent and peer relationship quality with the measures of psychological distress and psychological well-being. First, a correlation analysis was performed to meet the assumption of linearity for a multiple regression analysis between the four measures of relationship quality with the measures of psychological distress and psychological well-being (Fields, 2005). Second, multiple hierarchical regression analysis was conducted to explore the relationship between parent and peer relationship quality with psychological distress and psychological well-being. The regression analysis was performed because it would identify which relationships and relationship qualities were significant predictors of the measures of positive and negative mental health outcomes (e.g., Fields, 2005).

**Correlation analysis.**

Table 1 contains the correlations for mother, father, and peers between the four measures of relationship quality (support, intimacy, conflict, and antagonism) with the 3 measures of psychological well-being (self-esteem, optimism, and satisfaction with life) and the 3 measures of psychological distress (loneliness, anxiety, and depression). The analyses showed a pattern of weak to moderate positive and negative associations between the measures of relationship quality, psychological distress, and psychological well-being. However, distinct associations emerged for mothers, fathers, and peers.

For mothers, social support scores were positively related to self-esteem, optimism, and satisfaction with life and were negatively related to depression scores. Mother intimacy scores were also positively related to satisfaction with life and were negatively related to loneliness scores. Mother conflict and antagonism scores were negatively related to self-esteem, optimism, and satisfaction with life scores and were also positively related to loneliness, anxiety, and depression scores. For fathers, social support and intimacy scores were positively related to self-esteem, optimism, and satisfaction with life and were negatively related to loneliness and depression scores. Father conflict and antagonism scores were negatively related to self-esteem, optimism, and satisfaction with life and were positively related to depression scores. Also, father antagonism scores were positively related to loneliness and anxiety scores.
Table 12

Time 1 Correlations for Mother, Father, and Peer Relationship Quality with Psychological Distress and Psychological Well-Being

<table>
<thead>
<tr>
<th></th>
<th>Self-Esteem</th>
<th>Optimism</th>
<th>Satisfaction with Life</th>
<th>Loneliness</th>
<th>Anxiety</th>
<th>SCL-Dep</th>
<th>CESD-Dep</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.13*</td>
<td>0.13*</td>
<td>0.20*</td>
<td>-0.11</td>
<td>-0.10</td>
<td>-0.11</td>
<td>-0.13*</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.11</td>
<td>0.07</td>
<td>0.20***</td>
<td>-0.16**</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.08</td>
</tr>
<tr>
<td>Conflict</td>
<td>-0.29***</td>
<td>-0.24***</td>
<td>-0.23***</td>
<td>0.12*</td>
<td>0.22***</td>
<td>0.23***</td>
<td>0.18**</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.25***</td>
<td>-0.25***</td>
<td>-0.20***</td>
<td>0.16**</td>
<td>0.25***</td>
<td>0.19**</td>
<td>0.19**</td>
</tr>
<tr>
<td><strong>Father</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.22***</td>
<td>0.20**</td>
<td>0.26***</td>
<td>-0.23***</td>
<td>-0.02</td>
<td>-0.14*</td>
<td>-0.18**</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.25***</td>
<td>0.23***</td>
<td>0.27***</td>
<td>-0.23***</td>
<td>0.01</td>
<td>-0.09</td>
<td>-0.16**</td>
</tr>
<tr>
<td>Conflict</td>
<td>-0.14*</td>
<td>-0.14*</td>
<td>-0.16**</td>
<td>0.10</td>
<td>0.12</td>
<td>0.17**</td>
<td>0.17**</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.14*</td>
<td>-0.18**</td>
<td>-0.18**</td>
<td>0.17**</td>
<td>0.14*</td>
<td>0.16**</td>
<td>0.19**</td>
</tr>
<tr>
<td><strong>Peer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>0.07</td>
<td>0.11</td>
<td>0.22***</td>
<td>-0.26***</td>
<td>0.00</td>
<td>-0.09</td>
<td>-0.12*</td>
</tr>
<tr>
<td>Intimacy</td>
<td>0.16**</td>
<td>0.14*</td>
<td>0.24***</td>
<td>-0.32***</td>
<td>-0.09</td>
<td>-0.14*</td>
<td>-0.17**</td>
</tr>
<tr>
<td>Conflict</td>
<td>-0.11</td>
<td>-0.17**</td>
<td>-0.12</td>
<td>0.17**</td>
<td>0.15*</td>
<td>0.19**</td>
<td>0.21***</td>
</tr>
<tr>
<td>Antagonism</td>
<td>-0.10</td>
<td>-0.16**</td>
<td>-0.10</td>
<td>0.20***</td>
<td>0.15*</td>
<td>0.17**</td>
<td>0.17**</td>
</tr>
</tbody>
</table>

*Note. * p < 0.05  **p < 0.01  ***p < 0.001.

SCL-Dep = SCL scale of depression
CESD-Dep= CESD measure of depression
Peer social support and intimacy scores were positively related to satisfaction with life and were negatively related to loneliness and depression scores. Peer intimacy scores were also positively related to self-esteem and optimism scores. Peer conflict and antagonism scores were negatively related to optimism scores and were positively related to loneliness, anxiety, and depression scores. In summary, three patterns emerged from the correlation analyses. Mother conflict and antagonism scores were positively associated with all the measures of psychological distress and were negatively associated with all the measures of psychological well-being. Peer conflict and antagonism scores were positively associated with all the measures of psychological distress while father support and intimacy scores were positively associated with all the measures of psychological well-being. Overall, the analysis revealed a linear relationship between the variables and supported further testing using regression analysis to explore the patterns of associations.

Hierarchical regression analysis¹.

Using Time 1 data, hierarchical regressions were conducted. Mother relationship quality scores were entered first, father relationship quality scores were entered second, followed by peer relationship quality scores. The theoretical rationale for this order was informed by proposals that family relationship quality influences the quality of peer relationships (e.g., Cooper & Cooper, 1992; Hartup, 1980). Therefore measures of family relationship quality should be entered before measures of peer relationship quality. The relationship quality measures of social support, intimacy, conflict, and antagonism were the independent variables or predictor variables. The measures of self-esteem, optimism, satisfaction with life, loneliness, anxiety, and depression were the dependent variables or outcomes variables.

¹ Factorial MANOVA’s were also conducted using the relationship quality grouping method. The high and low relationship quality groupings for mother, father, and peers on support, intimacy, conflict, and antagonism were used as the independent variables. The measures of psychological distress (anxiety, depression, and loneliness) and psychological well-being (self-esteem, optimism, and satisfaction with life) were used as the dependent variables. Time 1 data was used to test a 2 (mother) x 2 (father) x 2 (peer) model. The MANOVA analysis demonstrated similar findings for the relationship quality of mothers and peers, however no significant results were found for fathers.
Social support.

Hierarchical regressions were conducted using mother support, father support, and peer support as the independent variables and measures of anxiety, depression, loneliness, optimism, self-esteem, and satisfaction with life as the dependent variables. Table 13 contains a summary table of the analysis for the final equation. Social support with mother, father, or peer was not a significant predictor of anxiety and depression. However, father support was a significant predictor of loneliness (β = -0.16, t= -2.34, p <0.05), satisfaction with life (β = 0.17, t= 2.43, p <0.05), self-esteem (β = 0.19, t= 2.64, p <0.01), and optimism (β = 0.15, t= 2.12, p <0.05) while peer support was a significant predictor of loneliness (β = -0.28, t= -4.42, p <0.001) and life satisfaction (β = 0.19, t= 3.00, p <0.01). As father social support scores increased, loneliness scores decreased and satisfaction with life, self-esteem, and optimism scores increased. Further, as peer social support scores increased, loneliness scores decreased and satisfaction with life scores increased.

Intimacy.

Hierarchical regressions were conducted using mother intimacy, father intimacy, and peer intimacy as the independent variables and measures of anxiety, depression, loneliness, optimism, self-esteem, and satisfaction with life as the dependent variables. Table 14 contains a summary table of the analysis for the final equation. Intimacy with mother, father, or peer was not a significant predictor of anxiety. However, father intimacy was a significant predictor of loneliness (β = -0.20, t= -3.01, p <0.01), CESD depression (β = -0.15, t= -2.18, p <0.05), satisfaction with life (β = 0.21, t= -3.06, p <0.01), self esteem (β = 0.24, t= 3.42, p <0.001), and optimism (β = 0.21, t= 3.12, p <0.01). In addition, peer intimacy was a significant predictor of loneliness (β = -0.31, t= -4.93, p <0.001), CESD depression (β = -0.13, t= -1.92, p <0.05), SCL depression (β = -0.14, t= -2.10, p <0.05), satisfaction with life (β = 0.19, t= 3.07, p <0.01), self-esteem (β = 0.14, t= 2.10, p <0.05) and optimism (β = 0.14, t= 2.34, p <0.05). As father intimacy scores increased, loneliness and depression scores decreased and satisfaction with life, self-esteem, and optimism scores increased. Also, as peer intimacy scores increased, loneliness and depression scores decreased while satisfaction with life, self-esteem, and optimism scores increased.
Table 13
Summary of Hierarchical Regression Analysis for Social Support Predicting Psychological Well-being and Psychological Distress

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Self-Esteem</th>
<th>Optimism</th>
<th>Satisfaction with Life</th>
<th>Loneliness</th>
<th>Anxiety</th>
<th>SCL-Dep</th>
<th>CESD Dep</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
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<td>$\Delta R^2$</td>
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<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Support</td>
<td>0.02</td>
<td>4.40*</td>
<td>0.01</td>
<td>3.23</td>
<td>0.04</td>
<td>10.09**</td>
<td>0.01</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father Support</td>
<td>0.03</td>
<td>7.89**</td>
<td>0.02</td>
<td>5.72**</td>
<td>0.04</td>
<td>8.63***</td>
<td>0.04</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Support</td>
<td>0.01</td>
<td>0.57</td>
<td>0.01</td>
<td>1.89</td>
<td>0.04</td>
<td>9.03***</td>
<td>0.08</td>
</tr>
</tbody>
</table>

* $p < 0.05$  ** $p < 0.01$  *** $p < 0.001$.

SCL-Dep = SCL scale of depression

CESD-Dep= CESD measure of depression
Table 14
Summary of Hierarchical Regression Analysis for Intimacy Predicting Psychological Well-being and Psychological Distress

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Self-Esteem</th>
<th>Optimism</th>
<th>Satisfaction with Life</th>
<th>Loneliness</th>
<th>Anxiety</th>
<th>SCL-Dep</th>
<th>CESD Dep</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>0.01</td>
<td>2.20</td>
<td>0.01</td>
<td>1.43</td>
<td>0.04</td>
<td>8.89**</td>
<td>0.01</td>
</tr>
<tr>
<td>Intimacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>0.05</td>
<td>12.04***</td>
<td>0.04</td>
<td>10.10**</td>
<td>0.04</td>
<td>9.74**</td>
<td>0.04</td>
</tr>
<tr>
<td>Intimacy</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer</td>
<td>0.02</td>
<td>4.42*</td>
<td>0.02</td>
<td>4.99*</td>
<td>0.04</td>
<td>9.44**</td>
<td>0.09</td>
</tr>
<tr>
<td>Intimacy</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < 0.05  **p < 0.01  ***p < 0.001.

SCL-Dep = SCL scale of depression
CESD-Dep= CESD measure of depression
Conflict.

Hierarchical regressions were conducted using mother conflict, father conflict, and peer conflict as the independent variables and measures of anxiety, depression, loneliness, optimism, self-esteem, and satisfaction with life as the dependent variables. Table 15 contains a summary table of the analysis for the final equation. Mother conflict was a significant predictor of CESD depression (β = 0.14, t= 2.10, p <0.05), SCL depression (β = 0.20, t= 2.94, p <0.01), anxiety (β = 0.22, t= 3.20, p <0.01), satisfaction with life (β = -0.20, t= -2.96, p <0.01), self-esteem (β = -0.29, t= -4.34, p <0.01), and optimism (β = -0.22, t= -3.32, p <0.001). Peer conflict was a significant predictor of loneliness (β = 0.14, t= 2.06, p <0.05) CESD depression (β = 0.19, t= 2.88, p <0.01), and SCL depression (β = 0.15, t= 2.41, p <0.05). As mother conflict scores increased, depression and anxiety scores increased and satisfaction with life, self-esteem, and optimism scores decreased. Also, as peer conflict scores increased, loneliness and depression scores increased.

Antagonism.

Hierarchical regressions were conducted using mother antagonism, father antagonism, and peer antagonism as the independent variables and measures of anxiety, depression, loneliness, optimism, self-esteem, and satisfaction with life as the dependent variables. Table 16 contains a summary table of the analysis for the final equation. Mother antagonism was a significant predictor of anxiety (β = 0.20, t= 2.73, p <0.01), satisfaction with life (β = -0.16, t= -2.13, p <0.05), self-esteem (β = -0.22, t= -3.10, p <0.01), and optimism (β = -0.17, t= -2.36, p <0.05). Peer antagonism was a significant predictor of loneliness (β = 0.16, t= 2.37, p <0.05) and CESD depression (β = 0.14, t= 2.11, p <0.05). These results suggest that as mother antagonism scores increased, anxiety scores increased and satisfaction with life, self-esteem, and optimism scores decreased. Also, as peer antagonism scores increased, loneliness and depression scores increased.

In summary, these findings suggest that the 6 measures of positive and negative mental health outcomes are dependent on the quality of parent and peer social network relationships. Different patterns based on relationships were found. First, peer social support, intimacy, conflict, and antagonism scores were related to positive and negative mental health outcomes. Increases in peer social support and intimacy scores were related to decreases in loneliness and
Table 15
Summary of Hierarchical Regression Analysis for Conflict Predicting Psychological Well-being and Psychological Distress

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Self-Esteem</th>
<th>Optimism</th>
<th>Satisfaction with Life</th>
<th>Loneliness</th>
<th>Anxiety</th>
<th>SCL-Dep</th>
<th>CESD Dep</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>24.66***</td>
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<td>16.13***</td>
<td>0.06</td>
<td>13.45***</td>
<td>0.06</td>
</tr>
<tr>
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<tr>
<td><strong>Step 2</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Father Conflict</td>
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<td>2.08</td>
<td>0.01</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Conflict</td>
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<td>3.35</td>
<td>0.01</td>
<td>1.36</td>
<td>0.02</td>
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</table>

*Note. * p < 0.05  **p < 0.01  ***p < 0.001.

SCL-Dep = SCL scale of depression
CESD-Dep= CESD measure of depression
Table 16
Summary of Hierarchical Regression Analysis for Antagonism Predicting Psychological Well-being and Psychological Distress

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Self-Esteem</th>
<th>Optimism</th>
<th>Satisfaction with Life</th>
<th>Loneliness</th>
<th>Anxiety</th>
<th>SCL-Dep</th>
<th>CESD Dep</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>$\Delta R^2$</td>
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<td>$\Delta R^2$</td>
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<tr>
<td>Step 1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mother Antagonism</td>
<td>0.07</td>
<td>16.98***</td>
<td>0.05</td>
<td>12.98***</td>
<td>0.04</td>
<td>10.12**</td>
<td>0.03</td>
</tr>
<tr>
<td>Step 2</td>
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<td>0.00</td>
<td>0.29</td>
<td>0.01</td>
<td>2.75</td>
<td>0.01</td>
<td>2.59</td>
</tr>
<tr>
<td>Step 3</td>
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<td>0.01</td>
<td>1.96</td>
<td>0.00</td>
<td>0.94</td>
<td>0.00</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Note. * p < 0.05  **p < 0.01  ***p < 0.001.

SCL-Dep = SCL scale of depression
CESD-Dep= CESD measure of depression
depression scores and increases in satisfaction with life, self-esteem, and optimism scores. However, increases in peer conflict and antagonism scores were related to increases in loneliness and depression scores. These results are consistent with McLaughlin et al.’s (2002) empirical findings that peer relationships have a stronger association to mental health than family relationships. Specifically, individuals who received more social support from peers reported less depression while individuals who experienced more problems with peers reported more depression. Young adults spend more time interacting with their peers than with their family (Youniss & Smollar, 1985) and view their peers as having more expertise than parents in areas such as emotional problems (Frey & Röthlisberger, 1996). This may explain why the positive peer relational quality measures were associated with the outcomes of self-esteem, optimism, and satisfaction with life while negative peer relational quality measures were associated with the negative outcomes of depression and loneliness.

Mother social support and intimacy scores were not significant predictors of mental health outcomes. However, increases on mother conflict and antagonism scores were related to increases in depression and anxiety and decreases in self-esteem, optimism, and satisfaction with life scores. While decreases on mother conflict and antagonism scores were related to decreases in depression and anxiety and increases in self-esteem, optimism, and satisfaction with life scores. Sheeber, Hops, Alpert, Davis, and Andrews (1997) found similar findings for mother-adolescent relationship quality, in which more conflict experienced with mothers was associated with greater depression scores over a 1 year period. An explanation for the association for mother conflict, antagonism, and psychological distress is with regards to the type of conflict experienced during young adulthood. Late adolescents report experiencing more conflict with their mothers about parental behaviour, such as complaints about how their parents behave (Renk, Liljequist, Simpson, & Phares, 2005). This type of conflict may represent an interference between parental and young adult autonomy and agency that becomes a source of disagreement and potential distress. This may explain the association with mother conflict and antagonism scores with psychological distress and psychological well-being.

In contrast to mothers, increases on father support and intimacy scores were related to decreases on depression and loneliness scores and increases on self-esteem, optimism, and satisfaction with life scores. However, father conflict and antagonism scores were not significant predictors of mental health outcomes. These findings are supported by Allen and Daly's (2007)
review of the research on the effects of father involvement. Their review demonstrated that the quality of father-child relationships, in particular having high quality relationships that included availability, nurturance, and support was associated with positive life outcomes. Furthermore, positively adjusted youth as indicated by low scores on stressful life events and low depressive symptoms, reported higher levels of intimacy with fathers and mothers (Herman-Stahl & Petersen, 1996). Overall, these findings suggest that the positive and negative mental health outcomes associated with social networks are dependent on the quality of specific network relationships.

RQ#3: What changes occurred in the social networks of young adults during the university year?

Patterns of relationship quality groupings were explored for mother, father, family, and peers to examine stability and change over the 8-month period (i.e., between Time 1 and Time 2). This analysis was conducted using the four conceptually derived relationship quality grouping categories created for research question #2. Exploring relationship continuity and compensation patterns between Time 1 and 2 relationship quality for family, mothers, fathers, and peers were used to determine if young adults experienced more continuity or compensation in their perceived relational quality. The four categories created were 1) low scores on relationship quality for family and peer, 2) high scores on relationship quality for family and peer, 3) high scores on relationship quality for family and low scores on relationship quality for peer, and 4) low scores on relationship quality for family and high scores on relationship quality for peer.

Table 17 contains the Time 1 and 2 relationship quality category groupings for family and peer and Table 18 contains the Time 1 and 2 relationship quality category groupings for mothers and fathers. Both tables demonstrate continuity between Time 1 and Time 2 relationship quality categories. More than 66% of participants consistently demonstrated a pattern of their family, mother, father, and peer relationship quality as high at both Time 1 and Time 2 or low at both time 1 and Time 2. These findings are consistent with Cooper and Cooper's continuity model, in which adults experienced more continuity in their evaluations of their perceived relationship quality within their social networks during an 8 month period. However, 34% of participants
Table 17
Family and Peer Time 1 and Time 2 Relationship Category Groupings

<table>
<thead>
<tr>
<th></th>
<th>Continuity Categories</th>
<th></th>
<th>Compensatory Categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T1 High / T2 High</td>
<td>T1 Low / T2 Low</td>
<td>T1 Low / T2 High</td>
<td>T1 High / T2 Low</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Family(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>33 (31%)</td>
<td>43 (41%)</td>
<td><strong>72%</strong></td>
<td>14 (14%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>39 (37%)</td>
<td>37 (35%)</td>
<td><strong>72%</strong></td>
<td>15 (14%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>30 (29%)</td>
<td>53 (50%)</td>
<td><strong>79%</strong></td>
<td>11 (10.5%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>25 (24%)</td>
<td>48 (46%)</td>
<td><strong>70%</strong></td>
<td>14 (13%)</td>
</tr>
<tr>
<td>Peer(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>33 (31%)</td>
<td>36 (35%)</td>
<td><strong>66%</strong></td>
<td>21 (20%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>36 (35%)</td>
<td>35 (33%)</td>
<td><strong>68%</strong></td>
<td>21 (20%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>30 (29%)</td>
<td>44 (42%)</td>
<td><strong>71%</strong></td>
<td>17 (16%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>30 (29%)</td>
<td>45 (43%)</td>
<td><strong>72%</strong></td>
<td>10 (9%)</td>
</tr>
</tbody>
</table>

*Note. Reading across the relationship variables, all percentage values equal 100% and bolded values are combined percentages.*

\(^a\) \(N = 105\)

\(^b\) \(N = 105\)
Table 18

Mother and Father Time 1 and Time 2 Relationship Category Groupings

<table>
<thead>
<tr>
<th>Continuity Categories</th>
<th>Compensatory Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 High / T1 Low / T2 High</td>
<td>T1 Low / T1 High / T2 Low</td>
</tr>
<tr>
<td>n (%)</td>
<td>n (%)</td>
</tr>
</tbody>
</table>

Mother\(^a\)

<table>
<thead>
<tr>
<th>Relationship Variable</th>
<th>T1 High</th>
<th>T1 Low</th>
<th>T2 High</th>
<th>T2 Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>44 (44%)</td>
<td>38 (38%)</td>
<td>82%</td>
<td>7 (7%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>44 (43%)</td>
<td>34 (34%)</td>
<td>77%</td>
<td>10 (10%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>21 (21%)</td>
<td>61 (60%)</td>
<td>81%</td>
<td>10 (10%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>30 (30%)</td>
<td>49 (48%)</td>
<td>78%</td>
<td>14 (14%)</td>
</tr>
</tbody>
</table>

Father\(^b\)

<table>
<thead>
<tr>
<th>Relationship Variable</th>
<th>T1 High</th>
<th>T1 Low</th>
<th>T2 High</th>
<th>T2 Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>37 (43%)</td>
<td>24 (28%)</td>
<td>71%</td>
<td>10 (11%)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>31 (36%)</td>
<td>30 (34%)</td>
<td>70%</td>
<td>9 (10%)</td>
</tr>
<tr>
<td>Conflict</td>
<td>21 (24%)</td>
<td>47 (54%)</td>
<td>78%</td>
<td>17 (20%)</td>
</tr>
<tr>
<td>Antagonism</td>
<td>17 (20%)</td>
<td>49 (56%)</td>
<td>76%</td>
<td>7 (8%)</td>
</tr>
</tbody>
</table>

Note. Reading across the relationship variables, all percentage values equal 100% and bolded values are combined percentages.

\(^a\) N = 101, 4 participants did not list a mother in their social network.

\(^b\) N = 87, 5 participants did not list a father in their social network.
demonstrated a pattern that their relationship quality changed with their family, mother, father, and peers between Time 1 to Time 2 from high to low or from low to high. These findings are consistent with Cooper and Cooper's compensation model. The continuity pattern suggests that the majority of participants experienced stability in their perceived relationship quality, however for a small percentage of participants they experienced change in their perceived relationship quality.

RQ#4: What is the association between relationship quality and attachment security with psychological distress and psychological well-being?

In these analyses, an additional measure concerning felt security derived from attachment theory was included with the measures of relational quality (social support, intimacy, conflict, and antagonism) that were explored in the previous research questions. Two types of analyses were conducted to investigate the association between relational quality and attachment security with measures of psychological distress and psychological well-being. The first analysis used structural equation modelling to understand the association between the four measures of family and peer relationship quality including attachment security with psychological distress and psychological well-being. The second analysis used invariance testing to test for significant differences between high and low family and peer relationship quality models.

Rationale for using structural equation modelling.

Self- and other-models of attachment security represent Bowlby's (1969/1997) conception of internal working models in which individuals develop models about their self in relationships and their significant others. For a review of self- and other-models, see pages 19-20 of the introduction of this study. Two models were used to examine the positive and negative mental health outcomes of social networks. The first model was the association between self- and other-models and psychological distress. The first model was initially tested by Pitman and Scharfe (2010) using the self- and other-models of attachment security and measures of depression, anxiety, and physical symptoms as indicators of psychological distress. The second model was the association between self- and other-models and psychological well-being. This model was a novel feature of this study. Using the same method as Pitman and Scharfe (2010), structural equation modelling (SEM) was used to explore the attachment-psychological distress and the attachment-psychological well-being association and to test for differences between
family and peer relational quality. SEM was used to test the two models and explore differences using high and low relationship quality groupings for family and peers.

SEM is an appropriate analysis for the current study because it is used when researchers are interested in investigating theoretical constructs or latent variables that cannot be directly measured (Hox & Bechger, 1998). Each latent variable can be represented by a number of measured variables that act as indicators. For example, depression, anxiety, and loneliness are indicators of the latent variable of psychological distress. For the current study, there are four latent variables that include the self- and other-models of attachment, psychological distress, and psychological well-being. A structural equation model is a hypothesized pattern of directional or non-directional relationships among measured and latent variables (MacCallum & Austin, 2000). Griffin and Bartholomew (1994a) argue that SEM is a confirmatory technique in which the model being tested is based on theory or previous empirical research that specifies the measures that represent the latent variable(s).

In the following analyses, several variables were chosen conceptually on the basis of existing theory and research as suitable indicators for the latent variables of psychological distress and psychological well-being. For the current study, measures of depression, anxiety, and loneliness were chosen as indicators of psychological distress. Bowlby (1969/1997) proposed that attachment behaviours are most visible during times of distress. Several researchers have found strong associations between attachment security and distress using measures of depression (e.g., Carnelley, Pietromonaco, & Jaffe, 1994; Margolese, Markiewicz, & Doyle, 2005), anxiety (e.g., Declercq & Willemsen, 2006; Irons & Gilbert, 2005), and loneliness (e.g., DiTommaso, Brannen-McNulty, Ross, & Burgess, 2003).

Bowlby (1969/1997) also proposed that working models of attachment security can increase or decrease psychological well-being. Several researchers have found strong associations between attachment security and psychological well-being using measures of optimism (e.g., Carnelley & Janoff-Bulman, 1992; Heinonen, Raikkonen, Keltikanggas-Jarvinen, & Strandberg, 2004), self esteem (e.g., Bylsma, Cozzarelli, & Sumer, 1997; Quimby & O’Brien, 2006), and satisfaction with life (e.g., Deniz & Isik, 2010; Lavy & Littman-Ovadia, 2011; Wright & Perrone, 2010). For the current study, optimism, self-esteem, satisfaction with life, and the UCLA-R positive scale were used as the indicators of psychological well-being. In summary, SEM was used to examine the theoretical relationships between two models: attachment security
and psychological distress and attachment security and psychological well-being. The high-low relationship quality groupings for family and peer were incorporated into the two models.

**Testing the measurement models.**

In this study, there are four latent variables: self- and other-models of attachment, psychological distress, and psychological well-being. To ensure that the measures of the four latent variables are suitable indicators, three measurement models were tested using confirmatory factors analysis (CFA). The measurement model proposes that a number of measures represent a specific latent variable and CFA was used to ensure that the selected conceptually chosen measures are suitable indicators of the latent variables of the self- and other-models, psychological distress, and psychological well-being (Hox & Bechger, 1998). To evaluate how well the measures represent the latent variables, several fit indices were used.

Four fit indices were used and included the $\chi^2$ test, the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), and the root mean squared error of approximation (RMSEA). The TLI, CFI, and RMSEA were used because they meet Marsh, Balla, and McDonald's (1988) proposed criteria for ideal fit indices in that each measure is independent of sample size, accuracy and consistency when evaluating model fit, and ease of interpretation. The $\chi^2$ is an absolute fit index that evaluates the degree of fit between the obtained and observed covariances and gauges the “badness of fit” of the model (Hoyle & Panter, 1995). The $\chi^2$ is used to test the null hypothesis that the researcher’s model is a perfect fit to the population, where a non-significant $\chi^2$ indicates that the data and model are a good fit. However, the $\chi^2$ is sensitive to large sample sizes (e.g., $n > 200$) and would make it difficult to achieve a non-significant value. Despite the sensitivity with sample sizes, the $\chi^2$ is a commonly reported fit index (Hoe, 2008) and is used with caution. In addition to the $\chi^2$, three other fit indices were used that are not influenced by sample size.

The TLI and CFI are incremental fit indices that gauge the “goodness of fit” of the model. The TLI and CFI examine the model and determine if it is superior to a model that specifies no covariances. The TLI compares the lack of fit of a target model to the lack of fit to a

---

2 A statistician (S. Colwell, personal communication, November 15, 2013) from the University of Guelph was consulted about whether to report the $\chi^2$ or the $\chi^2 / df$ ratio. The statistician advised that the $\chi^2 / df$ ratio “rules of thumb” have yet to be tested and with TLI and CFI fit indices, there is little reason to include the $\chi^2 / df$ ratio as a fit index.
baseline model and evaluates the improvement per degree of freedom of the target model to the baseline model (Hoyle & Panter, 1995). The TLI requires values greater than 0.95 and values above this cut-off suggest that the data is a good fit to the model. The CFI assumes that the researcher’s data will have a perfect fit to the model and requires values greater than 0.95. Values above this cut-off suggest that the model has few unknowns and is a good fit to the data (Hu & Bentler, 1995). Lastly, the RMSEA is another “badness of fit” index as well as a parsimony adjusted index. When given two models, the RMSEA will choose the simpler model. RMSEA requires values less than 0.07 (Hooper, Coughlan, & Mullen, 2008; Steiger, 2007) and confidence intervals are also reported to gauge the discrepancy in the model in which less distance between the intervals suggests a good fit to the model.

**Testing the measurement model for attachment self- and other-latent variables.**

Measures of mother self, father self, and friend self were used as indicators of the self-model of attachment security and measures of mother other, father other, and friend other were used as measures of the other-model of attachment. All of the measures were standardized and a CFA was conducted to determine if the measures of mother, father, and friend were suitable indicators of the self-and other-models. All analyses were conducted using AMOS version 20. Using the fit indices described in the previous section, the first CFA for the self- and other-models produced a poor fit, $\chi^2 (8, n = 262) = 70.08, p < 0.001$, TLI = 0.59, CFI = 0.78, and the RMSEA = 0.17 (90% CI .14-.21).

One method that can be used to improve the fit of the model is to examine the modification indices and control for relationships that would produce the greatest change in the parameters of the model (Byrne, 2001). The modification indices suggested that controlling for relationships between mother self and mother other and father self and father other would produce the greatest parameter change or improvement in the model. After controlling for the two relationships in the model, the CFA yielded an adequate fit, $\chi^2 (6, n = 262) = 15.71, p < 0.05$, TLI = 0.91, CFI = 0.97, and the RMSEA = 0.08 (90% CI .03-.13). After examining the modification indices, controlling for the relationship between friend self and friend other would produce the greatest parameter change or improvement in the model.

After controlling for the relationship between friend self and friend other, the model was tested again and yielded an excellent fit, $\chi^2 (5, n = 262) = 3.89, p > 0.05$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.00). The estimated reliability for both the self- and
other-models was calculated using composite reliability scores. Composite reliability is a measure of the overall reliability of a collection of heterogeneous, but similar items in latent variable modelling (Colwell, 2011). Composite reliability is calculated using the factor loadings and measurement error for each of the indicators of the latent variables of the self- and other. Reliability was established at an acceptable level, 0.70 for the self-model and 0.52 for the other-model. In summary, the measures were found to be appropriate indicators of the self- and other latent variables and Figure 1 contains the final self- and other measurement model.

Figure 1. Final measurement model for self- and other latent variables

*Note.* Latent variables are represented as circles, measures of latent variables are represented as rectangles and small circles represent measurement error. Double-headed arrows represent a correlation between two variables.

* * p < 0.05, ** * p < 0.01, *** * p < 0.001.
Testing the measurement models for psychological distress and psychological well-being.

The measures of loneliness, anxiety, SCL depression, and CES-D depression were standardized and a CFA was conducted to determine if the measures were suitable indicators of the latent variable of psychological distress. The fit indices used to evaluate the self-and other-models were used to evaluate the fit of the measures to the latent variable of psychological distress. The CFA produced an adequate fit, $\chi^2 (2, n = 262) = 25.08$, $p < 0.001$, TLI = 0.89, CFI = 0.96, and the RMSEA = 0.21 (90% CI .14-.29). After examining the modification indices, controlling for the relationship between the UCLA loneliness scale and the CESD-depression scale would produce the greatest parameter change or improvement in the model. After controlling for the relationship, the model was tested again and the CFA produced a good fit, $\chi^2 (1, n = 262) = 2.31$, $p > 0.10$, TLI = 0.99, CFI = 1.00, and the RMSEA = 0.07 (90% CI .00-.20). Figure 2 contains the final measurement model for psychological distress. In summary, the measures were found to be appropriate indicators of the psychological distress latent variable.

The measures of self-esteem, optimism, life satisfaction, and the UCLA-positive subscale were standardized and a CFA was conducted to determine if the measures were suitable indicators of the latent variable of psychological well-being. The CFA produced an excellent fit, $\chi^2 (2, n = 262) = 1.07$, $p > 0.10$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.10). Figure 3 contains the final measurement model for psychological well-being. In summary, the measures were found to be appropriate indicators of the psychological well-being latent variable.
Figure 2. Final measurement model for psychological distress latent variable.

Note. Latent variables are represented as circles, measures of latent variables are represented as rectangles and small circles represent measurement error. Double-headed arrows represent a correlation between two variables.

[The total score of the UCLA loneliness scale was used as an indicator of psychological distress.]

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. 
Figure 3. Final measurement model for psychological well-being latent variable.

Note. Latent variables are represented as circles, measures or indicators of latent variables are represented as rectangles, and small circles represent measurement error.

* The 9 positive items of the UCLA loneliness scale was used as an indicator of psychological well-being.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. 
Proposed Structural Models of Attachment-Psychological Distress and Attachment-Psychological Well-Being

Structural models predict the relationships between latent variables and are tested using fit indices to evaluate if the relationships between the latent variables in the model are valid (MacCallum & Austin, 2000). Two structural models were tested. The first proposed model contains three latent variables that included the self-and other-models of attachment security and psychological distress. For both the self-and other latent variables, each variable had three measures of attachment security (mother, father, and close friends) and the psychological distress variable had four measures (loneliness, two depression scales, and anxiety). The self-and other-models have arrows pointing away from them toward the distress variable and suggests that self-and other-models cause individuals to experience psychological distress (see Figure 4).

The second proposed model contains three latent variables that included the self-and other-models of attachment security and psychological well-being. For both the self-and other latent variables, each variable had three measures of attachment security (mother, father, and close friends) and the psychological well-being variable had four measures (loneliness-positive sub scale, self-esteem, optimism, and life satisfaction). The self-and other-models have arrows pointing away from them toward the psychological well-being variable and suggests that self-and other-models cause individuals to experience psychological well-being (see Figure 5).

Testing the attachment-psychological distress structural model.

Two sets of structural models were tested. The first set was the overall model of the latent variables of self-and other-attachment security predicting the latent variable of psychological distress. The overall model included all the participants in the data set and examined how the overall sample supported the relationships in the proposed structural model. The second set of structural models evaluated how the overall model supported the data from the participants when the models were analyzed using the high and low relationship quality groupings of support, intimacy, conflict, and antagonism discussed in the methods section. In the second set of structural models, 16 relationship quality models were tested. Eight family models were tested and included 4 high family relationship quality models and 4 low family relationship quality models. Eight peer models were tested and included 4 high peer relationship quality models and 4 low peer relationship quality models.
Figure 4. Proposed structural model of attachment security and psychological distress.

Note. Latent variables are represented as circles, measures or indicators are represented as rectangles and small circles represent measurement error. Double-headed arrows represent a relationship or correlation between two variables while single-headed arrows represent causation or where one variable produces a change in another variable.
Figure 5. Proposed structural model of attachment security and psychological well-being.

Note. Latent variables are represented as circles, measures or indicators are represented as rectangles and small circles represent measurement error. Double-headed arrows represent a relationship or correlation between two variables while single-headed arrows represent causation or where one variable produces a change in another variable.
The overall model of attachment security predicting psychological distress was analyzed using Amos version 20 and using the default estimation technique of maximum likelihood (ML). ML is an appropriate estimation technique because of the asymptotic properties that produce minimum variance, unbiasedness, and assume multivariate normality of the observed variables (Schumacker & Lomax, 2004). To evaluate the fit of the overall model, the $\chi^2$, TLI, CFI, and the RMSEA were used. The $\chi^2$ value must be non-significant, the TLI and CFI require values greater than .95, and the RMSEA requires values below 0.07 and narrow confidence intervals to indicate a good fit to the data.

The overall attachment-psychological distress model reached an adequate level of fit, $\chi^2 (28, n = 262) = 159.71, p < 0.001$, TLI = 0.81, CFI = 0.88, and the RMSEA = 0.13 (90% CI .11-.16). After reviewing the modification indices, the UCLA loneliness indicator was cross correlating with the measures of the self-and other-models. This suggested that the UCLA may not be an appropriate indicator of distress within the structural model. The UCLA indicator was removed to evaluate if the model fit would improve using a $\chi^2$ difference test. The $\chi^2$ value and degrees of freedom from the model with the UCLA indicator were subtracted from the $\chi^2$ value and degrees of freedom from the model without the UCLA indicator. If the difference $\chi^2$ value and degrees of freedom are significant, this indicates an improvement in the fit of the model (Colwell, 2011). After removing the UCLA indicator, the model reached a good to excellent level of fit, $\chi^2 (21, n = 262) = 42.71, p < 0.01$, TLI = 0.96, CFI = 0.98, RMSEA = 0.06 (90% CI .04-.09), and the $\chi^2$ difference value was significant, $\chi^2 (7) = 117.00, p < 0.05$. The attachment-psychological distress structural model without the UCLA indicator was used for the second set of analyses exploring differences in the model using high and low relationship quality groupings.

**Testing family and peer attachment security and psychological distress structural models using high and low relationship quality.**

To test the individual family and peer models using relationship quality, the high and low relationship quality groupings were used. The four measures of relationship quality were standardized. Standardized scores that were positive and above the mean were coded as high

---

3 The Bayesian Information Criterion (BIC) was used to find the most parsimonious model. The BIC value for the model including the UCLA indicator was 330.77, a value lower than this would suggest that a model without the UCLA is the most parsimonious model. After removing the UCLA indicator, the BIC value was 163.32. This analysis supports the significant findings of the $\chi^2$ difference value.
relationship quality and standardized scores that were negative and below the mean were coded as low relationship quality. The 8 family models (4 high and 4 low relationship quality) and the 8 peer models (4 high and 4 low relationship quality) were individually tested and evaluated using the fit indices of the $\chi^2$, TLI, CFI, and the RMSEA.

**High and low support models.** Using the structural model of self-and other-models predicting psychological distress, the high family support model reached an adequate to good level of fit, $\chi^2 (21, n = 121) = 36.83, p < 0.05$, TLI = .94, CFI = .96, and the RMSEA = 0.08 (90% CI .03-.12). The family model supported the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant. The low family support model reached an excellent level of fit, $\chi^2 (21, n = 141) = 31.83, p < 0.10$, TLI = 0.96, CFI = 0.98, and the RMSEA = 0.06 (90% CI .00-.10). The model supported the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant.

The high peer support model reached an excellent level of fit, $\chi^2 (21, n = 128) = 21.20, p > 0.10$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.01 (90% CI .00-.08). The peer model supports the significant negative association between the self-and other-models and psychological distress. The low peer support model also reached an excellent level of fit, $\chi^2 (21, n = 134) = 28.51, p > 0.10$, TLI = .97, CFI = .98, and the RMSEA = 0.05 (90% CI .00-.10). The model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant.

**High and low intimacy models.** The high family intimacy model reached a poor to adequate level of fit, $\chi^2 (21, n = 112) = 47.23, p < 0.001$, TLI = .88, CFI = .93, and the RMSEA = 0.11 (90% CI .07-.15). The model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant. The low family intimacy model reached an excellent level of fit, $\chi^2 (21, n = 150) = 23.24, p > 0.10$, TLI = 0.99, CFI = 1.00, and the RMSEA = 0.03 (90% CI .00-.08). The family model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant.
The high peer intimacy model reached an excellent level of fit, $\chi^2 (21, n = 130) = 25.61$, $p > 0.10$, TLI = 0.98, CFI = 0.99, and the RMSEA = 0.04 (90% CI .00-.09). The peer model supports the significant negative association between the self-and other-models and psychological distress. The low peer intimacy model also reached an excellent level of fit, $\chi^2 (21, n = 132) = 28.05$, $p > 0.10$, TLI = .97, CFI = 0.98, and the RMSEA = 0.05 (90% CI .00-.10). The peer model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant.

**High and low conflict models.** The high family conflict model reached an excellent level of fit, $\chi^2 (21, n = 107) = 24.55$, $p > 0.10$, TLI = 0.98, CFI = 0.99, and the RMSEA = 0.04 (90% CI .00-.10). The high family conflict model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant. The low family conflict model also reached an excellent level of fit, $\chi^2 (21, n = 155) = 27.35$, $p > 0.10$, TLI = .98, CFI = .99, and the RMSEA = 0.04 (90% CI .00-.09). The family model supports the significant negative association between the self-and other-models and psychological distress.

The high peer conflict model reached an excellent level of fit, $\chi^2 (21, n = 102) = 23.97$, $p > 0.10$, TLI = .98, CFI = .99, and the RMSEA = 0.04 (90% CI .00-.10). The high peer conflict model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress is not significant. The low peer conflict model also reached an excellent level of fit, $\chi^2 (21, n = 160) = 37.42$, $p < 0.05$, TLI = 0.96, CFI = 0.97, and the RMSEA = 0.07 (90% CI .03-.11). The low peer conflict model supports the significant negative association between the self- and other-models and psychological distress.

**High and low antagonism models.** The high family antagonism model reached a good good level of fit, $\chi^2 (21, n = 111) = 32.97$, $p < 0.05$, TLI = .95, CFI = .97, and the RMSEA = 0.07 (90% CI .01-.12). The high family antagonism model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant. The low family antagonism model also reached an excellent level of fit, $\chi^2 (21, n = 151) = 32.73$, $p < 0.05$, TLI = .96, CFI =
The low family antagonism model supports the significant negative association between the self-and other-models and psychological distress.

The high peer antagonism model reached an excellent level of fit, $\chi^2 (21, n = 118) = 32.61, p < 0.05, \text{TLI} = .95, \text{CFI} = 0.97, \text{and the RMSEA} = 0.07 \text{ (90\% CI .00-.11). The model has a significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant. The low peer antagonism model also reached an excellent level of fit, }$ $\chi^2 (21, n = 144) = 26.26, p > 0.10, \text{TLI} = 0.98, \text{CFI} = 0.99, \text{and the RMSEA} = 0.04 \text{ (90\% CI .00-.09). The low peer antagonism model supports the significant negative association between the self-model and psychological distress, however the association between the other-model and psychological distress was not significant.}

Table 19 contains a summary table of the parameter estimates and fit indices for the family and peer attachment-psychological distress models by high and low relationship quality groupings. In summary, the majority of the models reached good to excellent levels of model fit. For family and peer support, intimacy, and conflict models, a consistent pattern emerged. When relationship quality was high in support and intimacy and low in conflict, both the self-and other-models were significant predictors of psychological distress. These findings may suggest that when positive dimensions of relational quality are high and negative dimensions of relational quality are low, individuals evaluate both themselves and their significant other's beliefs and expectations in a relationship. However, when relationship quality was low in support and intimacy and high in conflict, only the self-model was a significant predictor of psychological distress. These findings may suggest that when positive dimensions of relational quality are low and negative dimensions of relational quality are high, individuals only evaluate their own beliefs and expectations in a relationship.

**Testing the attachment-psychological well-being structural model.**

Two sets of structural models were tested. The first set was the overall model of the latent variables of self-and other-attachment security predicting the latent variable of psychological well-being. The overall model included all the participants in the data set and explored how the overall sample supported the relationships in the proposed structural model. The second set of
Table 19

Summary Table for Attachment-Psychological Distress Models

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<tr>
<th></th>
<th>Sm-Om</th>
<th>Sm-Dis</th>
<th>Om-Dis</th>
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<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
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<td>-0.28***</td>
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<td>-0.24</td>
<td>36.83*</td>
<td>0.96</td>
<td>0.94</td>
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<td>-0.34</td>
<td>31.83</td>
<td>0.98</td>
<td>0.96</td>
<td>0.06 (.00-.10)</td>
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<td>-0.031</td>
<td>47.23***</td>
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<td>0.99</td>
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<td>0.04 (.00-.10)</td>
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<tr>
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<td>-0.40**</td>
<td>27.35</td>
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<td>0.98</td>
<td>0.04 (.00-.09)</td>
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<td>0.40</td>
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<td>-0.37**</td>
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<td>0.97</td>
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<td>-0.50***</td>
<td>-0.32*</td>
<td>25.61</td>
<td>0.99</td>
<td>0.98</td>
<td>0.04 (.00-.09)</td>
</tr>
<tr>
<td>Low</td>
<td>0.45**</td>
<td>-0.46***</td>
<td>-0.10</td>
<td>28.05</td>
<td>0.98</td>
<td>0.97</td>
<td>0.05 (.00-.10)</td>
</tr>
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<tr>
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<td>0.40</td>
<td>-0.44**</td>
<td>-0.30</td>
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<td>0.99</td>
<td>0.98</td>
<td>0.04 (.00-.10)</td>
</tr>
<tr>
<td>Low</td>
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<td>-0.48***</td>
<td>-0.26*</td>
<td>37.42*</td>
<td>0.97</td>
<td>0.96</td>
<td>0.07 (.03-.11)</td>
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<tr>
<td><strong>Antagonism</strong></td>
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<td>High</td>
<td>0.53*</td>
<td>-0.43**</td>
<td>-0.36</td>
<td>32.61*</td>
<td>0.97</td>
<td>0.95</td>
<td>0.07 (.00-.11)</td>
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<tr>
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<td>-0.19</td>
<td>26.26</td>
<td>0.99</td>
<td>0.98</td>
<td>0.04 (.00-.09)</td>
</tr>
</tbody>
</table>

*Note.* Sm = self model, Om = other model, and Dis = distress.
* p < 0.05  **p < 0.01  ***p < 0.001.
structural models evaluated how the overall model supported the data from the participants when the models were analyzed using the high and low relationship quality groupings of support, intimacy, conflict, and antagonism discussed in the methods section. In the second set of structural models, 16 relationship quality models were tested. Eight family models were tested and included 4 high family relationship quality models and 4 low family relationship quality models. Eight peer models were tested and included 4 high peer relationship quality models and 4 low peer relationship quality models.

The overall model of attachment predicting psychological well-being was analyzed using Amos version 20 and using the default estimation technique of maximum likelihood (ML). To evaluate the fit of the overall model, the $\chi^2$, TLI, CFI, and the RMSEA were used. The $\chi^2$ value must be non-significant, the TLI and CFI require values greater than .95, and the RMSEA requires values below 0.07 and narrow confidence intervals to indicate a good fit to the data.

First, the overall model of attachment-psychological well-being was evaluated and reached an adequate to good level of fit, $\chi^2 (29, n = 262) = 85.15, p < 0.001$, TLI = 0.90, CFI = 0.94, RMSEA = 0.09 (90% CI .07-.11). After reviewing the modification indices, the UCLA-positive scale was cross correlating with the indicators of the self-and other-models. The UCLA positive scale indicator was removed to evaluate if the model fit would improve using a $\chi^2$ difference test. The $\chi^2$ value and degrees of freedom from the model with the UCLA indicators were subtracted from the $\chi^2$ value and degrees of freedom from the model without the UCLA indicator. If the difference $\chi^2$ value and degrees of freedom are significant, this indicates an improvement in the fit of the model (Colwell, 2011). After removing the UCLA-positive scale, the model reached an excellent level of fit, $\chi^2 (21, n = 262) = 30.95, p < 0.10$, TLI = 0.98, CFI = 0.99, RMSEA = 0.04 (90% CI .00-.07), and the $\chi^2$ difference value was significant, $\chi^2 (8) = 54.20, p < 0.05$. The attachment-psychological well-being structural model without the UCLA-positive scale was used for the second set of analyses exploring differences in the model using high and low relationship quality groupings.

---

4 The Bayesian Information Criterion (BIC) was used to find the most parsimonious model. The BIC value for the model including the UCLA positive scale was 228.99, a value lower than this would suggest that a model without the UCLA positive scale is the most parsimonious model. After removing the UCLA positive scale, the BIC value was 170.32. This analysis supports the significant findings of the $\chi^2$ difference value.
Testing family and peer attachment security and psychological well-being structural models using high and low relationship quality.

To test the individual family and peer models using relationship quality, the high and low relationship quality groupings were used. The four measures of relationship quality were standardized. Standardized scores that were positive and above the mean were coded as high relationship quality and standardized scores that were negative and below the mean were coded as low relationship quality. The 8 family (4 high and 4 low relationship quality models) and the 8 peer (4 high and 4 low relationship quality models) were individually tested and evaluated using the fit indices of the $\chi^2$, TLI, CFI, and the RMSEA.

**High and low support models.** The high family support model reached a good level of fit, $\chi^2 (21, n = 121) = 30.96, p < 0.10$, TLI = .95, CFI = .97, and the RMSEA = 0.06 (90% CI .00-.11). The model supports the significant positive association between the self- and other-models and psychological well-being. The low family support model also reached an excellent level of fit, $\chi^2 (21, n = 141) = 20.63, p > 0.10$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.07). The model supports the significant positive association between the self-model and psychological well-being, however the other-model has a non-significant association.

The high peer support model reached an excellent level of fit, $\chi^2 (21, n = 128) = 15.58, p > 0.10$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.05). The model supports the significant positive association between the self- and other-models and psychological well-being. The low peer support model reached an excellent level of fit, $\chi^2 (21, n = 134) = 24.22, p > 0.10$, TLI = .98, CFI = .99, and the RMSEA = 0.03 (90% CI .00-.08). The peer model supports the significant positive association between the self- and other-models and psychological well-being.

**High and low intimacy models.** The high family intimacy model reached a adequate level of fit, $\chi^2 (21, n = 112) = 34.05, p < 0.05$, TLI = .93, CFI = .96, and the RMSEA = 0.08 (90% CI .02-.12). The model supports the significant positive association between the self- and other-models and psychological well-being. The low family intimacy model reached a good to excellent level of fit, $\chi^2 (21, n = 150) = 31.37, p < 0.10$, TLI = .95, CFI = .97, and the RMSEA = 0.06 (90% CI .00-.10). The model supports the significant positive association between the self-model and psychological well-being, however the other-model has a non-significant association.
This pattern was consistent in both the high and low peer intimacy models. The high peer intimacy model reached an excellent level of fit, $\chi^2 (21, n = 130) = 20.91, p > 0.10$, TLI = 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.07). The model supports the significant positive association between the self- and other-models and psychological well-being. The low peer intimacy model also reached an excellent level of fit, $\chi^2 (21, n = 132) = 25.61, p > 0.10$, TLI = .98, CFI = .99, and the RMSEA = 0.04 (90% CI .00-.09). The model supports the significant positive association between the self-model and psychological well-being, however the other-model has a non-significant association.

**High and low conflict models.** The high family conflict model reached an adequate level of fit, $\chi^2 (21, n = 107) = 34.53, p < 0.05$, TLI = .92, CFI = .96, and the RMSEA = 0.08 (90% CI .02-.12). The model supports the significant positive association between the self-model and psychological well-being, however the other-model has a non-significant association. The low family conflict model reached a good to excellent level of fit, $\chi^2 (21, n = 155) = 31.00, p < 0.10$, TLI = .96, CFI = .98, and the RMSEA = 0.06 (90% CI .00-.10). The model supports the significant positive association between the self- and other-models and psychological well-being.

The high peer conflict model reached a good level of fit, $\chi^2 (21, n = 102) = 29.09, p > 0.10$, TLI = .94, CFI = .97, and the RMSEA = 0.06 (90% CI .00-.11). The model supports the significant positive association between the self- and other-models and psychological well-being. The low peer conflict model also reached an adequate level of fit, $\chi^2 (21, n = 160) = 40.40, p < 0.01$, TLI = .93, CFI = .96, and the RMSEA = 0.08 (90% CI .04-.11). The model supports the significant positive association between the self- and other-models and psychological well-being.

**High and low antagonism models.** The high family antagonism model reached an excellent level of fit, $\chi^2 (21, n = 111) = 26.76, p > 0.10$, TLI = .97, CFI = .98, and the RMSEA = 0.05 (90% CI .00-.10). The model supports the significant positive association between the self-model and psychological well-being, however the other-model has a non-significant association. The low family antagonism model reached a good level of fit, $\chi^2 (21, n = 151) = 35.01, p < 0.05$, TLI = .94, CFI = .97, and the RMSEA = 0.07 (90% CI .02-.10). The model supports the significant positive association between the self- and other-models and psychological well-being.

This pattern was consistent in both the high and low peer antagonism models. The high peer antagonism model reached an excellent level of fit, $\chi^2 (21, n = 118) = 17.76, p > 0.10$, TLI
= 1.00, CFI = 1.00, and the RMSEA = 0.00 (90% CI .00-.06). The self-model has a significant positive association to psychological well-being and the other-model has a non-significant association. The low peer antagonism model also reached an excellent level of fit, \( \chi^2 (21, n = 144) = 27.61, p > 0.10, TLI = .97, CFI = .98, \) and the RMSEA = 0.05 (90% CI .00-.09). The model supports the significant positive association between the self- and other-models and psychological well-being.

Table 20 contains a summary table of the parameter estimates and fit indices for the family and peer attachment-psychological well-being models by high and low relationship quality. In summary, the majority of the models obtained good to excellent levels of model fit. However, two patterns emerged. The first pattern that emerged was in the family support and conflict models, in which the self-model was the only significant predictor of psychological well-being when family support was low and family conflict was high. This pattern was not consistent for low and high peer support and conflict models. The second pattern that emerged was consistent for both family and peer intimacy and antagonism models, in which the self-model was the only significant predictor of psychological well-being when family and peer intimacy was low and when family and peer antagonism was high. These findings may suggest that when positive dimensions of relational quality are low and negative dimensions of relational quality are high, individuals only evaluate their own beliefs and expectations in a relationship.

**Evaluating Differences in Family and Peer Relationship Quality Structural Models**

Group invariance testing was conducted to investigate the differences observed in the high and low relationship quality structural models. Specifically, the invariance testing was done to explore the differences observed in the association between self- and other-models with psychological distress and psychological well-being. Differences were tested between high and low family support, intimacy, conflict, and antagonism structural models and differences were tested between high and low peer support, intimacy, conflict, and antagonism structural models.

Testing differences between structural models requires a series of steps that begins with establishing a baseline model followed by tests for differences across groups at each stage of
Table 20

Summary Table for Attachment-Psychological Well-being Models

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<th>Sm-Om</th>
<th>Sm-WB</th>
<th>Om-WB</th>
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<th>CFI</th>
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*Note. Sm = self model, Om = other model, and WB=well-being.  
*p < 0.05  **p < 0.01  ***p < 0.001.*
increasingly more stringent models (see Byrne, 2001). For example, the first level compares a baseline model (e.g., family high and low support) to a model where the measurement weights (i.e., factor loadings) are constrained to be equal across high and low relationship quality groups. To confirm invariance at each level, Yuan and Bentler (2004) recommend that groups can be compared using the difference in their overall chi-square values ($\Delta \chi^2$) and the difference in degrees of freedom ($\Delta df$). If the chi-square is statistically significant, it suggests that the constraints specified in the more restrictive model do not hold, that high and low relationship quality models are different, and the test of invariance is completed. If the chi-square is non-significant, this suggests that equality constraints are tenable, that high and low relationship quality models are the same, and invariance testing would continue with more stringent models.

**Invariance testing for family and peer attachment-psychological distress structural models using high and low relationship quality.**

For invariance testing of family and peer relationship quality models, five models were tested. The first model compared the baseline model (i.e., unconstrained) to a model where the factor loadings were constrained to be equal across high and low relationship quality groups. For family attachment-psychological distress models, high and low intimacy ($\Delta \chi^2 (6) = 5.46, p = .49$) and high and low antagonism ($\Delta \chi^2 (6) = 7.37, p = .29$) models were not significantly different. However, high and low family conflict models were significantly different ($\Delta \chi^2 (6) = 16.35, p = .01$) and using partial invariance, high and low family support ($\Delta \chi^2 (5) = 11.43, p = .04$) models were also significantly different. No further testing was required for high and low family support and conflict models. The findings suggest that the models are different at the level of the factor loadings and support the differences observed in the association between self- and other-models with psychological distress.

For peer attachment-psychological distress models, high and low conflict ($\Delta \chi^2 (6) = 5.52, p = .48$) models were not significantly different. However, high and low antagonism ($\Delta \chi^2 (6) = 14.71, p = .02$) and high and low intimacy ($\Delta \chi^2 (6) = 19.14, p = .004$) models were significantly different.

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5 Partial measurement invariance is when only a subset of parameters in a model are constrained to be invariant while another subset of parameters is allowed to freely estimate across groups. Partial measurement invariance may allow group comparisons even if full measurement invariance (i.e., measurement weights, structural weights) is not possible (see Byrne, Shavelson, & Muthen, 1989). Partial invariance can be assessed when 1) measures are invariant across some but not all groups; or 2) when some but not all of the parameters are invariant across groups (Vandenberg & Lance, 2000).
different. Further, using partial invariance, high and low support ($\Delta \chi^2 (5) = 11.85, p = .04$) models were also significantly different. No further testing was required for high and low peer support, intimacy, and antagonism models. The findings suggest that the models are different at the level of the factor loadings and support the differences observed in the association between self- and other- models with psychological distress. The remaining family and peer models were tested using increasingly stringent levels of model comparisons.

The second model compared Model 1 to a model where the structural weights or the regression paths from the self- and other-models predicting psychological distress were constrained to be equal. For family attachment-psychological distress models, high and low intimacy ($\Delta \chi^2 (2) = 0.86, p = .65$) and high and low antagonism ($\Delta \chi^2 (2) = 2.70, p = .26$) models were not significantly different. For the peer attachment-psychological distress models, high and low conflict ($\Delta \chi^2 (2) = 0.14, p = .93$) models were not significantly different.

The third model compared Model 2 to a model where the structural covariance's or the association between the self- and other-models were constrained to be equal across high and low relationship quality groups. For the family attachment-psychological distress models, high and low intimacy ($\Delta \chi^2 (3) = 1.44, p = .70$) and high and low antagonism ($\Delta \chi^2 (3) = 3.24, p = .36$) models were not significantly different. For the peer attachment-psychological distress models, high and low conflict ($\Delta \chi^2 (3) = 1.56, p = .67$) models were not significantly different.

The fourth model compared Model 3 to a model where the structural residuals or the measurement error for the psychological distress latent variable was constrained to be equal across high and low relationship quality groups. For the family attachment-psychological distress models, high and low intimacy ($\Delta \chi^2 (1) = 1.26, p = .26$) and high and low antagonism ($\Delta \chi^2 (1) = 0.34, p = .56$) models were not significantly different. For peer attachment-psychological distress models, high and low conflict ($\Delta \chi^2 (1) = 0.07, p = .79$) models were not significantly different.

Finally, the fifth model compared Model 4 to a model where the measurement residuals or the measurement error for the indicators of the latent variables were constrained to be equal across high and low relationship quality groups. For the family attachment-psychological distress models, high and low intimacy ($\Delta \chi^2 (12) = 13.62, p = .33$) and high and low antagonism ($\Delta \chi^2 (12) = 17.37, p = .14$) models were not significantly different. For the peer attachment-psychological distress models, high and low conflict ($\Delta \chi^2 (12) = 26.11, p = .01$) models were significantly different. These finding suggests that high and low peer conflict models are
significantly different in the amount of measurement error for the indicators of the self- and other- models of attachment security and psychological distress.

In summary, high and low family support and conflict attachment-psychological distress models were significantly different at the level of the factor loadings. High and low peer support, intimacy, and antagonism attachment-psychological distress models were also significantly different at the level of the factor loadings. These findings provide support for the differences observed in the associations between self- and other-models and psychological distress. Specifically, the self- and other-models are both significant predictors of psychological distress when peer support and intimacy was high and when family conflict was high. Although the association from the other-model to distress was not significant in the high family support model, the association was similar to the self-model with distress.

Invariance testing for family and peer attachment-psychological well-being structural models using high and low relationship quality.

Using the same procedure from the attachment-psychological distress invariance testing, five models were tested to explore differences in the attachment-psychological well-being structural models. The first model compared the unconstrained baseline model to a model where the factor loadings were constrained to be equal across high and low relationship quality groups. For the family attachment-psychological well-being models, no significant differences were found: high and low support models ($\Delta \chi^2(6) = 7.85, p = .25$), high and low intimacy models ($\Delta \chi^2(6) = 9.60, p = .14$), high and low conflict models ($\Delta \chi^2(6) = 4.76, p = .58$), and high and low antagonism models ($\Delta \chi^2(6) = 2.41, p = .88$). For the peer attachment-psychological well-being models, 3 models were not significantly different: high and low support models ($\Delta \chi^2(6) = 8.53, p = .20$), high and low conflict models ($\Delta \chi^2(6) = 4.07, p = .67$), and high and low antagonism models ($\Delta \chi^2(6) = 6.19, p = .40$). However, high and low peer intimacy models ($\Delta \chi^2(6) = 18.50, p = .01$) were significantly different and no further testing was required. This suggests that high and low peer intimacy models were significantly different at the level of the factor loadings and supports the differences observed in the association between self- and other models with psychological well-being. The remaining models were tested using increasingly stringent levels for both family and peer groups.

The second model compared Model 1 to a model where the structural weights or the regression paths from the self- and other-models to psychological well-being were constrained to
be equal. For the family attachment-psychological well-being models, no significant differences were found: high and low support models \( (\Delta \chi^2 (2) = 0.70, p = .71) \), high and low intimacy models \( (\Delta \chi^2 (2) = 1.44, p = .49) \), high and low conflict models \( (\Delta \chi^2 (2) = 2.73, p = .26) \), and high and low antagonism models \( (\Delta \chi^2 (2) = 1.07, p = .59) \). For the peer attachment-psychological well-being models, the remaining 3 models were not significantly different: high and low support models \( (\Delta \chi^2 (2) = 1.29, p = .53) \), high and low conflict models \( (\Delta \chi^2 (2) = 0.68, p = .71) \), and high and low antagonism models \( (\Delta \chi^2 (2) = 0.18, p = .91) \).

The third model compared Model 2 to a model where the structural covariance's or the association between the self- and other-models were constrained to be equal across high and low relationship quality groups. For the family attachment-psychological well-being models, no significant differences were found: high and low support models \( (\Delta \chi^2 (3) = 4.85, p = .18) \), high and low intimacy models \( (\Delta \chi^2 (3) = 1.16, p = .76) \), high and low conflict models \( (\Delta \chi^2 (3) = 4.72, p = .19) \), and high and low antagonism models \( (\Delta \chi^2 (3) = 1.77, p = .62) \). For the peer attachment-psychological well-being models, the remaining 3 models were not significantly different: high and low support models \( (\Delta \chi^2 (3) = 4.79, p = .19) \), high and low conflict models \( (\Delta \chi^2 (3) = 1.48, p = .69) \), and high and low antagonism models \( (\Delta \chi^2 (3) = 2.99, p = .39) \).

The fourth model compared Model 3 to a model where the structural residuals or the measurement error for the psychological well-being latent variable was constrained to be equal across high and low relationship quality groups. For family attachment-psychological well-being models, no significant differences were found: high and low support models \( (\Delta \chi^2 (1) = 0.09, p = .77) \), high and low intimacy models \( (\Delta \chi^2 (1) = 0.04, p = .85) \), high and low conflict models \( (\Delta \chi^2 (1) = 0.60, p = .44) \), and high and low antagonism models \( (\Delta \chi^2 (1) = 0.26, p = .61) \). Further, the peer attachment-psychological well-being models were not significantly different: high and low support models \( (\Delta \chi^2 (1) = 1.15, p = .28) \), high and low conflict models \( (\Delta \chi^2 (1) = 2.25, p = .13) \), and high and low antagonism models \( (\Delta \chi^2 (1) = 0.19, p = .66) \).

Finally, the fifth model compared Model 4 to a model where the measurement residuals or the measurement error for the indicators of the latent variables were constrained to be equal across high and low relationship quality groups. For family attachment-psychological well-being models, high and low intimacy models \( (\Delta \chi^2 (12) = 11.78, p = .46) \) were not significantly different. However, high and low support models \( (\Delta \chi^2 (12) = 31.46, p = .002) \), high and low conflict models \( (\Delta \chi^2 (12) = 30.49, p = .002) \), and high and low antagonism models \( (\Delta \chi^2 (12) = \ldots \)
22.69, \( p = .03 \) were significantly different. These findings suggest that high and low family support, conflict, and antagonism models are significantly different in the amount of measurement error for the indicators of the latent variables of self- and other attachment security and psychological well-being. For peer attachment-psychological well-being models, high and low support models \( (\Delta \chi^2 (12) = 15.06, \ p = .24) \), high and low conflict models \( (\Delta \chi^2 (13) = 18.75, \ p = .10) \), and high and low antagonism models \( (\Delta \chi^2 (13) = 14.92, \ p = .25) \) were not significantly different.

In summary, the high and low peer intimacy models were significantly different at the level of the factor loadings. These findings provide support for the differences observed in the associations between the self- and other-models of attachment security and psychological well-being. Specifically, the self- and other-models were both significant predictors of psychological well-being when peer intimacy was high. However, the self-model was the only significant predictor of psychological well-being when peer intimacy was low.

**Discussion**

The goal of Study 1 was to explore the size and composition of social networks and the mental health outcomes associated with social network relationship quality. Study 1 made three contributions to the literature on social networks, relationship quality, and mental health outcomes. The findings from the quantitative analyses indicated that family relationship quality was associated with the quality of peer relationships and that relationship quality predicts mental health outcomes. More generally, the findings lend support to the comprehensive measurement approach that included multiple dimensions of relational quality as well as positive and negative mental health outcomes.

The first contribution provides support for Cooper and Cooper's (1992) proposal that young adults form relationships with peers that are either continuous or compensate for relationships with parents. In support of the continuity model, young adults demonstrated a pattern of continuity regarding their family and peer relationship quality. In addition more than 66% of participants experienced continuity with their family, peer, mother, and father relationship quality within an 8 month period. This study also found evidence that young adults experience two types of patterns that may indicate a process of compensation.

Consistent with Cooper and Cooper's (1992) compensation model, some individuals experienced a pattern of low family and high peer relationship quality. However, some
individuals also experienced a pattern of high family and low peer relationship quality. This second pattern highlights a different effect that delineates from Cooper and Cooper's model, in which positive relationships with parents may compensate for low peer relationship quality. Research on compensation models tends to focus on the protective effects of peer relationships on low quality family relationships (e.g., Guaze, Bukowski, Aquan-Assee, & Sippola, 1996). However, research has found that ratings of parent relationships that are high are protective when ratings of romantic relationships are low (e.g., Jager, 2011). This second and novel pattern is an area of future research to understand how and why this pattern develops. Such research should also consider that positive relationships with parents may fail to protect when the child is an agent making their own choices, such as choosing friends with negative relational qualities.

The second contribution of Study 1 was the finding that relationship quality for family and peer network relationships was predictive of mental health outcomes. The findings from the correlation and regression analysis demonstrated not only a linear relationship between relationship quality and the measures of psychological distress and well-being, but also demonstrated specific patterns of particular qualities associated with specific relationships. Father support and intimacy was related to higher scores on the measures of psychological well-being and lower scores on the measures of psychological distress. Mother conflict and antagonism was related to lower scores on the measures of psychological well-being and high scores on the measures of psychological distress. The differences observed between the association and scores for mothers and fathers relationship quality is an indication of the relationship context and history.

Hinde (1979) proposed that relationships are influenced by past and present interactions that can be carried forward into future interactions. The relational quality of mothers and fathers may be different because of the individual's different history of interactions with each parent, in which mothers have typically taken on more of the parenting role while fathers are seen as playmates and predominately work outside of the home (McBride & Mills, 1993; Updegraff, Delgado, & Wheeler, 2009). The difference in the time spent with each parent, each parent's role in the home, their unique personality traits, and the perception of the quality of the interaction with each parent could influence the relational quality scores and the association with mental health outcomes. These findings demonstrate the importance of distinctive relational qualities within family relationships and may provide an explanation for previous studies that have found
contrasting or insignificant results for the effect of family relationships (e.g., Helsen et al., 2000; McLaughlin et al., 2002; Vilhjalmsson, 1995).

The findings from Study 1 are broadly consistent with previous research exploring the effects of peer relationships with mental health outcomes (e.g., Helsen et al., 2000; McLaughlin et al., 2002; Vilhjalmsson, 1995). Specifically, high and low scores on social support, intimacy, conflict, and antagonism were associated with both measures of psychological distress and psychological well-being. However, there is evidence that there may be different effects or outcomes that are dependent on whether the relationship is non-voluntary, such as relationships with mothers and fathers, or voluntary, such as relationships with peers. In Study 1, peer relationship quality had both positive and negative outcomes while father relationship quality had positive outcomes and mother relationship quality had negative outcomes. The nature of voluntary and non-voluntary relationships is important to consider because non-voluntary relationships carry the assumption that individuals have no choice but to maintain them (Hess, 2000). However, voluntary relationships carry the assumption of no biological ties or normative obligations because these relationships are consciously chosen (Nussbaum, 1994). Future research should consider how the assumptions underlying each relationship may influence the experience of the relationship, its quality, and any outcomes associated with them.

The third contribution was to provide support for a comprehensive approach to exploring relationship quality within social networks. The argument was that the concepts from the personal relationships literature, namely social support, intimacy, conflict, and antagonism and concepts regarding attachment security provide complementary indices of relationship quality. The findings from the comprehensive model suggested that the pattern of associations was contingent on the quality of the relationships and security experienced.

For peers, the self- and other-models were both significant predictors of psychological distress when relationship quality was high as indicated by high social support and intimacy and low conflict. For family, the self- and other-models were both significant predictors of psychological distress when relationship quality was high as indicated by low conflict and antagonism. However, for peers only the self-model was a significant predictor of psychological distress when relationship quality was low as indicated by low social support and intimacy and high conflict. For family, only the self-model was a significant predictor of psychological distress when relationship quality was low as indicated by high conflict and antagonism.
Invariance testing of the peer models supported the differences in the self- and other associations with distress for high and low social support and intimacy. Invariance testing of the family models also supported the differences in the self- and other associations with distress for high and low conflict.

Similar patterns were found for psychological well-being for family and peers. For family, both the self- and other-models were significant predictors of well-being when relationship quality was high as indicated by high social support and intimacy and low conflict and antagonism. This was also consistent for the peers when relationship quality was high as indicated by high intimacy and low antagonism. The self-model was the only significant predictor for family models when relationship quality was low as indicated by low social support and intimacy and high conflict and antagonism. The self model was the only significant predictor for peers models when relationship quality was low as indicated by low intimacy and high antagonism. Invariance testing of the family models did not support the differences in the self- and other associations with well-being for high and low relationship quality. However, invariance testing of the peer models supported the differences in the self- and other associations with well-being for high and low intimacy.

These findings suggest that when relationships are perceived as being high in quality, individuals are able to evaluate themselves and the other person in terms of how their relationship is working. However, only the self-model was a significant predictor of psychological distress and well-being when relationship quality was low as indicated by low social support and intimacy and high conflict. These findings suggest that when relationships are perceived as being low in quality, individuals only evaluate themselves in terms of how their relationship is working.

The findings from the comprehensive approach to measuring relationship quality provides indirect support for Tomm’s (1991) proposal about pathologizing interpersonal patterns (PIPs). An example of a PIP within a relationship is when one individual criticizes and the other reacts with defensiveness. This can become a reciprocal reactive cycle where increased criticism triggers increased defensiveness. According to Tomm (1991), a pathologizing relationship can promote a negative perception of the relationship in both individuals that develops as a function of the interactional pattern of the relationship. Although, this study did not
test pathologizing patterns, it did find patterns of findings consistent with PIPs using high and low relationship quality structural models.

Consistent with Tomm's proposal, pathologizing interpersonal patterns were observed in Study 1. When family conflict and antagonism was high, a PIP, only the self-model was a significant predictor of psychological distress. This PIP was also consistent for peer models. When peer social support and intimacy was low and conflict was high, only the self-model was a significant predictor of psychological distress. This PIP pattern also occurred for peer models, in which the self-model was the only significant predictor of psychological well-being when intimacy was low and antagonism was high. The experience of low social support, low intimacy, and high conflict and antagonism may have contributed to the development of a low relational quality pattern. Participants who experienced this pathologizing history may have viewed themselves as being the reason why individuals are not available to them and why the quality of their relationships was not ideal (e.g., Bartholomew, 1990; Roberts, Gotlib, & Kassel, 1996). This pathologizing pattern may have problematic outcomes because it may place the individual at risk for increased psychological distress.

Tomm (1991) also proposed healing interpersonal patterns (HIP) which were also observed in Study 1. HIPs are characterized as complementary actions that have positive effects that might include greater respect, self-confidence, and appreciation of significant others. Tomm (1991) proposed that HIPs may develop when earlier positive experiences in the parent-child relationship foster and support the individual’s competencies. Consistent with Tomm, when family conflict and antagonism was low, both the self- and other-models were significant predictors of psychological distress. When peer social support and intimacy was high and conflict was low, both the self- and other models were significant predictors of psychological distress. This HIP pattern also occurred for high peer intimacy models and the association between self- and other-models with psychological well-being. The experience of low conflict, high social support, and high intimacy may have contributed to a healing relational pattern where young adults viewed themselves as being worthy of their relationships (e.g., Fricker & Moore, 2002; Moore & Leung, 2002) and these relationships provide comfort and support (e.g., Feeney, 1996; Ognibene & Collens, 1998). The argument is that relationship histories of the healing pattern have positive outcomes because they may provide benefits through increased psychological well-being and decreased psychological distress.
Future research using comprehensive approaches to relationship quality may benefit from the use of a domain approach. Domain theories argue that relationships are complex and have different functions, involving unique rules and mechanisms for influencing behaviour and outcomes for the developing individual (Grusec & Davidov, 2010). Bugental (2000) and Bugental and Goodnow (1998) proposed that there are four domains that govern social relationships throughout the life span. These domains are the attachment domain, the social identity domain, the hierarchical domain, and the reciprocity domain. Grusec and Davidov (2010) applied domain theory to socialization; however their discussion can also be used to understand the complexity of the outcomes underlying social network membership.

Grusec and Davidov (2010) proposed that the attachment, or the protection domain, is activated only when an individual experiences a real or potential threat and seeks help and support from significant others. This domain is the first to develop and can influence lifelong developmental outcomes based on how the parent responds to the child’s early protection needs. A parent expressing sensitivity to a child’s needs could increase their sense of security, whereas a parent expressing an insensitive response could create a lack of confidence in the availability of support and minimize or heighten distress (Grusec & Davidov, 2010). The social identity domain, also referred to as group participation (Grusec & Davidov, 2010), focuses on the development of group identity. Individuals become members of a group to observe group practices and engage in relationships with individuals who are similar and different in socially important ways. Identity based socialization begins in families and later in peer groups that can also function as identity based socialization relationships (Grusec & Davidov, 2010). The hierarchical or control domain, involves the management of competing interests between individuals who may be unequal in resources and power, such as parent to child or employer to employee.

Lastly, the reciprocity domain involves the development of the self through reciprocal exchanges in close relationships (Grusec & Davidov, 2010). This domain includes pleasurable aspects of the relationship such as parent-child intimacy and perceptions of mutuality during social interactions (Oliphant & Kuczynski, 2010). In the reciprocal domain, individuals interact as equal status partners and accommodate to one another’s needs through responsiveness and cooperation towards fulfilling common goals. Domain theorists (e.g., Bugental, 2000; Bugental & Goodnow, 1998; Grusec & Davidov, 2010; Lollis & Kuczynski, 1997) make a strong assertion
that domains are interconnected during the socialization process; however each domain has a specific function. For instance, the function of the attachment domain is solely protection, the function of the social identity domain is group relationships and identity, the function of the hierarchical domain is managing power relationships, and the function of the reciprocity domain is self-development within a relational context.

This study suggests that there are benefits to using a domain approach to the comprehensive study of relational quality and social networks. However, there are also disadvantages to a domain approach. For example, Dunn (2010) argued that there could exist too many domains to classify and there would be challenges to empirically researching every domain. Further, researchers wanting to take a comprehensive approach to relational quality must consider the theoretical and conceptual challenges of including a variety of measures. The current study used five indicators of relational quality and there are many to choose from. Having a conceptual map, such as a domain approach, or theoretical and research supported arguments for choices in conceptual and operational measures would help to outline a comprehensive approach to understanding this phenomenon.

**Limitations and Future Directions**

There are several limitations to this study. The choice to focus on university students was a strategic decision to use a unique context with well known stressors to study social networks and mental health outcomes. However, these findings may not apply to young adults from community samples who did not attend university and who have experienced different transitions, such as the transition into the workforce. Further, the majority of the participants in the current study were female at both Time 1 (92%, \( n = 240 \)) and Time 2 (94%, \( n = 99 \)) and these results may reflect a gendered experience of social networks. For instance, several researchers including Antonucci, Akiyama, and Lansford (1998) and Whiffen (2006) have noted that women have stronger investments in their close relationships. When these relationships become negative in their interactions, women are more likely to experience stress, feel unsupported, and be at risk for depression (Antonucci et al., 1998; Whiffen, 2006). To fully understand the phenomena of social networks, future research would benefit from investigating the mental health outcomes of social networks for young adult males. Replication of these findings in a sample of men would help to explain if the differences observed in the current study are universal or a gendered specific experience.
Although new methods were created to construct and explore social networks based on relationship quality, the measures of support, intimacy, conflict, and antagonism are not the only indicators of relationship quality. Future research may benefit from the use of existing measures, such as using all the scales from the *Network of Relationships Inventory* (NRI; Furman & Buhrmester, 1985) or using more diverse measures of relationship quality such as happiness, satisfaction, and criticism to continue exploring relational patterns within social networks. Future research should consider addressing domains of relationships within social networks and developing reliable methods for studying the phenomena, its multi-dimensionality, and how the domains interact and influence each other. Study 1 highlighted the importance of relationship quality and that peer relationship quality is associated with family relationship quality. Although the current study has provided new contributions to the role of attachment, relationship quality, and social networks, it does not shed light on the processes that underlie changes within social networks and is the focus of Study 2.

CHAPTER 3

Study 2: A qualitative exploration of the underlying processes involved with changes to social network membership.

**Introduction**

Change can be conceptualized at both a macro and a micro level of analysis (Kelle, 2005; Woolley, 2009). Study 1 used a macro level of analysis and studied changes within the structure and composition of social networks as well as the positive and negative mental health outcomes associated with network membership. The mental health outcomes associated with the inclusion of peer relationships within networks were discussed using research on personal relationships and attachment theory. Differences were found in the experience of psychological distress and psychological well-being for individuals who experienced low family and low peer relationship quality and for individuals who experienced high family and high peer relationship quality. However, the processes underlying the membership of social networks were not the focus of Study 1.

Study 2 is based on the premise that an understanding of the outcomes associated with change at the level of the social network requires a complementary perspective on the processes of change at the level of dyadic peer relationships. A macro level of analysis for exploring social networks is useful for testing key hypotheses generated by theory and/or existing research about
associations between variables abstracted from self-report questionnaires. However, a micro level of analysis considers the cognitive processes and activities of individuals considered as agents acting in specific relationship contexts (Kuczynski & De Mol, 2015). Linking the two levels of analysis has several advantages. First, understanding dyadic processes could shed light on processes underlying macro level changes in social networks. Social networks are comprised of dyadic relationships and an important source of change in networks occurs within dyadic relationships that constitute the network. Second, linking the two levels of analysis would introduce a large body of theory and empirical research on processes of relationship change and maintenance in dyadic relationships that have yet to be explored in the social network literature. This literature would provide direction for new insights about the emergent nature of change in social network relationships as well as the underlying processes.

Only one study has addressed the processes underlying changes to social network membership during young adulthood (18-28 years). Bidart and Lavenu (2005) studied changes in social networks in a sample of 66 French-European young adults. The participants were interviewed every three years over the course of nine years about changes in their relationships in the context of several life transitions, specifically the transition from university into adulthood and parenthood. Bidart and Lavenu (2005) found that as young adults changed jobs or their geographical location, and started or completed post secondary education, they were more likely to lose relationships, that is no longer list certain relationships as part of their network. An explanation is that relocation for employment or relocating after university may make it difficult to maintain previous relationships. However, when individuals return or enter into post secondary institutions, their networks may increase as they are exposed to a variety of social settings that make it easier to establish social relationships (Hurtado et al., 1996). Bidart and Lavenu also found that maintaining a romantic relationship was associated with decreases in network size. Couples who spent more time together may spend less time with their peers. This result is consistent with findings from Fischer, Sollie, Sorell, and Green's (1989) study on marital status and career influences on the social networks of young adults. They found that the social networks of engaged or married young adults contained fewer friends and more family members when compared to single young adults. However, Bidart and Lavenu also found that the dissolution of a romantic relationship led to re-establishing new and old relationships and increases in social network size.
Bidart and Lavenu’s (2005) research identified macro level external factors that contributed to changes in social network membership. However, their study did not provide information about the internal decision making process that individuals undertook when making changes to their network. The focus on the macro level of change ignores the agency of the individual in constructing, maintaining, or changing relationships in their social network. By not addressing the micro level decision making process, the various motivations underlying changes to network membership remain unclear. Study 1 suggested that processes underlying various qualities of relationships may be important to consider. However, how qualities become translated into cognitions, actions, and decisions at the level of individual agency is unknown. Therefore, the goal of Study 2 was to investigate the micro level processes that guide the internal decision making process about who will or will not be a member of one’s social network. Micro level analysis focuses on the process of change that occurs at the dyadic level of relationships in a social network. These micro level changes could include evaluating the history of interactions in the relationship that influence the present state of each network relationship (Hinde, 1979).

Understanding the process of change at the individual or dyadic level is important because young adults may respond in different ways to positive and negative relationships during stressful life transitions. In particular, an individual may wish to change network relationships depending on their ability to support and fulfill their emotional needs (Kahn & Antonucci, 1980; Levitt et al., 1993a; Trinke & Bartholomew, 1997). For instance, individuals may sustain positive relationships that provide social support and intimacy because they create less stress and provide more support. However, individuals may change or terminate negative relationships that contain conflict and antagonism because these relationships may create more stress and less support.

Study 2 examined the process of change for non-romantic peer network relationships. The literature on friendship dissolution was used to inform and understand micro level changes in peer relationships. Dissolution processes were chosen because choosing to abandon or diminish participation in existing relationships is one way to conceptualize change because individuals may engage in a decision making process that can alter the present and future state of the relationship. Research on friendships during adulthood has addressed the developmental significance of having friends (e.g., Hartup & Stevens, 1997). However, the literature has not addressed what happens when friendships are no longer ideal or wanted. Vangelisti (2006) noted
that the literature on relationship dissolution does not equally address different types of relationships, thus exploring the dissolution processes of peer relationships within social networks would provide substantial contributions to the literature.

**Exploring Micro Level Change: Friendship Dissolution**

Three studies have explored the process of friendship termination during young adulthood. Rose (1984) used retrospective accounts of 85 university women to understand terminated or deteriorated same-sex close friendships. Participants were asked to identify one close friend and write an essay describing the decline of the friendship, what they liked and disliked about the friend, and why the relationship ended or declined. Rose identified four factors that might underlie the process of termination. These included external factors such as physical separations or moving to a new house or city; the formation of new friendships to replace old ones; disliking the friend’s romantic partner or not liking something about the friend, and the development of a dating or marriage relationship. Rose also found that participants viewed friendship termination as a process that involved more than one factor. For example, although the initial cause may have been a physical separation, another external factor, such as the former friend dating someone new, may have accelerated the termination process. Rose (1984) proposed that external factors, such as physical separations, were more likely to precipitate the termination as opposed to internal factors, such as disliking the friend.

Rose and Serafica (1986) also studied external factors that university students \( n = 90 \) experienced when terminating different types of friendships. Rose and Serafica identified five factors involved in the ending of best, close, and casual friendships. These dissolution factors were: experiencing a lack of physical contact, less affection, less interaction, and interference from a dating or marriage relationship. Rose and Serafica described the nature of the dissolution process as "gradually fading away" rather than an abrupt termination. Differences were found for different types of friendships. Casual friendships were more likely to end because of less physical contact. Close and best friendships were more likely to end because of less interaction, interference from other relationships, or a gradual process where individuals decreased the importance of their friendship to prepare them for termination.

Jalma (2008) investigated the experience of non-romantic friendship dissolution for 15 women between the ages of 26-72 years of age who were recruited from graduate programs and a professional women’s group. Using semi-structured interviews, Jalma reported that 5 out of the
15 participants identified early warning signs, or “red flags”, that suggested that something ambiguous or negative was occurring in the friendship. Six categories of dissolution were found including inappropriate social interactions, relationship aggression—victimization, witness or victim of relationship violence, differences in religious beliefs, attempts at an extra-marital relationship with participants’ romantic partner, and experiencing disrespect from the friend. Jalma examined the methods of communication used by the 15 participants to end the friendship and found that the majority of participants did not return calls/emails from the former friend, had face to face conversations, had phone conversations, or used email.

In summary, the three studies investigating micro level processes found external and internal factors that underlie friendship dissolution. However, there are two limitations to these studies. First, there is no comprehensive theory about the process of change or how individuals use various factors to engage in a decision making process that may lead to relationship termination. Second, these studies relied on retrospective accounts of a friendship after it had ended and not while the relationship was in the process of changing. The purpose of the current study was to understand the decision making process used by young adults for non-romantic peer relationships that were in the process of changing. Hinde's theory of relationships and social relational theory were used as sensitizing ideas to understand how people decide to terminate a non-romantic peer relationship.

**Guiding Conceptual Frameworks for Understanding Relationship Dissolution**

The conceptual frameworks of Hinde’s (1979) theory of relationships and social relational theory (Kuczynski & De Mol, 2015; Kuczynski, Parkin, & Pitman, in press; Kuczynski, Pitman, & Mitchell, 2009) were used to conceptualize the relationship dissolution process. Using Hinde’s (1979) conception of relationships as emergent, dynamic, and influenced by past and present interactions, relationship dissolution was conceptualized as a dynamic process emerging from the past history of a relationship and the current interactions. Hinde also proposed that relationships do not occur in isolation, but are developed within a social context. For example, each dyadic relationship is influenced by other social network relationships. These ideas were used to study the phenomenon of change in network membership and the active and emergent decision making process that young adults may use when deciding to end a peer relationship.
The conceptual framework of social relational theory is also relevant for the current study because it links Hinde’s conception of relationships to the analysis of the agency of individuals who form and maintain relationships (Kuczynski & De Mol, 2015; Lollis & Kuczynski, 1997). Although social relational theory was originally developed to understand parent-child relationships, its focus on agency and relationship dynamics can be extended to peer relationships. In social relational theory, agency refers to the individual as an actor who is able to make sense of their environment as well as make changes and choices within that specific context (Kuczynski, 2003; Lollis, 2003). However, the agency of individuals is constrained by the relationship context in which it is embedded. Factors such as past experiences in the relationship, creating relational representations from past interactions, and future goals are derived from the relationship context (Kuczynski & De Mol, 2015) and affect how individuals will act in the relationship as agents. Applied to the process of relationship dissolution, a goal of the current study was to explore if and how individuals used the past history and present experiences of their relationship in their decision making process when terminating a relationship.

A second principle from social relational theory that guided Study 2 is its transactional and dialectical conception of change. Transactional models of development (Sameroff, 2009) propose that individuals are engaged in continuous qualitative change. As each relational partner responds to the new and emergent characteristics of the other partner, each individual as well as the relationship, is altered (Sameroff, 2009). Transactions are dialectical and dialectics emphasizes the contradictions that exist within and between individuals that are the antecedents for continuous change (Baxter & Bullis, 1986; Kuczynski et al., 2009). Each transaction contains contradictions or opposing forces that create the conditions for change as contradictions are temporarily resolved in a new synthesis.

Contradictions in social relational theory may take the form of conflicting needs, perspectives, and goals, as well as the experience of ambivalence and unexpected actions or responses that occur within a relational context (Kuczynski et al., 2009). Contradictions are useful for conceptualizing the antecedents of relationship dissolution because contradictions are assumed to challenge the current state of a relationship and the tensions that emerge from contradictions may lead to processes that lead to change (Kuczynski & Parkin, 2009). Contradictions create uncertainty, that engages a process of problem solving consisting of
processes that include meaning making, evaluation, and finding solutions (Kuczynski & De Mol, 2015; Kuczynski et al., 2009). The outcome constitutes a synthesis or a qualitative change in which novelty may be created as individuals attempt to resolve the contradiction, at least temporarily. For example, the synthesis creates new meaning that may constitute a turning point in the relationship and places the relationship on a new trajectory. To understand individual agency within relationships, the literature on relational maintenance was used as a sensitizing idea to understand what individuals do to keep their relationships going and what relationships look like when they are no longer being maintained.

**Agency in Relationships: The Relational Maintenance Literature**

The literature on relationship maintenance provides a starting point for exploring how individuals act as active and interpretive agents in the process of maintaining ongoing relationships (Dindia, 2003). Duck (1988) proposed that individuals spend more time maintaining relationships than initiating or terminating them. Although research has begun to study relationship maintenance strategies (see Dainton, Zelley, & Langan, 2003; Vogl-Bauer, 2003), and to a lesser extent relationship initiation strategies, it has yet to address relationship management strategies at the dissolution phase of relationships. For this study, conceptions of relational maintenance were used to understand when a relationship is no longer being maintained and may provide a basis to understand the phenomenon of relationship dissolution.

Dindia (2003) reviewed three different conceptions of relational maintenance: keeping the relationship active, preserving distinctive features of relationships, and maintaining satisfaction in the relationship. The first conception of maintenance involves keeping the relationship on-going rather than terminating it (Dindia, 2003). For example, a couple may use various strategies to keep the marriage active rather than divorcing. The second conception involves preserving the distinctive features that are uniquely characteristic of each relationship. For example, partners may act to maintain certain levels of trust, intimacy, humour, excitement, or commitment within their relationship. This conception concerns the preservation of characteristics that are important to a particular relationship.

A third conception of maintaining a relationship is to keep a relationship in a satisfactory condition (Dindia, 2003) using various strategies or actions to sustain the level of satisfaction. An important distinction between sustaining satisfaction and maintaining relationships is that individuals can act to maintain unsatisfying relationships. For example, a friendship
characterized by conflict could be unsatisfying while also being maintained because individuals may not know how to change the level of conflict experienced, but want the relationship to continue. These conceptions are useful in the study of relationship dissolution because they highlight that young adults may construct different meanings when a relationship is no longer being maintained and in the process of termination. For example, an individual may define a waning relationship as inactive, missing distinctive relational features or as unsatisfying. Relational maintenance strategies are also distinctive to the type of relationship and the actions used to maintain one type of relationship may not be the same actions used to maintain another (see Stafford, 2003; Vogl-Bauer, 2003).

Four maintenance strategies have been consistently identified in the literature on friendships and include spending time together, openness, social support, and avoidance. *Spending time together* is a strategy that focuses on the importance of shared activities and ongoing interactions between friends to sustain the relationship (e.g., Fehr, 2000) and the absence of interaction has been identified as a factor in friendship termination (e.g., Rawlins, 1994; Rose, 1985). *Openness* as a strategy that focuses on self-disclosure and discussions about life events as being a central component of sustaining friendships (e.g., Hays, 1984). Strategies involving the use of *social support* such as providing comfort, advice, and ego support have been identified as primary functions of friendships and successful strategies used to maintain them (e.g., Nardi & Sherrod, 1994). Lastly, *avoiding* certain topics or people could help to sustain the friendship. Other maintenance strategies have also been identified and include affection (e.g., Rose, 1985), conflict management (e.g., Burlseon & Samter, 1994), humour, sharing tasks, social networks, assurances, positivity, and cards/letters/phone calls (e.g., Canary, Stafford, Hause, & Wallace, 1993).

In summary, the concept of relationship maintenance highlights two ideas for the study of stability and change in social networks. First, individuals are active agents in the maintenance of their relationships that are in a constant state of change in relational quality and levels of satisfaction. Second, individuals’ are constantly making assessments of the state of the relationship and use strategies to maintain their personal relationships. Research on relationship maintenance has identified a variety of strategies that individuals use to keep a relationship going. For instance, the strategies and actions used by individuals to maintain their relationships can create change by increasing or decreasing relational qualities such as the amount of intimacy.
or social support experienced. Change can also occur through actions that can either enhance or impair relationships and will vary across relationship types.

Very little is known about how relational strategies are used in non-romantic peer relationships that are being dissolved or terminated. It is important to understand both maintenance and dissolution processes because relationships can continue or end for normative or non-normative reasons (Hartup & Stevens, 1997). Also, dissolution processes could have a positive or negative effect on the physical and mental health of the individual and it is important to learn about dissolution processes to maximize positive outcomes and minimize negative outcomes. Therefore, a comprehensive understanding of adult friendships would include maintenance and dissolution processes. This gap in the literature presents opportunities for new areas of theorizing and understanding the relational processes that underlie termination strategies and how they differ based on relational contexts. Relationships are active and dynamic, therefore individuals do not just suddenly stop being in a relationship, but may undergo a process to prepare themselves and the relationship to be dissolved. This preparation process may include strategies and actions used to decrease and restrict the relationship to prepare it for the process of termination. Research on undesired relationships provides sensitizing ideas to help conceptualize how young adults perceive their peer relationship and how they prepare themselves and the relationship for termination.

**Undesired Relationships: Understanding the Process of Moving Towards Relationship Termination**

Theories on close relationships focus on desired, voluntary relationships and how they are maintained, however very little research has focused on undesired relationships that are maintained not by choice but out of necessity. The literature on undesired relationships contains a number of ideas that may provide a foundation for understanding the process of terminating relationships.

Hess (2003) proposed four assumptions about undesired relationships. First, undesired relationships can be involuntary (Hess, 2003). Second, undesired close relationships can be characterized by negative affect or an active dislike of the partner. Researchers initially proposed that positive affect and liking were necessary conditions for a close relationship (e.g., Rubin, 1973). However, positive affect is no longer considered a prerequisite because it does not represent the variations that can be experienced in relationships, such as mixed or negative
affect. Third, undesired relationships may involve fluctuating levels of intimacy. Theories of personal relationships proposed that the development and dissolution of relationships are characterized by increases or decreases in intimacy levels (e.g., Altman & Taylor, 1973). However, Ayres (1983) suggested that intimacy develops and is maintained at a desired level and that reductions in intimacy levels suggest relationship deterioration. Lastly, undesired relationships can be unhealthy, have negative or detrimental effects, and require that individuals use coping strategies to minimize the negative impact that these relationships have on their health and well-being (Hess, 2003).

There are two ways that relationships can become undesired. The first is goal interference which occurs when a relationship prevents the attainment of a goal or becomes an obstacle to a goal (Hess, 2003). For example, an individual being publicly embarrassed by another person’s behaviour may experience a block to their attempts to make a good impression and violated their impression management goals (Hess, 2003). The second is the experience of negative affect in which a relationship that was once satisfactory or beneficial may become undesired because of the experience of negative affect (Hess, 2003). Reasons for disliking an individual include incompatible personalities, antisocial behaviour, or the experience of negative interactions such as feeling judged, pushed around, or harassed by the other (Hess, 2003). Once an individual develops an enduring dislike for another person, interactions with them can become undesired and negative.

Undesired relationships can be sustained because of the perception that barriers, external and internal, exist preventing the relationship from terminating. These might explain why individuals choose to cope with an undesired relationship when they perceive that they cannot leave or are not ready to leave. External barriers to terminating the relationship include sources of connection that are involuntary, but persist because of social conventions and norms that prevent the relationship from ending (Hess, 2003). External barriers include social ties such as friendships, family relationships, and marriages. These types of relationships are external barriers because each relationship has norms about what it means to be a "good" or "bad" friend, family member, and spouse. Violating these norms by ending the relationship would have a stigma associated with them that may prevent dissolution. Barriers also include work ties, such as co-workers with whom an individual must associate with as part of their job (Hess, 2003), and proximity ties, where frequent physical contact is inevitable because of one’s place of residence.
or living arrangements. Each of these external barriers may prevent the individual from terminating an undesired relationship.

Internal barriers to terminating relationships include self-identity goals or beliefs, such as a sense of commitment to a relationship (Attridge, 1994). Other internal reasons include a desire to maintain safety and security, fear of making changes, or a lack of faith in the ability to leave the relationship (Hess, 2003). For example, individuals may stay in an abusive friendship because leaving it would place the individual at risk for experiencing higher levels of abuse and threaten their safety and security.

Several strategies that help individuals to cope with undesired relationships have been identified. The goal of these strategies is to create distance between the individual and the undesired partner while sacrificing minimal levels of closeness that are required to sustain the relationship. Hess (2000) found that creating distance is frequently used within undesired relationships. Individuals have reported using different forms of distancing such as avoidant strategies like avoiding, shortening interactions, and ignoring the undesired partner (Hess, 2000). Individuals have also reported using nonverbal cues that discourage interaction such as less smiling, less eye contact and touching, restricting the amount of information they share, or focusing their attention away from the disliked partner (Hess, 2002).

Hess’s discussion of undesired relationships was used to guide the conception of the process of network change in Study 2. It was expected that participants would cognitively alter the status of their relationship from desired to undesired. This cognitive shift could also be accompanied by different strategies and actions that alter the levels of relational characteristics and qualities, satisfaction, and minimize the experience of negative affect. Two dialectical ideas that may promote changes in relationships through a cognitive shift are expectancy violations and turning points.

**Process of Dialectical Change: Expectancy Violations and Turning Points**

Expectancy violations and turning points are dialectical concepts that have been proposed as processes for understanding change in relationships. Expectancy violations are considered a source of contradiction because individuals may receive information that violates how they understand their relationship partner (Kuczynski & Parkin, 2009). Turning points are considered contradictions because critical events highlight new or opposing information that may not be
consistent with existing ideas about the relationship (Baxter & Montgomery, 1996).

**Expectancy violations.**

Levitt and Cici-Gokaltun (2011) suggested that repeated interactions with a relationship partner create expectations about the partner's behaviour. Expectations have consequences for the emotional experiences of the individual and may foster or hinder the development of close relationships. In non-romantic peer relationships, Hall (2011) defines friendship expectations as cognitive conceptualizations about attributes and behaviours that individuals would like their friends to have and perform. Relational expectancies with on-going relationship partners are influenced by past interactions in close relationships (Hinde, 1967) as well as by the values, attitudes, and behaviours of the members of one's social network within which the relationship is embedded (Levitt & Cici-Gokaltun, 2011).

Several researchers have studied friendship expectations and various methods have been developed (see Hall, 2011 for a review). Recently, Hall (2012) validated a 6 factor model of the ideal standards or expectations of friendships. The model was derived from 30 existing subscales of friendship expectations. The 6 factors are symmetrical reciprocity, agency, enjoyment, instrumental aid, similarity, and communion. Symmetrical reciprocity was described as the presence of loyalty, mutual regard, trustworthiness, and support. Agency was defined as expectations about what friends can do for others, have access to, and are able to offer others (Hall, 2011). Enjoyment was characterized by variables that measured having fun with the friend and the friend having a sense of humor as well as a good personality. Instrumental aid was characterized as the friend providing assistance, help, or granting favours while similarity was described as the friend having similar attitudes, opinions, and interests as the individual (Hall, 2012). Lastly, communion was described as the emotional availability of the friend and the amount of self-disclosure given and received within the friendship (Hall, 2011). Acting congruent with or violating expectations are also related to positive and negative changes in relationships and it is important to understand how expectations affect the stability or termination of relationships.

Levitt and Cici-Gokaltun (2011) proposed a social expectations model of relationship development, continuity, and change. The model proposed that expectations about relationship partners are directly influenced by the past history of interactions with the partner, the social and cognitive development of the individual, and the social norms that are related to the individuals
life stage. Levitt and Cici-Gokaltun proposed that when expectations are tested, relational change or stability can occur. When expectations are tested and exceeded, this can result in a relationship change that is positive whereas expectations that are tested and are confirmed, can result in relationship stability. Untested expectations can also lead to stability because the individual has not collected any new or contradictory information about the relationship through the transaction. When expectations are tested, the information the individual gathers is used to inform and update their expectations about their relational partner. When expectations are tested and violated, this can result in a relationship change that is negative.

One study has explored the association between friendship expectations and violations during young adulthood. Argyle and Henderson (1984) investigated whether breaking friendship rules would be the reason for the dissolution of friendships for 156 young adults. Argyle and Henderson provided participants with a questionnaire of 26 rules for maintaining a friendship. Participants were asked to endorse how much they believed each item contributed to the breakdown of their relationship with a same-sex friend. One third of participants attributed the following rules as most important to the breakdown of a friendship: jealously or criticism, lack of tolerance for third party relationships, nagging or criticizing the other person publicly, not trusting or confiding in one another, and not showing positive regard or providing emotional support.

In Study 2, the idea of expectancy violations was a sensitizing concept used to inform the processes that may underlie changes in social network membership. Kuczynski and De Mol (2015) identified expectancy violations as a form of contradiction because the information received violates established ways of understanding the relationship. This was further supported by Argyle and Henderson's (1984) research that demonstrated that breaking friendship rules was associated with relationship dissolution. Relational contradictions, such as expectancy violations and turning points, provide a framework of change processes that underlie relationship dissolution in non-romantic peer relationships.

**Turning points.**

Turning points have also been implicated in change processes (Baxter & Bullis, 1986). Two forms of change have been considered in the literature: sudden and gradual. Sudden change is considered catastrophic, occurs immediately, and the events associated with them are easy to recall (Kuczynski & Parkin, 2009). The problem with the concept of sudden change is that it
conceives change as a static event and not a process whereby individuals act as agents to assess and problem solve about changes in the relationship. In contrast, gradual change is incremental and accumulates over a period of time within a relationship. Thus, a turning point may be a consequence of a lengthy process whereby the accumulation of small changes in a relationship may lead to a gradual awareness as well as consequent actions to maintain or repair the relationship.

There are two processes to turning points, the critical event and the thought process. The first is the critical event, which has been conceptualized as any event or occurrence that is associated with change in a relationship (Baxter & Bullis, 1986) and can be positive or negative. Examples of critical events that lead to turning points include a close friend betraying one’s trust, an individual proposing to a romantic partner, or experiencing a negative and unsupportive interaction with a friend. Although critical events focus on a specific moment in the relationship history, it is possible that gradual changes were occurring throughout the duration of the relationship before the critical event happened. For the relationship dissolution process, gradual changes may be interpreted as warning signs that suggest that something negative is occurring in the relationship and the critical event is the point at which all these experiences are evaluated. The critical event itself is not what is important, but how individuals engage with the information from the event to create meaning about the state of the relationship.

The second process of turning points is the thought process of the individual. Cognitively, individuals must decide if they will interact or ignore the information from critical events that contradict their perception of their relationship (Valsiner & Abbey, 2006). This is a critical indication of whether change will occur and individuals must act on or confront the information gathered from the event to engage in the process of change (Valsiner & Abbey, 2006). Not engaging or not taking action with the information from the event might serve to maintain the relationship in its present condition and discourage change from occurring. For example, avoiding conflict with a friend maintains the relationship in its current state while engaging with conflict could create change.

However, if individuals interact with the information gathered from the event, there is the opportunity for positive or negative change. Change is dependent on the individual and their readiness to embrace change, their ability and motivation to interact with the information from the event, and the relationship history (Gilligan, 2009). Kuczynski et al. (2009) suggested that the
thinking process during turning points can promote qualitative change. Qualitative change, or the emergence of novelty, creates new meaning, thinking, and behaving either for one or both individuals in the relationship (Kuczynski et al., 2009). This may entail both positive and negative change affecting not only the relationship, but potentially how each individual views their relationship and what the relationship means to them.

One study has used turning points to understand the experiences associated with relationship change and termination in non-romantic peer relationships. Johnson et al. (2004) examined positive and negative relationship trajectories following a turning point in the friendships of 162 undergraduate students. Positive turning points were associated with an increase in friendship closeness and included participating in an activity to spend time together, sharing common interests, and solving a conflict together. Negative turning points were associated with a decrease in friendship closeness and a reason for the friendship to end. Negative turning points included spending less time together, decreases in physical contact, and lack of common interests. Johnson et al. mapped five trajectories of friendship development and termination using turning points. They found that 50% of participants reported a linear progression, where the relationship moved towards a close friendship, or alternatively experienced a downturn in which closeness decreased and the friendship ended. The other 50% of participants represented four categories of nonlinear trajectories that included at least one downturn in the friendship followed by a recovery to higher levels of closeness and the friendship ended.

In this study, turning points were incorporated into the qualitative interviews by asking participants if they experienced a specific moment or event that they attributed to changes in their social network relationships. The qualitative analysis explored if a critical event occurred and if the participants were able to make meaning from this experience. Johnson et al. (2004) used turning points to plot relational trajectories, however quantitative methods are static approaches to relational processes that are not absolute states. Using qualitative methods that explicitly ask questions about change would help researchers to understand how individuals make meaning from critical events and how meaning making influences relationship dissolution processes.

Study 2 has three features that are important additions to the literature. First, this study explored non-romantic peer relationships that were in the process of changing, but had yet to be
terminated. Previous research has explored relationship termination retrospectively. The innovation in Study 2 was to study relationship termination while it is in process. Second, this study used information collected from two time points on a social networks questionnaire. Participants selected the network relationship they wanted to discuss for the interview from a list of changing relationships that were identified from their social network questionnaire using the two time points. This type of research methodology has not previously been used before. Third, the study method and interview procedure were used to capture the process of change and decision making by asking specific questions regarding the presence of turning points and their meaning for the participants. These types of questions have not been used in qualitative interviews about friendship termination within social networks.

**Research Objectives**

The goal of Study 2 was to investigate the internal decision making process of young adults who were in the process of terminating a non-romantic peer relationship. The qualitative study was the second phase of the sequential explanatory mixed-methods design. The research strategy was to interview selected participants from Study 1 who listed a peer relationship at Time 1, but did not list this relationship at Time 2 on the social networks questionnaire. The assumption was that, despite the relationship becoming inactive by not being identified in the quantitative measure, these relationships were in various stages in the process of change. This assumption highlights the active and emergent nature of relationships that are in various stages of change that cannot be quantitatively measured. The advantage of this design is that participants were interviewed about a recent relationship that was experiencing change and that individuals were in a dialectical process of problem solving. Specifically, individuals were trying to make sense of the contradictions in their non-romantic peer relationship and deciding what to do about it.

Three research questions were explored:

1) *How do young adults conceptualize their changing peer relationship?*

Participants were asked if their relationship was on-going, on-hold, or over, and their spontaneous reasoning about their choices was analyzed. Participants were also asked about the future of the peer relationship and what they would like to see happen. A conceptual goal was to understand whether participants conceptualized the changing relationship as an absolute change or an uncertain state of emergence.
2) How do young adults recognize that change has occurred?

The purpose of this research question was to understand how participants recognized and experienced change in their relationship. A conceptual goal was to explore if participants discussed the presence of external factors which have previously been identified in the literature (e.g., Rose, 1984) as well as the presence of turning points. Also, the researcher was interested in whether or not participants were aware change was occurring and their experience of change.

3) What processes underlie change?

The purpose of this research question was to investigate the internal decision making processes underlying change. Of particular interest was whether participants talked about the quality of their relationship, what the participant's ideas were about why it changed, and what the relationship was like before and after it started to change. Sensitizing ideas such as expectancy violations, turning points, undesired relationships, and relational maintenance were considered during the qualitative analysis.

Method

Participants

All participants who completed measures from both Time 1 and Time 2 of Study 1 were sent an email invitation (Appendix Q) asking them to participate in an interview about stability and change in family and peer relationships within their social network. Thirty-two young adults from a Canadian university agreed to participate. Twenty-two of the 32 participants chose to discuss a changing peer relationship and these 22 participants are the focus of the study. Study 1, Time 2 data was collected approximately 2 months (November 2010 - December 2010) before the interview recruitment started in February 2011. The 22 participants were female, from the University of Guelph campus, and the mean age was 19.95 years (SD = 1.29; Range: 18 to 22 years).

Participants identified their ethnicity as European Caucasian (n = 20, 90%), Asian (n = 1, 5%), and other, specifically Indian (n = 1, 5%). Participants also identified their marital status and the majority of participants were single and/or dating causally (55%, n = 12), 41% were dating but not living with their romantic partner (n = 9), and 1 participant was married or common law. Sixty-four percent of the participants were in their second year of study (n = 14), 32% were in their fourth year of study (n = 7), and 1 participant listed other, specifically that they had just graduated from their program. It was determined using Study 1 Time 2 data that the
22⁶ participants who chose to discuss a changing peer relationship were not significantly different from the larger sample \((n = 105)\) at Time 2 on measures of attachment, self-esteem, satisfaction with life, optimism, loneliness, anxiety, and depression (see Appendix R for one way ANOVA results).

Demographic information from Time 1 participants social network questionnaire was used to describe the changing peer relationship. The mean age of the peer was 19.62 years \((SD=3.53)\) and 82% were female \((n = 18, \text{ male: } n = 4, 18\%)\). The mean length of time the participant knew the peer was 56.57 months \((SD = 50.30)\) or 4 years and 2 months with a range of 1 month to 13 years. The majority of the participants identified the peer as a friend \((73\%, n = 16)\), best friend \((18\%, n = 4)\) or roommate \((9\%, n = 2)\). The majority of participants reported that they were within a 10 minute drive of the peer \((38\%, n = 8)\), lived in the same house as the peer \((24\%, n = 5)\), or were within a 1 hour or 1 day drive of the peer \((33\%, n = 7)\). Participants reported that they had daily or almost daily contact with the peer \((43\%, n = 9)\), had contact with the peer once a week \((29\%, n = 6)\) or had contact with the peer once a month \((29\%, n = 6)\).

**Procedure**

The interviews occurred from February 2011 to April 2011, approximately two months after the completion of Time 2 data collection for Study 1 (December, 2010). Prior to the interview, participants were asked to read and sign a consent form. As a token of appreciation, each participant was given a $5.00 gift card to a local coffee shop for attending the interview and was also entered into a draw for a chance to win 1 of 3 $50.00 Visa gift cards. Interviews took approximately 40 minutes to 1 hour to complete. Once completed, participants were given a support services contact list containing the contact information of counselling services in case the participants experienced any distress or discomfort as a result of discussing their close relationships.

**Materials and Interview Script**

The materials used in the study were the social networks questionnaire completed at both Time 1 and Time 2 from Study 1 (see Appendix N), a consent form (Appendix S), a support services contact list (Appendix T), and a semi-structured interview (Appendix U). Interviews were conducted in a room at the University of Guelph. The interview consisted of a series of

\[^{6}\text{Of the 22 participants, 16 participants had complete data to use for mean difference comparisons between the larger sample.}\]
open-ended questions designed to understand young adult experiences of their social network relationships. The semi-structured interview consisted of two parts. The first part of the interview was designed to understand how family and peer relationships were maintained and the second part of the interview was designed to understand how family and peer relationships were changing. The second part of the interview discussing changing peer relationships was used for the qualitative analysis.

Participants were asked questions about their ideas regarding why their peer relationship was changing and what their relationship was like before and after it started to change. The purpose of these questions was to explore the participants’ experience of change and their ideas about why change was occurring. Participants were also asked if there was any specific moments or events that indicated to them that their peer relationship was changing and what the moment or event meant to the participants. These questions were strategically asked to investigate the presence of turning points as well as if and how participants used the information from those experiences to make meaning of their relationship. At the end of the interview, participants were asked to discuss the future of their changing peer relationship and what they would like to see happen.

**Constructing social networks.**

Before beginning the interview, the researcher constructed the participant’s social network using the social network questionnaire data from Time 1 and 2 from Study 1. The researcher compared both social network questionnaires and created two columns: stable relationships and changing relationships. Relationships that were listed both times on the participant’s questionnaire were labelled as stable relationships while relationships listed at Time 1, but not at Time 2 were labelled as changing relationships. The researcher reviewed the participant’s social network with them to ensure that the participant remembered the significant individuals they had listed and to select the relationships that would be the focus of the interview.

The researcher asked the participant to look at each column and review the relationship classification they assigned to each individual (i.e., friend, mother). For individuals not listed the second time, the researcher specifically asked if these relationships were changing or if they were not on-going relationships. These points of clarification ensured that the participant could clarify if they had forgotten to list a network relationship that was still on-going, if this was a
relationship that was changing for the participant, and if the participant could remember who they listed on their questionnaire. The researcher also asked if any of the stable relationships had recently changed and should now be in the changing relationship column. Eleven participants identified that at least one relationship from the stable column should be moved to the changing relationship column during the 2 months since completing Study 1, Time 2 data collection.

The rationale for this method was to capture the active and fluid nature of social networks. The researcher’s assumption was that between the measurement of the participants social network for Study 1 Time 2 data collection and the interview was that the participants may have begun engaging in a decision making process using their past and present relationship history. This assumed that changes in social network membership occurred more frequently than was quantitatively measured. Therefore, the advantage of this methodology is that it captured changes in network membership as it occurred rather than after the relationship had terminated. In addition, this procedure ensured that the participants agreed with the changing status of the relationship that was the focus of the interview.

After confirming network membership and placement in the stable and changing relationship columns, participants were asked to pick one peer and one family relationship from the stable relationship column and one peer and one family relationship from the changing relationship column to discuss during the interview. For the stable relationship column, there was a possibility that the participants could discuss two stable relationships and for the changing relationship column there, was a possibility that the participants could discuss two changing relationships. Overall, participants could discuss up to four relationships from their social network.

For relationships from the stable column, 29 out of the 32 participants recruited for the interview chose to discuss a non-romantic peer (i.e., friend, roommate) and 31 out of the 32 participants chose to discuss a family member. Of those participants who chose a family member, 16 participants chose their mother, 9 participants chose a sibling, 5 participants chose their father, and 1 participant chose a relative. For the relationships from the changing column, 22 out of the 32 participants chose to discuss a changing non-romantic peer relationship and 3 out of the 32 participants chose to discuss a changing family relationship. Of those participants who chose a family member, 2 participants chose a sibling and 1 participant chose their mother.
For the purpose of this dissertation, the qualitative analysis focused on the 22 participants who chose to discuss a changing non-romantic peer relationship.

**Thematic Analysis**

The system for thematic analysis was developed after the interviews were completed and transcribed. The method for identifying and interpreting themes was guided by theoretical thematic analysis outlined by Braun and Clarke (2006) within an abductive framework (Kuczynski & Daly, 2003). Abduction differs from inductive and deductive inference because it is used to discover new explanatory hypotheses and to discover new phenomena rather than test existing theory. Induction is used for describing the “reality” of the data while abduction is used to find the best explanation for the data. Also, abductive inference is used to expand the scope of interpretation by considering data in relation to other sources of knowledge (Kuczynski & Daly, 2003). For Study 2, abduction was used to generate the best explanation of relationship change processes from a variety sources. These sources included the narratives of young adults experiencing change in a peer relationship as well as the existing literature on friendship dissolution, relational maintenance, undesired relationships, expectancy violations, and turning points.

**Trustworthiness.**

In qualitative research, the requirements of validity and reliability are met by the criterion of trustworthiness. Stiles (1993) suggested that a trustworthy study is one where the researcher’s orientation is outlined, the data are intensively engaged with, and the findings and emerging themes are confirmed by discussions with independent researchers during the analysis process. In this study, several procedures were used to ensure trustworthiness and are outlined in the following discussion of transcription, memoing, consultation, and analytic procedures.

**Transcription.**

All the interviews were digitally recorded and transcribed. The researcher transcribed half of the interviews and the other half were transcribed by three undergraduate research assistants and were reviewed by the researcher for accuracy. To ensure trustworthiness, Bird (2005) proposed that being involved with transcription of the data is the first step in qualitative analysis and supports the researcher in a prolonged relationship with the data in multiple forms.

**Memoing.**
Memos are an important feature of qualitative methods (Braun & Clark, 2006). The purpose of memos was to document all stages of the research project including the decision making process, minutes from meetings, ideas from consultation with others, initial impressions, ideas, and potential problems in early stages of coding. In the later stages of coding, memos were used to document and describe emerging themes, their variations, as well as theoretical relationships between themes.

Consultation.

Consultation was used to facilitate the abductive process and ensure trustworthiness. During the early phases of data analysis, regular meetings were held with the researcher and her doctoral advisor. These meetings were important to the analytical procedure and serve several purposes. First, they allowed the researcher to relate her evolving interpretation of the data to the advisor to ensure that the themes being considered were not idiosyncratic and could be verified by others. Second, they generated further ideas based on the memos of the researcher as well as insights from the advisor from his reading of the interviews, his own personal experiences, and expertise in theory and research on personal relationships, thus increasing the scope of the interpretations.

Analytic procedures.

The category system for thematic analysis was developed after the interviews were completed during the data analysis process. Coding procedures were based on those used in thematic analysis and were completed using Maxqda. Maxqda is a qualitative software program designed to assist qualitative researchers with the organization and analysis of their data. The program facilitated line-by-line coding and displays the evolving coding system and memos. The program was used to organize the data, ensure systematic memoing, and allowed for the quick retrieval of quotes sharing a code, the assessment of the prevalence of a particular theme, and aided in the procedure of constant comparisons. Constant comparison is an iterative process that helps to ensure trustworthiness (Charmaz, 2003) in which the quotes in each developing theme were compared in order to assess conceptual similarities and differences.

Open coding.

After the initial phase of analysis that involved reading and memoing interesting ideas, initial codes were independently generated from the data using “open” coding (Braun & Clark, 2006; Charmaz, 2003). During open coding, every new idea was noted regardless of the fit with
the sensitizing concepts. This form of coding helps researchers gain distance from their own assumptions and allows for novel ideas to emerge (Glaser, 1978). Initial codes were considered tentative and were acknowledged as flexible to change. At the completion of this phase of coding, the resulting scheme consisted of over 476 initial codes. Codes evolved into themes through consultation meetings and memoing in which the codes were organized into shared ideas and experiences that were common for the participants. These codes involved a number of early ideas such as the various external factors that influenced changing peer relationships, the different types of meaning making occurring for participants, and various metaphors of change. Themes were refined through consultation and comparisons with the existing literature and sensitizing ideas used in the current study to explore what was different or novel about the narratives of the participants.

**Focused / axial coding.**

The next step was to review, organize, and combine the codes (Braun & Clarke, 2006). Each code was assessed along with the relevant memos (Strauss & Corbin, 1990). Codes that were relatively unique were also assessed. Codes with low frequencies were reviewed and retained if they were thought to include an idea deemed to be unique from other codes and theoretically important for the research project. Codes that reflected similar ideas or context were combined to create larger themes. Lastly, codes that were interpreted as reflecting similar underlying theoretical ideas were grouped together under a broad theme. In the final phase of analysis, the data segments belonging to each theme were reviewed to ensure that the quotes were logically connected and that the categories were theoretically consistent. Coding was considered to be completed when the majority of relevant information in the interviews was represented in the themes and the themes themselves did a good job of explaining the data (Braun & Clarke, 2006). It is important to note that in qualitative methods the movement from conceptualization to data collection, analysis, and writing is a circular movement that spirals towards the final product.

**Results**

The results are presented in three sections that explored the decision making process of the 22 participants that chose to discuss a changing peer relationship. The three sections are organized by the research questions and themes. Each section includes the interpretation of the
dominant themes and subthemes that emerged from the analysis and verbatim quotes are provided as exemplars.

**RQ#1: How do Young Adults Conceptualize their Changing Peer Relationship?**

Two sections in the interview provided an opportunity to assess participants' implicit conceptions of change in their peer relationship. The first opportunity was when to talk about the current state of the relationship and the second was when to talk about the imagined future of the peer relationship. The analyses focused on participants' spontaneous reasoning about the absolute or non-absolute nature of change in their relationship. In the research on relationship dissolution, the termination of relationships is often treated as an absolute state rather than as a process. The quantitative approach used in Study 1 to understand change through the inclusion of peer relationships is based on an assumption about the state of change as being a determinate state. However, in Study 2 participants had difficulty conceptualizing their relationship as static and they spontaneously contextualized their changing relationship as a process through both their current and imagined future conceptualizations of their peer relationship.

**Conceptualizing the current state of the changing peer relationship.**

Participants were asked to classify the state of their changing peer relationship in one of three ways: on-hold, ongoing, or over. Forty-five percent of participants classified their changing relationship as being on-hold, 32% of participants classified their relationship as on-going, and 23% of participants classified their relationship as being over. Analyses of the participant's spontaneous contextualization of their relationship classifications indicated that participants did not think of these categories as absolute states, but as changing and in process. The participants understood these classifications as containing inherent uncertainty consistent with Hinde’s (1979) conception of relationships as being dialectical, dynamic, and emergent. The themes that emerged were *contingently on-hold, ambivalently ongoing, and ambiguously over.*

One way to understand these themes is to view them as reflecting a cognitive process used by the participants to understand the changes occurring in their peer relationship. Specifically, participants may have been trying to make sense of the changes they were experiencing and used the labels provided by the researcher to expand on their own ideas about what they experienced and witnessed in their friendship. This allowed participants to respond and create their own meaning of what the three classifications meant to them. This is consistent with findings on other quantitative self-report measures, such as rating scales, which suggest that
such measures involve interpretive processes on the part of participants that go beyond those intended by the researcher (Rosenbaum & Valsiner, 2011). Each classification is described in the following discussion.

**Contingently “on-hold”**. Forty-five percent of participants classified their relationship as “on-hold”. In contextualizing this classification, the majority of participants expressed uncertainty about the current state of their changing peer relationship. Participants expressed that they had very little or no recent contact with the peer while also expressing their perception that a relationship currently existed. However, the current relationship was not ideal or there was a perceived barrier that was preventing the relationship from improving. For example, one participant stated, “It’s gotten a little better.....I would say our relationship is on hold because I know, like tomorrow, if she broke up with her boyfriend that I would obviously be there for her because she’s still one of my friends. And I think it would have the potential of going back to where it was (Participant #14, 19 year old female).” For this participant, the improvement of the friendship was possible, but contingent on the peer discontinuing the romantic relationship because this external relationship was seen as a barrier to the friendship improving.

Another participant commented on the ambiguity of the state of their relationship and came to this conclusion from their experience of decreased contact and awkward peer interactions. A 19 year old female stated, “I think it’s on hold… I haven’t talked to her in a very long time but ... I believe that when we do hang out even though it is a bit weird, it’s still there (Participant #216).” This participant acknowledged the awkwardness in the relationship, however the on-hold status may be a contingent or temporary state that has the potential to improve or deteriorate the relationship. Another participant stated the following about her on-hold status for her peer relationship:

I would say it’s on hold, it has potential but it just doesn’t have any motivators...Over the Christmas holidays, we worked together and ......It was like nothing had changed, it could have been a Saturday from grade 12 where we had to work together and we just yapped the whole time about everything that was happening in our lives and we were good friends. And that’s what it seemed like the whole time we were there and I thought, “Okay, maybe I’ll text her next week”, but then nothing came of it. It was like this isolated 4 hours of second year and it was the only time we’ve talked (Participant #4, 19 year old female).
The temporary status was supported in both examples, which indicated that the participants’ belief that the relationship was “still there” and may lead to future relationship repair because of their isolated experiences of the relationship before it started to change. There is a potential for resuming the relationship if certain conditions are met to initiate relationship repair. Therefore, rather than terminate the relationship, the participants may have chosen to place the relationship “on-hold” until the conditions for change, either repair or termination are met.

Ambivalently “ongoing”. Thirty-two percent of participants expressed that the relationship was “on-going”, but that the relational quality had changed and was no longer ideal for them. For example, one participant stated, “It’s ongoing, but just recently it’s been like… the amount of stress and unhappiness I am getting from it, I guess I’m questioning it (Participant #226, 20 year old female).” This participant's experience may be considered an example of ambivalence. The participant may have remained in the relationship despite the experience of negative relational qualities and questioning whether this is a relationship she wants to continue or end. Similar to the participants who reported that their relationship was on-hold, these individuals may not be ready or do not know how to engage in change in their relationship. Therefore, participants remain in the relationship while experiencing mixed emotions and uncertainty about the changing relationship with their friend.

Another experience expressed by participants was that the relationship had to continue because of specific circumstances, such as living conditions or shared friendship groups, and not by choice. Participants reported that they restricted the amount and type of interactions experienced with the peer. For example, one participant stated:

I don’t want a relationship with her, I only have to maintain it because we live together and we’re going to be living together for like the next 2 years. So I keep it I guess for maybe the one time that I need it, which she is not the person that I would go to anymore for a problem or she’s not the person who I would attempt a conversation with. So I guess it’s blocked that way (Participant #38, 18 year old female).

This participant’s ambivalence was expressed as involving two competing directions: not wanting the relationship, but reluctantly maintaining it in case they need the individual for social support. Overall, participants in the on-going classification expressed mixed emotions and
uncertainty about the peer; however they may not have been ready to engage in changing their relationship.

*Ambiguously “over”*. Twenty-three percent of participants perceived that their relationship was over and would not continue in the future. For example, a 19 year old female stated, “I don’t see the relationship going anywhere and I don’t see it getting any better (Participant #452).” Other participants used similar wording in their classification and included, “I think it’s done (Participant #293, 21 year old female),” and “I would basically say it’s over (Participant #357, 19 year old female).” Although these relationships were classified as being over, there was also apparent ambiguity in the non-absolute way that participants discussed the state of the relationship. There remained the possibility that the relationship may be re-evaluated at a future point. For example, a 19 year old female stated the following:

Participant: No relationship I guess. I haven’t heard a single word from her since the summer, since August.

Interviewer: Okay. So do you think it’s over? Do you think it’s on-hold?

Participant: Um I don’t even know because a girlfriend of mine....is also having the same problem, so I don’t know. Like I’m not making any moves towards her after what she’s done to me, so if she makes something towards me then I’ll acknowledge it, but other than that I have no means of communication with her (Participant #158).

For this participant, the future of the peer relationship was contingent on what the changing friend was doing or not doing and for anything to repair the relationship, the participant was willing to engage when the peer chose to engage with them. Essentially, participants may have recognized that the relationship was not over until it was over. Hinde (1979) proposed that relationships are emergent and dynamic. Therefore, this classification could be interpreted as an appraisal of the most recent relationship transaction while having the potential to change if the transaction no longer supports the appraisal that the relationship was over. These appraisals may be important during the internal decision making process about their choice to remain in the relationship and how participants understand and have experienced their overall relationship with the peer.
**Future of changing peer relationship.**

The second opportunity for participants to discuss their understanding of the changing peer relationship was when they were asked about the imagined future of the relationship and what they would like to see happen. This question was intentionally asked to explore the participants' perception of the future and if current experiences with the peer influenced the future of the relationship. This question also explored if participants viewed the imagined future of their relationship as being an absolute state or as a process. Two subthemes emerged from the data and included *disinterest* and *hopeful*.

**Disinterest.** Fifty percent of participants expressed that their changing peer relationship was over, unlikely to improve, and expressed an overall disinterest in continuing the relationship. For example, one 19 year old female stated:

> It’s been almost, over half a year, and if she wanted to apologize she would have apologized by now. Clearly, she still doesn’t think anything had happened.....I’m not going to hold my breath for the friendship and as much as there was good parts to the friendship, it wasn’t a great friendship like with my other friend, where I was friends with her since kindergarten....I just met A (*changing peer*), we had a falling out within a year and that doesn’t seem like a friendship that I want to go back and retry because clearly it didn’t work the first time (Participant #452).

This participant based her decision on the history of the relationship that contained an unresolved conflict / falling out with the peer and this may have been used to guide her decision of no longer wanting the relationship. Several participants predicted that the relationship would eventually end as soon as they graduated from university and this was the only remaining source of connection to the changing peer. For instance, one female participant stated, “With J (*changing peer*). I don’t really see our relationship continuing....after university is done. If I were to ever see her, I would always, like, approach her and like chitchat, but only small talk (Participant #13).” Another participant expressed their perception that the relationship would probably end after graduating from university and stated:

> R in the future? I feel like I probably won’t have any contact with her. I just feel like especially once we graduate, she’ll be like one of those high school people where I just like think to myself, oh I remember that girl, I wonder what happened to her? Unless she really changes for next year and I can start finding things in common with
her again, then we can become close again. But otherwise, I don’t think it’s going to get any better (Participant #411, 19 year old female).

These participants expressed that the relationship was over and a disinterest in resuming it. Reaching this point in the relationship dissolution process may have involved a number of cognitive processes including physical and mental separations and a final appraisal about their desire to end or repair the relationship. Although the termination appraisal occurred, it does not mean that the relationship is immediately over for the individual and their mental termination or distancing of the relationship may take an unspecified period of time to complete.

**Hopeful.** Fifty percent of participants expressed a hopeful but uncertain future for their changing peer relationship. Uncertainty was expressed through statements such as, “I don’t know”, “I absolutely have no idea”, and “Who knows.” Participants were uncertain about whether the relationship was over, however they expressed that they were hopeful that things could improve provided that various conditions were met. These conditions, plans, and actions of repair may have provided a sense of hope for the participant that the friendship could improve and did not have to end. For example, one participant stated the following condition for their changing peer relationship to continue:

And then with Z, umm..... I would hope that he would become a little bit less self involved and more supportive so that we could kind of rebuild a friendship umm... but at the same time going forward I don’t know if that’s realistic and so I think that it will probably remain this kind of, like I’ll listen to him, but not be so invested in it...... I guess I wish our relationship was different because I think umm... yeah it would be nice if it were different, but realistically I don’t know if it will be

(Participant #65, 22 year old female).

This participant expressed states of uncertainty, hopefulness, and ambivalence regarding the future of the peer relationship. However, the participant was able to identify areas of improvement for the relationship to continue while questioning if these improvements are realistic expectations of the peer.

Another example is a participant who expressed hope for relationship improvements, but did not have a plan of action or specific conditions for the relationship to continue.

With D, I absolutely have no idea. Well, I guess, it’s probably going to end, but maybe not because we have been so close, and there is a bunch of history there. I just
don’t know if it’s going to end or if things will be put on hold, and I’ll come back to my hometown and maybe we’ll meet up for coffee and things will be better and, or maybe it’ll be worse, or maybe we’ll make things worse. I don’t know. That whole relationship is very up in the air right now. I don’t know. I hope that at some point we can get to a point of friendship, but I don’t know if that’s realistic, so we’ll just have to see (Participant #236, 22 year old female).

The presence of uncertainty with hopefulness suggests that participants may or may not be ready to engage in change, either working with the peer to repair the friendship or ending the friendship. Ambivalence has been proposed to be inherent in close relationships and individuals can either engage with it to make meaning or ignore and live with it (Luscher & Pillemer, 1998). The presence of ambivalence may suggest that some participants may be ready to engage in change by repairing or terminating their peer relationship.

The research questions and qualitative analysis of conceptualizing the current state and imagined future of the changing peer relationship provide support for relationship change being a process rather than an absolute state. Both the research questions and analyses highlight that participants were actively thinking about their relationships and were using a process to change the status of the friendship to manage the experience of change as well as what the future might look like. The participants assessed the state of the relationship and made predictions in a conditional manner that reflected uncertainty about a relationship that they experienced as dynamically changing and having an unpredictable future.

**RQ #2: How do Young Adults Recognize that Change has Occurred?**

Participants were asked for their ideas about why change had occurred and their reasons for not listing the peer on their social network questionnaire at Time 2 data collection for Study 1. In addition, to explore the presence or absence of turning points, participants were specifically asked if there was a moment or event that they associated with change and what that moment or event meant to them. The themes documented represent spontaneous and emergent contextualization’s of the participants experience of change in their relationship. Table 21 contains the themes and subthemes for recognizing change. The table documents the percentage of participants that spoke about each theme and the frequency of each theme. The themes included 1) *external factors*, 2) *noticing change*, and 3) *turning points*. Participants were not
Table 2
Themes and subthemes of recognizing change

<table>
<thead>
<tr>
<th>Theme</th>
<th>Participant’s reporting n (%)</th>
<th>Number of coded segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>External factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External relationships</td>
<td>9 (41%)</td>
<td>9</td>
</tr>
<tr>
<td>Physical distance</td>
<td>5 (23%)</td>
<td>5</td>
</tr>
<tr>
<td>Noticing change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Metaphors of gradual change</td>
<td>14 (64%)</td>
<td>34</td>
</tr>
<tr>
<td>Metaphors of sudden change</td>
<td>6 (27%)</td>
<td>6</td>
</tr>
<tr>
<td>Turning points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying turning points</td>
<td>18 (82%)</td>
<td>20</td>
</tr>
<tr>
<td>Meaning making in response to turning points</td>
<td>18 (82%)</td>
<td>25</td>
</tr>
</tbody>
</table>

a. 3 participants identified one metaphor of sudden change and multiple metaphors of gradual change. These participants were included in both subthemes.
asked what external factors or noticing change meant to them because these themes emerged during the coding process while questions regarding turning points and their meaning were explicitly part of the interview script.

**External factors.**

Two external factors were reported by participants: external relationships and physical distance. *External relationships* referred to romantic relationships and other peer relationships that influenced the changing peer friendship. For example, participants reported incidents that involved the participant becoming involved in a romantic relationship that was seen as interfering with the friendship. One participant stated, “A big part of it for her was when I started dating someone long-term and she told me she felt like he was my best friend and that I didn’t need her anymore (Participant #293, 21 year old female).” Participants also reported that the experience of the peer becoming involved in a romantic relationship was perceived as a negative influence on the friendship. For example, “He really is into this new girlfriend, so I don’t want to be like, I hate your girlfriend. Like I don’t want to hang out with her. She’s boring. Like I just don’t want to tell him, so every time there’s something, I’m just like ‘oh actually I can’t make it, sorry (Participant #157, 22 year old female).” External relationships could also be understood as part of the developmental context of young adulthood. The participant or peer engaging in a romantic relationship could be experienced as a threat or competition for the attention of the other person rather than seeing these new relationships as part of healthy adult development. Of the participants that reported external relationships, all but one participant reported that the presence of a romantic relationship was interfering with their friendship. This may suggest that certain relationships are experienced as being more threatening to a friendship than other relationships.

*Physical distance* referred to participants’ perceptions that less frequent face to face interaction was the source of change in their peer relationship. For example, one participant reported that not living together was the main reason the friendship was changing: “We’re not living together and when we were living together last year, like, she would always be in the room....(Participant #13, 19 year old female).” Another participant said that proximity and shared space was the basis of their relationship and that their interactions decreased once they no longer lived together. This participant stated:
Once we all started living in different houses and we didn’t have that many classes in common, I just started seeing less and less of her. And we didn’t take that much initiative to talk outside of school because I realize now that most of our relationship was based on the fact that we were in close proximity. So we were close in residence, we had classes together, and that’s what kind of drove our friendship. And now that we don’t have that, there wasn’t that much to keep it together. So that changed (Participant #411, 19 year old female).

External factors such as external relationships and physical distance are important because they may alert the participants that change is occurring. This may also give rise to deeper evaluations to understand what change means within their friendship.

**Noticing change.**

The theme of noticing change refers to participants’ awareness that change was occurring in their relationship with a peer. Participants generally used metaphors in their narratives that indicated their awareness of change as well as their negative emotional reaction to the changing state of the relationship. Participants used two types of metaphors to describe change: *metaphors of gradual change and metaphors of sudden change.*

Metaphors of gradual change were most frequently documented and indicated perceptions of the slow progression of change occurring in the peer relationship. For example, some participants described change using the metaphors of drift, drain, and dwindled: "We didn’t see each other as much and we just kind of drifted apart because we didn’t put in the initiative (Participant #411, 19 year old female)”, “We live together so I don’t think it will ever be that our relationship is totally down the drain (Participant #14, 19 year old female)”, and “I was mad at the other girl and she thought that I was mad at her because she was playing to her *other girl* side and it was just a big miscommunication and the relationship has just kind of dwindled away (Participant #357, 19 year old female).”

Metaphors of gradual change also included the ideas of fade, fallen, fizzle, and trickle: "With school ending, I think that because it’s not at a good point now, it probably will just fade out (Participant # 217, 21 year old female)"; "I just feel like we’re not close at all anymore....I just feel like it’s kind of fallen apart (Participant #137, 22 year old female)”; "I can see it just being one of those things that just fizzle out completely (Participant #4, 19 year old female)”; and "I wouldn’t be the one to confront and I think she has the same personality.....if neither one
of us is going to bring it up then neither one of us is going to bring it up. Then it just kind of...trickled off (Participant #217)." Other participants used metaphors that captured ideas of distance and disintegration. For instance, participant statements included, "It’s been at least a year and it’s just slowly been getting like more and more distant (Participant #157, 22 year old female)” and “I just started aligning myself with other people rather than her....and just kind of let the other one...disintegrate (Participant #411, 19 year old female).”

These examples suggest that participants were becoming aware of change and were monitoring the progression of changes occurring in their peer relationship. Moreover, the metaphors had an emotional dimension indicating that change was experienced as an affectively negative incremental process. These findings have implications for the nature of agency in the dissolution process. For most participants, their own contribution to the process of relationship change suggested a process of minor accumulating adjustments to the changing relationship occurring with minimal awareness rather than a deliberate and decisive action to end the relationship.

However, some participants experienced change as a sudden conscious process of making sense of their peer relationship history and interactions. For example, using the metaphor "broke away", one participant stated, "I think the conversations not in person have stopped because of her trying to get away from it all being about issues ..... And then, she kind of said “okay”, well she didn’t actually say it but my understanding was that she just broke away from talking, it was easier and that it was changing (Participant #217, 21 year old female ).” For this participant, their use of the phrase "broke away" suggested that a change in the transaction pattern within the relationship occurred without warning and indicated that something was changing. Another participant used the metaphor of "blew" to discuss the sudden change in their relationship: "We had this group and it went along and then she was the very first change that any of us saw. And that kind of blew everything out of proportion a little bit (Participant #4, 19 year old female)." For this participant, a specific unexpected social transaction with the peer led to the perception that the underlying relationship was changing.

Participants also used phrases that included "downhill" or "downfall": "We were all the time (in contact) and even with the boyfriend at the beginning it was really, well this summer, the May until August was kind of the very big downfall (#158, 19 year old female)." This participant perceived this period of time as the moment of change that occurred quickly and with
no indication from the relationship history or transactions that change was occurring. By noticing change, this started a process for the participants who were actively monitoring their relationship to confirm it was changing. Participants were aware of change or that something was different, were able to describe what change looked like, and were trying to understand what it meant for their relationship.

**Turning points.**

The concept of turning points was approached indirectly by asking participants if there were any specific moments or events that they attributed to being a change in their relationship, they were asked to discuss what happened, and what was different as a result of that moment or event. If the participants could identify a turning point, they were also asked what the moment or event meant to them and what it told them about their relationship. The analyses supported a transactional interpretation of the turning point process (Kuczynski & De Mol, 2015) whereby individuals response to objective events are mediated by their meaning making or interpretations of the event. In other words, the event itself did not constitute the turning point, but the information gathered from the event, how the participants understood the event, and the meaning they assigned to the event created change for either one or both individuals in the relationship. The theme of turning points was represented by two subthemes: identifying turning points that precipitated the meaning making process and meaning making in response to turning points.

**Identifying turning points.** The majority of participants were able to recall a specific moment or event that they attributed to changes in their peer relationship. The content of turning points included problems with the changing peers' romantic partner, awareness of incompatibility in personalities, differences in decisions and goals, experiencing disconnection, lack of social support, not taking advice, not respecting boundaries and privacy, peer relationship interfering with other friendships, peer relationship experienced as negative, lack of communication, and lack of physical or face to face contact. What constituted turning points varied among participants. However, each turning point was perceived as being an important event for the participant in their relationship with the peer and was moving the relationship in a new and at times, an unexpected trajectory.

For example, one participant described a specific event being a positive experience for the changing peer, but was a negative experience for the participant.
Well I know that this situation with his ex-girlfriend where I told him something – he changed a lot during that and he became like a completely different person and stayed with her even though we were all like, what are you doing? And then when they broke up she stayed in his mom’s house and he moved out so like there was like a lot of tension between me and him. I’m like you’re an idiot, like what are you doing? Kick the girl out of your mom’s house. She doesn’t pay your mom rent. And stay with your mom, cause his mom was really sick. I’m like you’re stupid and he’s like well I just don’t want to be in that house. I’m like okay, but she has no right to be there.... So I don’t know, I think after that it was just kind of you know, I don’t know, I lost a lot of respect for him (Participant #157, 22 year old female).

For this example, the peer decided not to take the participant’s advice and support regarding a problem with a romantic partner. However, what was important in making this a turning point in the relationship was not the event itself, but the participant's interpretation of what this meant about their relationship partner as well as their relationship. For this participant, the interpretation that they had lost respect is what made the event important because this information indicated that something was different in the relationship. This critical event presented an opportunity for the participant to engage in a meaning making process about what their relationship meant to them and this new meaning constituted a turning point.

Another participant reported that a turning point occurred when the peer chose to ignore her advice to terminate an abusive romantic relationship:

Friend and I went to her and we were like, “we are your best friends. If we were in this situation we would want you to do exactly what we’re doing now.” Like if you came to me and had a valid reason to be worried about my safety then I would have to listen to you because I would expect that you have my best interests in mind because you’re my best friend and that’s what I expect from my best friends....and then we told her that she had the option of choosing us or him and she’s like, “you’re making this difficult” and we’re like, “well this is supposed to be an obvious choice. You should have known that we would only get to this extreme if we thought it was necessary to get to this extreme. So...she chose him, and friend and I were like, “well, you made your choice” (Participant #33, 20 year old female).
In the preceding example, it was not the ignoring of the advice, but the participants' experience of their friend choosing to be in a relationship that the participant did not support and that the friendship would no longer be available to the peer. How participants identify turning points may provide clues that problems are occurring in the peer relationship. Also, participants can choose to either engage or not engage in a process to further understand what these events mean and tell them about the trajectory of their relationship.

**Meaning making in response to turning points.** Participants were asked what the moments or events meant to them or told them about their relationship. This question was strategically asked to explore if turning points created opportunities for qualitative change or meaning making (e.g., Kuczynski et al., 2009). For example, one participant stated the following in response to a turning point regarding the actions of the peer interfering with another friendship: “I think that night made me realize that you’re not a real friend if you’re going to use me this way. There’s no reason for her to do that. So it made me realize that she’s not the type of person I want in my life (Participant #452, 19 year old female).” For this participant, the turning point and her perception that she was "used" may have presented an opportunity for her to evaluate her peer relationship and make comparisons between the peers’ actions to her expectations of what a friend should be. The turning point may have presented an opportunity for the participant to make sense of the event and construct her own meaning of the situation and the relationship.

Another participant expressed the following in response to a turning point where the changing peer did not take the participant’s advice: “I think it improved for him but not for me because I think he realized like you know, I’m loyal to you, I’ll tell you, I’ll have your back. Like I’m looking out for you. But for me ... I have no respect for you. Like I just told you and you’re going to stay with her? What’s wrong with you? So I think it was good for him to me but not me to him (#157).” This participant's interpretation of what happened highlighted the differences between the participant’s beliefs about standing up for one’s self and a disconnection with the changing peer, who did not share this belief. It represented an relational violation (see discussion below). Both of these examples highlight a novel feature of this study, that meaning making occurs in the decision making process of young adults within specific relational contexts.

In summary, participants expressed awareness that change was occurring in their peer relationships. The majority of participants described change as being a gradual process in which
young adults actively monitored the state or meaning of their relationships. Participants also identified external factors such as external relationships and distance which has previously been documented in the research on friendship termination (e.g., Rose, 1984). A novel finding of this study is that over 80% of participants identified a turning point in their changing peer relationship. Participants were also able to identify a specific event and were able to engage in a meaning making process from these events. Using turning points to explore changes in social network relationships highlighted two key ideas: that change was experienced as a gradual process in which young adults used various metaphors to describe change and that turning points are part of the change process.

**RQ#3: What Processes Underlie Change?**

No specific questions were asked during the interview about the processes that underlie changes in relationships. However, insights into the process of change in peer relationships were obtained from participants’ responses to a question asking them to describe what their peer relationship was like before and after it changed as well as their spontaneous contextualization's throughout the interview. Three themes emerged from the analysis of young adults narratives of their experiences of change in their peer relationship: 1) *relationship expectations and violations*; 2) *assessing relationship quality and efforts*; and 3) *evaluating relationship worth* (see Table 22).

These findings can be understood conceptually from the perspective of transactional models of relationships (Hinde, 1979; Kuczynski & De Mol, 2015; Lollis & Kuczynski, 1997). Relationships are cognitive constructions reflecting an individual’s collective history of relational transactions that form a representation of the relationship. Each transaction is an opportunity for qualitative change in which the actions of one relational partner influence the actions of the other relational partner, thus producing change for both partners and the relationship. These representations then contribute to future transactions that may influence the future course of the relationship.

The themes that participants spontaneously reported reflected a process of change. Young adults were actively engaged in a meaning making and interpretative process using their history of relational transactions with their changing peer. Meaning making was used to make personal sense of the changes occurring in the relationship. Meaning making occurred through identifying
Table 22

Themes and subthemes of the processes underlying change

<table>
<thead>
<tr>
<th>Theme</th>
<th>Participant’s reporting n (%)</th>
<th>Number of coded segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship expectations and violations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational expectations</td>
<td>20 (91%)</td>
<td>25</td>
</tr>
<tr>
<td>Relational violations</td>
<td>22 (100%)</td>
<td>30</td>
</tr>
<tr>
<td>Assessing relationship quality and efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative qualities</td>
<td>13 (59%)</td>
<td>35</td>
</tr>
<tr>
<td>Disconnection</td>
<td>15 (68%)</td>
<td>28</td>
</tr>
<tr>
<td>Relational effort</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One sided or lacks effort</td>
<td>18 (82%)</td>
<td>47</td>
</tr>
<tr>
<td>No one is doing anything</td>
<td>11 (50%)</td>
<td>18</td>
</tr>
<tr>
<td>Evaluating relationship worth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unwanted relationship</td>
<td>13 (59%)</td>
<td>36</td>
</tr>
<tr>
<td>Not active / not alive</td>
<td>7 (32%)</td>
<td>18</td>
</tr>
</tbody>
</table>
and interpreting specific events that were troubling to the relationship, analyzing the quality of the relationship as a whole, and evaluating the viability of the relationship.

**Relationship expectations and violations.**

Relationship expectations and violations were evident in the narratives of all participants, suggesting that this is a key process in relationship dissolution. Participants were able to discuss their expectations regarding friendship attributes and behaviours. However, when these attributes and behaviours were no longer present in their relational transactions, participants discussed their experience as a violation in the friendship. According to Levitt and Cici-Gokaltun (2011), when expectations are tested and violated, this can lead to negative relationship change. The contradiction between the expectation and the violation was a form of meaning making in which participants made sense of what was missing in their friendship and what this meant to them. The two sub themes discussed are *relational expectations* and *relational violations*.

**Relational expectations.** Almost all the participants expressed a relational expectation that consisted of the participants’ belief that they and the changing peer shared mutually accepted expectations about how each partner should act in the relationship. Expectations included mutual activities, common interests, reciprocity, experiencing intimacy through personal disclosures, feeling understood and supported, experiencing positive interactions, and that the peer had a personality that was unique, fun, and different from the participant's other friends.

For example, the following participant expressed a relational expectation, “She was never my closest friend and she wasn’t exactly the type of person I would confide a lot in and have deep conversations with, but she was someone that I liked having fun with, going out with, and spending time with (Participant #411, 19 year old female).” For this participant, the relational expectation is that this relationship is based on shared pleasurable activity. Another participant stated the following expectation:

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........she wanted to hang out with me so much and that she was happy and comfortable being with me. Like a lot of my other friends would pop their head in and say hi and then leave. She would want to stay and come in and spend hours and she was interested in me, she wanted to share stories and like....it was just a very comfortable relationship. And we like instantly bonded (Participant #232, 19 year old female).
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For this participant, the expectation was that the relationship was based on positive interactions that included sharing information and spending considerable time in close physical contact with each other. The participant was also able to contrast how the changing peer had different expectations than other friendships, whereby friends would interact with the participant, then leave while the peer would remain in close contact with the participant for intimate disclosures.

Another participant had expectations about the availability of the changing peer in which the peer would be available for various activities that the participant would like to engage in. For example, a 19 year old female stated:

Like, first year we were so close. If I...say if I wanted to go to the cafeteria for a late night snack, I’d Skype her from my room to her room. We were really close anyway. I’d be like, “Hey! Do you wanna go for a snack?” And she’d be like, “Sure!” So we’d both go down. We were always together. We would study together in the lounge, you know (Participant #67).

Participant discussions of their relational expectations also demonstrated the importance of relationship history and context. Expectations of attitudes and behaviours were constructed from past transactions and experiences. These expectancies were used to help the participant predict what to expect and how to act in the friendship. However, when participants discussed their most recent transactions with the changing peer, they reported that relationship transactions were no longer predictable and new patterns had emerged that worked for the peer, but not for the participant in the dissolving relationship. These inconsistencies between past and current relationship transactions were the basis for relational violations.

**Relational violations.** All participants described a violation of past expectations as a key experience that fostered change in the relationship. Participants discussed several violations that demonstrated tangible examples of actions that violated their expectations. Violations included decreased levels of intimacy, sharing personal information with others, experiencing the relationship as not reciprocal, incompatibility in attitudes and behaviours, not considering the opinions of others, decreased levels of social support, no longer knew the changing peer, friendship did not meet standards of other relationships, and the presence of conflict. For example, one participant stated, “… I feel like it has to be give and take but it’s never that and I feel like she kind of was just like taking, I felt, like energy. It was just me giving energy and her not really doing anything back... (Participant #137, 22 year old female).” For this participant, the
expectation of a reciprocal relationship was violated with her realization that the peer was not giving back and was always taking in the friendship.

Another participant discussed the peers' violation of the expectation of maintaining communication in the relationship: “It’s just the fact that she’s dropped all communications with me. I don’t mind that she chooses her boyfriend over me, that’s fine, that’s her decision, but the fact that you haven’t contacted me since August, like nothing, not even Facebook (Participant #158, 19 year old female).” For this participant, the violation of the expectation of maintaining communication with someone was violated by the changing peer not making the effort and may have been a larger issue than the peer choosing the romantic partner over the participant.

Another participant stated a violation when realizing that the changing peer was no longer considering the opinions and concerns of the participant, that had been a previous expectation of their relationship as well as their shared friendship network. A 19 year old female stated:

We (participant and other friends) didn’t understand why in grade 10 and 11, we felt that when we gave her an opinion on anything that might have happened she was more likely to say “yeah, you’re right” but in this instance she wouldn’t take our opinions into consideration. And I think that was the big thing about who is this girl who doesn’t even want to take our considerations or even look into them. Right because C (changing peer) always had before, so what’s changed that we don’t matter that much to her to look into what her friends are saying (Participant #4).

Relational violations allowed participants to evaluate what they want and do not want in their relationships. This interpretation may have allowed participants to gain insight into how their relational expectations and transactions were no longer compatible with the changing peer as well as insights into why they were no longer satisfied with the friendship.

**Assessing relationship quality and efforts.**

As part of the meaning making process, participants appeared to engage in a process of assessing the current quality of the relationship as well as the contributions of the relationship partners in maintaining the relationship. Two subthemes emerged from the data and included relational quality and relational efforts.

**Relational quality.** Participants discussed three qualities of their changing peer relationship, specifically dissatisfaction, negative characteristics, and generalized feelings of
disconnection. The first type of negative qualities included experiences of dissatisfaction. Experiences of dissatisfaction were a form of relationship violations in which a relationship that was once experienced as being positive, was now experienced as negative and unsatisfying. Examples of dissatisfaction included feeling awkward, "It still makes me feel sad because we were so close last year and now it’s a bit of an awkwardness between us (Participant #14, 19 year old female)", experiencing the relationship as being negative, "It still wasn’t positive but it was still a relationship in my life but now it’s just gotten so negative that I just don’t consider it something in my life anymore (Participant #293, 21 year old female)", experiencing the relationship as being exhausting, "I think that’s a lot of it where it’s just exhausting. So like if I’m already tired I really don’t want to even attempt to deal with them so there’s no point in me going out with them because chances are, she’s going to be there (Participant #157, 22 year old female), and experiencing a lack of comfort, "I know that there will be pretty much a guaranteed uncomfortable situation (Participant #100, 21 year old female)."

Participants also described negative characteristics of the changing peer relationship. In contrast to experiences of dissatisfaction that concerned violations of mutual understanding of the relationship, negative characteristics concerned personal violations that were experienced as being hurtful to the participant. Negative characteristics included disrespect, "...She was leaving messes all over the house and like, was just not respectful to us (Participant #67, 19 year old female)", being bullied, "The fact that she had bullied me throughout well the whole semester, she had done things intermittently.... that had really upset me (Participant #38, 18 year old female)", and experiencing the peer as being judgemental of the participant, "She's getting really judgemental of me and I don’t like it (Participant #226, 20 year old female)."

The third type of relational quality highlighted general feelings of disconnection in the relationship. The experience of disconnection may represent an assessment that something was missing in the interactions with the peer that once made the relationship important. Participants described disconnection in a variety of ways. For some participants, disconnection took the form of not sharing a mutual vision of the relationship: "I can’t be friends with you because we’re clearly not on the same page. Like this is not okay with me and apparently it’s okay with you (Participant #33, 20 year old female)." For other participants, it took the form of absence of mutual self disclosure: "There’s some people you share stuff with and this isn’t the person you share them with (Participant #452, 19 year old female)” or a lack of felt closeness, "I don’t think
that I would ever be that close with her....I’m going to be nice to her. But I don’t think it will ever be that close (Participant #217, 21 year old female)." Some expressed a lack of a sense of mattering or felt importance to the changing peer: "I see that like I’m not as important to you as it may have seemed I guess (Participant #65, 22 year old female)." Other participants expressed a realization of basic incompatibility in their personalities: "I don’t think we would have (been friends) because we are just different people...I’m in a way, too loud for her and she’s just never would take the initiative to, like, say hi or anything or like get to know me (Participant #13, 19 year old female)."

Relationship assessments can be interpreted as negative appraisals that identified what is missing or lacking in the changing peer relationship. These negative appraisals allowed participants to understand that the quality of their relationship no longer met their previous experience or expectations of the relationship. These assessments may have been part of a preparation process in which the participants could make plans about what they wanted to do with the relationship, either repair or dissolve it.

**Relational effort.** Relational effort was conceptualized as each person's contributions to maintaining the relationship. Participants discussed relational effort in two ways. The first was that effort was experienced as *one sided or lacks effort*. Participant's discussed their one sided experience of being the only person making an effort to maintain the relationship. In contrast, participants also discussed their own lack of effort as well as the lack of effort by the peer to maintain the relationship. The second concerned the absence of effort by both individuals or that *no one is doing anything* to sustain the relationship.

Participants identified *one sided* effort as the participant being the only active partner doing anything to maintain the relationship. Examples of this theme included “I feel like our relationship is pretty one sided and I feel like it’s not really the type of relationship that I want to have (Participant #65, 22 year old female)”, “If I was doing something, it was always me initiating it. It just got really frustrating and tiring (Participant #13, 19 year old female)”, and "She didn’t have a computer so it’s not like we could email or anything. No cell phone either, so that was becoming very one sided and I was like I don’t want this, always having to call her (Participant #137, 22 year old female).” Participants also noted their own lack of effort or that they no longer were doing anything to actively maintain the relationship. For example, “I won’t go out of my way anymore to contact her and I don’t think I’ll ever go to her again....even when
bad things happen (Participant #293, 21 year old female), “I just avoid it (Participant #100, 21 year old female),” and “Like I’m not making any moves towards her after what she’s done to me so if she makes something towards me then I’ll acknowledge it but other than that I have no means of communication with her (Participant #158, 19 year old female).”

When describing the changing peer’s lack of effort to maintain the relationship, participants provided the following examples: “I don’t see her trying with me, so why am I going to try with her when I know she clearly isn’t influenced by it (Participant #357, 19 year old female),” “When I have something going on, he isn’t really there for me so it’s kind of one way (Participant #65, 22 year old female),” “It’s annoying that she can’t make the effort to see me (Participant #14, 19 year old female),” and “He just kind of wasn’t as available as he had been in the past (Participant #236, 22 year old female).” These assessments of relational maintenance may lead the participant to interpret that they or the peer may have lost interest in sustaining the relationship.

Participant’s also provided examples of when both the peer and the participant did nothing to actively maintain the relationship or no one is doing anything: "We haven’t actually hung out in a long time (Participant #217, 21 year old female)", “We’ve lost contact... (Participant #158, 19 year old female)”, “Currently we’re not close at all because we don’t speak (Participant #33, 20 year old female)”, “Like I just stopped hearing from her. Um like if I didn’t talk to her we’d never talk.....then eventually we just kind of stopped reaching out to each other (Participant #8, 21 year old female)”, and “I barely see her. And because we don’t really talk, we don’t text; we don’t talk on Facebook or anything (Participant #411, 19 year old female).” These statements may further support the idea that voluntary relationships require constant effort through various strategies and actions and that both individuals are required to maintain the relationship (e.g., Dindia, 2003). When one member of the dyad stops putting effort into the relationship, this may communicate a disinterest and inform the other member that the relationship is no longer wanted. This is a negative assessment that is a consequence of a personal or relational violation that one or both relational partners have experienced. Therefore, both individuals might stop putting effort into sustaining the relationship.

**Evaluating relationship worth.**

The theme of evaluating relationship worth concerned the participants' evaluation of the viability of the relationship and whether it was worth continuing. Relationships can exist and be
undesired (Hess, 2003, 2000). Desired relationships are more likely to continue in their existence because of a mutual goal of wanting to be in the relationship (Dindia, 2003). However, undesired relationships are more likely to continue because of barriers that prevent termination and are less likely to have a mutual goal of maintaining the relationship (see Hess, 2003). When relationships are no longer mutual or the experience of negativity and perceptions of violations, the relationship may be evaluated as being unwanted or not worth preserving. The two subthemes of relationship worth are unwanted relationship and not active/ not alive.

**Unwanted relationship.** These evaluations communicated the participant’s lack of interest in continuing the changing peer relationship. Participant evaluations included “I’ve kind of like moved on. I don’t know if I’d say I’ve outgrown her but just moved on (Participant #8, 21 year old female)”, “I’m not invested anymore (Participant #67, 19 year old female)”, “I just let it go and I was like, it’s not worth it (Participant #411, 19 year old female)”, “I don’t want that in my life anymore (Participant #38, 18 year old female)”, “I don’t need to be friends with you (Participant #357, 19 year old female)”, “I think it just has to end and it’s not even like an unconscious choice (Participant #293, 21 year old female)”, “I have no interest in being her friend or having a relationship with her (Participant #232, 19 year old female)”, and “I just don’t know if I really care all that much anymore (Participant #157, 22 year old female).” These evaluations communicated that when no barriers exist that prevent the relationship from ending, participants evaluated the relationship as no longer being wanted. Also, individuals may use unwanted relational evaluations as a way to further distance themselves from the relationship and mentally prepare themselves to end the friendship.

**Not active / not alive.** The evaluation that the relationship was not active was used throughout the interview to evaluate their changing peer relationship, regardless of their earlier relationship classification of on-going, on-hold, or over. Examples included, “She just simply wasn’t in my life anymore (Participant #4, 19 year old female)”, “Um not really that existent (Participant #137, 22 year old female)”, “We don’t have an active relationship (Participant #100, 21 year old female)”, “It’s kind of like she was just removed from my life, except as a name..that comes up in conversation (Participant #411, 19 year old female)”, and “We don’t really have anything right now (Participant #158, 19 year old female).” All of these examples suggest that participants implicitly understand relationships as being a dynamic entity that requires active investment and input to stay in existence. Relationships appear to have a life like quality or
energy that maintains the lifespan of a relationship. However, when these relationships are no longer fulfilling, individuals may experience a distancing or grieving process and their language becomes focused on the non-active or non-energy based properties that address what is no longer present in the relationship.

In conclusion, the themes that emerged from the thematic analysis represent several forms of meaning making through participants' assessment and evaluation of the changes they experienced in their friendship. Relationships involve a transactional process (Kuczynski & De Mol, 2015) in which participants actively interpret the implications of social interactions for their representations of the relationship. Participant interpretations focused on relationship expectations or what they wanted in a friendship as well as their experiences of when their expectations were violated. Participants also assessed the quality of their relationship through assessments of dissatisfaction, negative characteristics, and experiences of disconnection. Further, participants also discussed how neither they, the peer, nor either one of the relational partners was actively making efforts to maintain the friendship. Lastly, participants made explicit evaluations about not wanting the relationship to continue and that they no longer saw the relationship as being "active" or "alive." The narratives suggest that participants were actively interpreting and evaluating various aspects of their friendship and may have used these meanings to inform their decision making process about dissolving the relationship from their social network.

Discussion

The goal of Study 2 was to understand the internal decision making process of young adults in the process of dissolving a non-romantic peer relationship. Study 2 made three contributions to the literature on relationship termination as well as change processes in social network membership. These contributions provide new understanding to conceptualizing change, methodological approaches for measuring change, and that change is an active process. The findings from qualitative analysis highlight the active, emergent, and internal processes that underlie close relationships and are consistent with transactional models. Using dialectical and transactional models to explore relationship dissolution as a process implies that relationships are in a continuous state of flux as opposed to static or absolute states. These findings lend support to a process based understanding of relationship change and dissolution.
The first contribution was to the conceptualization of change in social network membership. Previous research on attachment networks interpreted change in network membership at different points in time as absolute change, such that relationships were terminated from an individual's network of personal relationships. In contrast, this study used dialectical theories of personal relationships (e.g. Hinde, 1979; Kuczynski & De Mol, 2015) to frame change in relationships as emergent and in a continuous state of flux as opposed to static or absolute states. The findings indicated that participants viewed dissolution not as a fixed and abrupt termination, but as a continuous process with an ambiguous non-determinant outcome. Thus the qualitative analysis suggests that using quantitative listing procedures may provide a misleading interpretation of the meaning of change. It is argued that a direction for future quantitative research is to incorporate a less deterministic understanding of change processes in measures of relationship change in networks. For example, it is possible that relationships may temporarily wane in importance in a person’s set of functional network relationships, but may be called upon to serve a different function at a future date.

The second contribution was to methodology through the development of a new approach to assessing dissolution in social networks. This methodology had two components: one method for selecting samples and one method for verification of classification. The method for selecting samples used the same participants in both the quantitative and qualitative studies. Participants were able to identify and construct their social networks at two time points in the quantitative study. Using the same quantitative measure in the qualitative study, participants were then able to discuss changes in network membership. Using the same participants and the quantitative measure in Study 2 enhanced the validity of examining "changing relationships" because changes to network membership were being explored as they were occurring as opposed to studying relationships retrospectively or after they had been terminated.

The second methodological component was the analysis of participants’ narratives when they were asked to verify the classification of the current status of their relationship. The practice in quantitative approaches is to treat responses to relationship classifications as definite and to take for granted the meaning of the classification or for researchers' to impose their own meaning upon the classification. The findings from the current study suggest that a problem with this approach is that it imposes a static and absolute characterization on a phenomenon that is in fact dynamic and uncertain. Valsiner and Rosenbaum (2011) argued that quantitative measures, such
as likert scales, assume that both the question and the scale used are understood accurately by the individual completing them. However, the processes that underlie how the individual comes to their response are unknown and rating scales change dynamic processes into static and temporary states.

The third contribution concerned a focus on the process of relationship change. This study viewed participants as agents who were actively making sense of the changes experienced in their peer relationships and the emergence of three internal processes from the thematic analyses of the participants interviews. The three processes were informed from all aspects of the semi-structured interview. These processes go beyond the initial research questions and demonstrate the spontaneous and emergent quality of close relationships. The three internal processes will be discussed as part of a larger experience of managing dissolution. The three processes will be discussed individually and a proposed model of relationship dissolution will also be outlined for future consideration.

**Managing the Experience of Dissolution**

The majority of research on close relationships focuses on the activity of agents to maintain their relationships (e.g., Dindia, 2003). However, the current study focused on the activity of agents to manage the dissolution of their relationships. This study explored the processes involved in managing the experience of dissolution. Although this study does not provide a comprehensive theory, it does provide a conceptual model of the processes involved in managing the experience of dissolution. These processes included 1) detecting change in the relationship; 2) monitoring change in the relationship; and 3) interpreting change in the relationship.

**Detecting change in the relationship.**

Detecting change was the process of individuals being aware that something was changing in their peer relationship. Before the interviews began, participants were asked to select a relationship that they perceived was changing and would be the focus of the interview. During the interview, participants were asked to classify the current state of their relationship as ongoing, on-hold, or over. This question was a stimulus for participants to discuss their observations that something was changing and how they interpreted this change in their friendship. Participants' answers to the researchers' labels revealed that change has certain characteristics. Change was not experienced as an absolute state and participants' responses
revealed that change was experienced as being contingent, ambivalent, and ambiguous. Participants' took the researchers' labels and assigned their own meaning with regards to their assessment of change. Labels could also be understood as provisional and filled with ambiguity about the course of the relationship.

Hess (2003) also discussed the use of labels for classifying and understanding the differences between desired and undesired relationships. Hess proposed that undesired relationships were once desirable relationships. However, Hess did not address the process that underlies how individuals reassess their conceptualizations of their relationships. The current study suggests that relationship conception and classification may be an accumulation of a longer process of meaning making as well as adaptation to gradual changes in the relationship. This emergent process of conceptualizing the current state of the peer relationship was also related to the participants' perception of the future of the relationship. The participants representations of both the present and future of the peer relationship were in flux and not static states, but represent processes that are influenced by one another as the current experience of relationship change evolves and continues to create more change. With the detection that change was occurring in their peer relationship, participants were also observing and monitoring their experiences of change.

**Monitoring change in the relationship.**

Monitoring change was characterized by participants' descriptions of what change looked like as well as factors and events that were associated with change. Detecting change was the participant's initial appraisal that the relationship was changing while monitoring change was the process of observing and recording changes as they occurred. Detecting and monitoring change can be understood as an iterative process that feedbacks into one another as more information is collected about changes in the relationship. For instance, as participants monitored change this would inform their current relationship appraisal and classification of the relationship.

The majority of participants discussed their experience of change as being a gradual process and this was consistent with previous studies on friendship termination (e.g., Rose, 1984; Rose & Serfica, 1985). Participants used metaphors to describe their experience of change. Metaphors contained two components. The first component contained the perception of change and the second contained the negative emotional reaction to their experience. Overton (1991) proposed that metaphors are a process of knowing in which individuals move from the "known
to unknown" and assign meaning and understanding to the unknown. In the current study, the participants' use of metaphors demonstrated their incremental experiences of change as well as their attempts to understand what this change meant to them and to their peer relationship.

In addition to the progression of change, participants also identified external factors that they associated with change. These factors included romantic relationships and physical distance. These factors were identified as instigating change as well as being a constant presence in the experience of monitoring the relationship. External factors may be similar to the idea of warning signs or red flags that were found in Jalma's (2008) study on friendship dissolution. Warning signs occurred early in the relationship and suggested that something ambiguous or negative was occurring in the friendship. External factors could have been the first indication that something was different in the relationship and were noteworthy enough for participants to associate them with change. Turning points were also identified as a source of change. The majority of participants identified a specific moment or event that they attributed to being a change in their relationship.

Turning points can be understood using transactional models in which the event represents a specific transaction that was associated with qualitative change. Qualitative change creates new meaning, thinking, and behaving either for one or both individuals in the relationship (Kuczynski et al., 2009). Turning points represent a specific and tangible experience of change. The event itself is not important, however the meaning making that participants engaged in from the event is what makes it important. The meaning making derived from turning points initiated a larger assessment and evaluation of the relationship which in turn created a larger process of meaning making. Therefore, turning points not only confirmed the presence of change, but created a new relationship trajectory. Participants engaged in a larger process of meaning making in which they were assessing and evaluating the friendship using information from their past and present transactions.

**Interpreting change in the relationship.**

Interpretations of change was a larger process of meaning making that participants engaged in to make personal sense of their changing friendship. Interpretations were participants' efforts to understand what change meant to them and told them about their peer relationship. Meaning making occurred throughout the semi-structured interview and took the form of
relational expectations and violations, assessing relationship quality, and evaluating relationship worth.

The process of meaning making can be understood using dialectical and transactional models. Contradictions create uncertainty, that engages a process of problem solving through meaning making, evaluation, and finding solutions (Kuczynski & De Mol, 2015; Kuczynski et al, 2009). The outcome constitutes a synthesis or a qualitative change in which novelty may be created as individuals attempt to resolve the contradiction. Contradictions were inherent in the narratives of the participants. Relational expectations represented one part of a contradiction, the thesis, in which participants used their past experiences of the relationship to help them predict the behaviour and attitude of their peer. The other half of the contradiction, the anti-thesis, was the violation and provided contrasting information that challenged the participants expectations. Using both the expectation and the violation created a new idea about the relationship. The relationship was now viewed as changing and that previous expectations of the friendship were no longer supported.

Contradictions were present in the theme of assessing relational quality and highlighted the discrepancy between past and present experiences of relational quality and efforts. From these contradictions, the relationship was experienced as negative, unsatisfying, disconnected, and lacking effort to maintain the relationship by both relational partners. Lastly, contradictions were also present in the theme of evaluating relationship worth. Participants described the relationship as no longer being active or alive and that they no longer wanted the relationship to continue. Dindia (2003) proposed that for relationships to be maintained they need to be kept active, features of the relationship are persevered, and the relationship is satisfying. This idea of maintaining a relationship was challenged with the new idea that when relationships dissolve, they are no longer seen as being active, the quality is not preserved, and the relationship is no longer satisfying. Overall, participants were trying to understand and create meaning about the changes they experienced in their relationships. The meaning making process informed the larger idea that the relationship was changing and whether or not the relationship would continue.

A Proposed Model of Relationship Dissolution

Using the processes of identifying, monitoring, and interpreting change, I propose a transactional approach to understanding the process of relationship dissolution. This proposal builds upon Levitt and Cici-Gokaltun's (2011) social expectations model by incorporating
transactions with relational expectations and violations. A transactional approach implies that transactions occur between relational expectations and violations, in which an unspecified number of expectations and violations have gradually accumulated over time, but do not lead to change. The three transactional processes of identifying, monitoring, and interpreting change are iterative processes that occur within each experience of an expectation and violation.

The accumulated expectation violations are monitored over time, are used to conceptualize the status of the relationship, and influence the individuals understanding and meaning of the relationship. Turning points would be a part of this approach and are associated with expectation violations. The turning point represents a specific event that stands out from previous transactions and this event can lead to qualitative change through the use of contradictions between what was expected and the violation. Change is small, incremental, and can lead to bigger changes such as identifying a turning point that may lead to dissolution. A transactional approach explains how previous interactions influence present and future interactions which is not currently addressed in the research on dissolution processes or Levitt and Cici-Gokaltun's model (2011).

An area of consideration that emerges from the transactional approach is whether individuals have the ability or desire to change their relationships and whether individuals make a conscious choice to engage in a change process. Gilligan (2009) proposed a sequence of four pre-conditions that must occur for turning points to have an enduring change effect. The pre-conditions are opportunity, readiness, agency, and sustaining context. These pre-conditions are useful considerations when exploring dissolution processes because an individual's readiness for change will influence how, when, and if change occurs.

Opportunity refers to circumstances that must occur in the relationship for a change to occur. Readiness refers to the individual's readiness to engage in change and could include a person being open or responsive to the influence of the experience as well as the personal meaning derived from the experience (Gilligan, 2009). Agency refers to the individual being willing to engage, able to take the risk of change, and committing the energy needed for change. Lastly, for turning points to support long term change, there must a sustaining context that supports the change through reinforcing conditions. Applying Gilligan's pre-conditions to the study of relationship change would help researchers to understand if there are any specific events or transactions that create meaning or change. Also, it would be useful to explore the length of
time and number of transactions that occurred before an individual engaged in change. Finally, future research should explore the experiences of young adults who were not ready to engage in change, what told them they were not ready, and if they ever engaged in change. These processes are unknown and would help researchers to understand the preconditions needed to terminate a relationship.

Is it Really Over?

Although participants were asked to conceptualize the current state of the peer relationship and the imagined future, participant responses indicated that they were not certain about what the future would hold. This study captured participants in the process of experiencing the process of change and it is unknown what happened to the changing peer relationship after the interviews were completed. Abbey (2012) proposed that the experience of ambivalence can create tensions between the present or "what is" and the future or "what could be". These tensions present opportunities for meaning making because the present informs the future, however there is no certainty in what the future will look like because it is contingent on changes in the present. Therefore, individuals are always in a process of change that is shaped by the present, which influences the future.

It is unknown if the participants terminated their changing peer relationship. After the interview, participants may still have been in a process of change because of their daily interactions that are accompanied by tensions and opportunities for meaning making (Abbey, 2012). A limitation of this study is that the researcher did not follow up with the participants to confirm if they did terminate their peer relationships or if they were still in a process of change. Future research would benefit from Abbey's (2012) proposals to capture the transformational process of change that occurs within individuals as well as within the relationship.

Limitations and Future Directions

There are several limitations to this study. The 22 participants that chose to discuss a changing peer relationship were women and the qualitative analysis may represent a gendered experience of dissolution processes that may not be representative of men. Future research would benefit from qualitatively exploring the dissolution processes for men and whether these processes are similar or different. This study also used a sample of young adults from a university population and the sample was primarily Caucasian. The challenges with this sample are that there was no diversity in terms of ethnicity and the change processes may not be
universal or transferable to individuals from various cultural backgrounds. Future research would benefit from exploring whether the change processes observed in the current sample are similar or different for young adults from different cultural backgrounds.

Another limitation to this study is that the process and experience of change was only discussed from the perspective of the participant and did not include the changing peers' perspective. By using an ego-centred network approach, that is interviewing one individual about their experience within their own social network, it tells one side of the story of change. For example, it is possible that the relationship has changed in status or its characteristics for one member of the relationship but not for the other member. Or both relational partners agree that the relationship has changed, but for different reasons. Future research would benefit from having the two members of the dyad discuss their experience of change separately, or together, to explore how change processes are similar or different as well as the experience of meaning making for each member of the dyad. To move beyond ego-centered approaches, it would also be of value for future research to explore how the relationships that constitute the social network influence the relationship dissolution process. For instance, would other high quality friendships be used to compare against a low quality friendship and would individuals use their existing friendships as a standard for the type of relationships they want to have in their social network? Taking a systemic approach to the study of social network membership would help researchers understand change within networks as well as the interactions occurring within the network and their influence on change processes. In conclusion, this study explored the active and emergent processes that young adults engaged in when managing their experience of relationship change as well as contributed new methodologies that extend the study of social networks beyond quantitative and static measures of relationships.

CHAPTER FOUR

Integrated Discussion

The phenomenon of young adult’s participation in social relationships outside the family was explored using macro (social network) and micro (dyadic relationship) levels of analysis. The rationale for combining levels of analysis in this dissertation was similar to Patterson’s (1997) explanation for his own research program on family coercion. Macro level models are important for identifying associations between variables that are suspected to be causally related. Micro level models are important for understanding underlying processes of social interactions.
as well as the processes that underlie change, or how the phenomenon changes form over time. In this dissertation, the two levels of analysis were addressed methodologically using a mixed method sequential explanatory design.

Study 1 used quantitative methodology to investigate and predict the outcomes associated with family and peer social network membership. Study 2 used qualitative methodology to examine the processes that underlie changes to network membership, specifically the dissolution process for non-romantic peer relationships. The mixed method approaches in this dissertation viewed quantitative and qualitative methods as complementary approaches with different functions in generating knowledge and allow researchers to gain a fuller understanding of the phenomenon under investigation (Hesse-Biber, 2012). The following discussion will outline the contributions from macro and micro level analyses, the contributions from a mixed methods approach, as well as future directions for research.

**Contributions from Macro Level of Analysis**

The main contributions from Study 1, the quantitative study, were that individuals experienced continuity in the quality of their family and peer relationships and that the level of relationship quality was predictive of mental health outcomes. There are two implications from the quantitative approach for the study of close relationships. The first implication is that any positive or negative outcomes associated with network relationships are contingent on the quality of the relationship. Relationship scholars need to focus on the quality of the relationship and not the type of relationship. The findings from Study 1 are supported by Laursen and Mooney's (2008) research on adjustment and relationship quality during adolescence. They found no significant relationship differences and that adolescent adjustment was not based on the type of relationship, but on the quality of the relationship. For instance, adolescents who reported no negative relationship ratings had higher grades, fewer adjustment problems, and higher levels of behavioral conduct than adolescents who reported having 1, 2, or 3 negative relationships. These findings challenge theoretical proposals, such as attachment theory, and conceptions of the developmental importance of initiating and maintaining specific relationships, such as peer relationships (e.g., Hartup, 1980). The theoretical implication is that any benefits or detriments to a specific relationship are mediated by the quality and this suggests that the dyadic quality as well as the overall network quality are important areas for future research.
The second implication is that the quality of family relationships creates models or expectations of what individuals will expect in their relational experiences outside their family of origin. The majority of participants experienced continuity between their family and peer relationship quality groupings which supports the proposal of indirect relational patterns of family dynamics (e.g., Parke & Ladd, 1992). The continuity findings from the current study also support previous research that has found that adolescents and young adults who experienced supportive and quality family relationships are more likely to report happiness, satisfaction, and commitment in romantic peer relationships (e.g., Conger, Cui, Bryant, & Elder, 2001; Crockett & Randall, 2006). However, in the current study a small number of participants experienced discontinuous patterns of relationship quality with family and peers during the university experience. The continuity and compensation analyses conducted in Study 1 was a theoretically informed analyses that yielded findings that were not consisted with this theoretical approach. However, a pattern of relational discontinuity was observed that may reflect a variety of discontinuous patterns of relational quality that are not compensation, but are meaningful areas of future research. Discontinuity and compensation ideas are an important area of future study for relationship scholars because this may be a mechanism for change.

Very little is known about how relationship compensation works, the processes involved, as well as the perceived benefits or detriments during young adulthood. The majority of research has focused on compensation models when family relationship quality is low and peer relationship quality is high as well as the perceived benefits. For instance, children from families with low cohesion and adaptability who have close and supportive friends report high levels of self-worth and social competence equal to children who come from cohesive families (e.g., Gauze et al., 1996).

Consistent with the compensation pattern, Study 1 found evidence of a low family relationship quality and high peer relationship quality compensation pattern. However, this study also found a second pattern in which family relationship quality was high and peer relationship quality was low. Similar findings are supported by Jager (2011), who also identified two types of compensation patterns during young adulthood. Jager found that individuals with a non-converging subtype of high friends / high romantic partner ratings and low parent ratings reported more problem behaviors. Further, Jager found that individuals who had high parent ratings and low romantic partner ratings were the most well-adjusted subtype. Research on
compensation patterns has demonstrated a beneficial and detrimental effect for individuals with low quality family or peer relationships. Future theoretical and empirical research needs to address the underlying processes of compensation patterns as well as the stability of compensating relationships within social networks. Understanding how and when compensation occurs would highlight the importance of these relationships during specific transitions and periods of development.

**Contributions from Micro Level of Analysis**

Study 2 used a qualitative analyses of in depth interviews of a subset of participants regarding relationships that were determined to be changing using standard quantitative procedures in Study 1. There are two implications from this study. The first contribution of these micro level analyses was to shed light on underlying processes of change, particularly at the point that relationships are in a state of potential dissolution. Researchers have proposed that individuals actively initiate and maintain their close relationships (e.g., Dindia, 2003) and this is also true for the process by which they terminate their relationships. Relationship scholars should consider the utility of dialectical and transactional models to explore close relationships and social networks (e.g. Hinde, 1979; Kuczynski & De Mol, 2015).

Previous research on dissolution in non-romantic peer relationships has yet to utilize a specific theoretical or conceptual framework. The lack of a theoretical lens presents challenges to understanding how individuals make decisions to end relationships and what processes are involved. Dialectical and transactional models present new ways for researchers to conceptualize social network relationships as well as explain the process of change. Processes identified in Study 2 that are consistent with dialectical or transactional models included turning points, meaning making, relational expectations and violations, as well as evaluations of relational quality and worth. The overall implication was that individuals are active agents who engage in a process of managing their experience of relationship dissolution. Future research using theories that highlight relationship processes would further expand our understanding of relationship dissolution as well as relationship initiation and maintenance within a social network.

The second implication stems from the finding that participants viewed their relationships as emergent and dynamic even for relationships they had previously listed as changing using standard quantitative procedures. This suggests that quantitative approaches for measuring relationship change may provide a misleading picture of relationship change, namely
that relationships are absolutely terminated when they are no longer listed. Minimally, researchers using quantitative approaches should contextualize their findings within an understanding that relationship change was a continuous process. Hinde's (1979) relationship theory and social relational theory (Kuczynski & Parkin, 2007, 2009) provide theoretical perspectives that can inform the literature on social networks and relationship dissolution. Both of these theories propose that individuals are agents embedded within relational contexts in which individuals interact with others and that the individual as well as the context shapes and influences the relationship. Relationship scholars should consider adopting these theoretical conceptions when exploring stability and change within social networks. These ideas provide new ways to understand relationships as well as to understand how individuals are actively involved in initiating, maintaining, and dissolving relationships.

**Mixed Method Contributions and Future Directions**

The findings of this dissertation suggest that a mixed methods approach provides both complementary and divergent perspectives on the nature of a phenomenon. The quantitative and qualitative studies in this dissertation converge in highlighting the importance of relational quality. Study 1 explicitly incorporated various measures of relationship quality that included social support, intimacy, conflict, antagonism, and attachment. Essentially, the quantitative study allowed for an analysis of different meanings of quality that point to the importance of this phenomenon for individual well-being as well as suggesting directions for new comprehensive approaches to the measurement of relational quality.

On the other hand, the qualitative study provided insight into the lived experiences of the participants who created meanings regarding the implications of relationship quality in their daily lives and decisions about what to do with relationships of unsatisfactory quality. Study 2 did not explicitly ask any specific questions about relationship quality. However, throughout the interview participants’ spontaneous contextualization's of their peer relationship demonstrated that their friendship did not meet the expectations or contain the qualities they associated with a friendship. The qualitative methodology allowed participants to express their own meaning about their experience of the quality of their relationships.

For instance, experiences of conflict and antagonism were translated into turning points, the meaning making derived from turning points, as well as external factors such as the presence of romantic relationships. Inherent within these themes were differences of opinion as well as
experiences of hostility and interference which reflect the constructs of conflict and antagonism. Also, experiences of intimacy and social support were translated into the themes of relational expectations, violations, and relational quality, specifically in the subthemes of disconnection and negative characteristics. Inherent within these themes were experiences of expectations no longer being supported and a lack of mutual disclosure and connection which reflect the absence of the constructs of intimacy and support. The translation of relationship quality from static to process demonstrated that relationship quality is an important phenomenon in understanding social networks. Overall, relationship quality was an emergent and connecting feature between the quantitative and qualitative studies.

The divergence in the findings using a mixed methods approach focused on the conclusions a researcher can make regarding the nature of relationships when different methods are used. Rosenbaum and Valsiner (2011) proposed that one objection to the use of rating scales was that dynamic psychological processes are changed into a static and temporary state. Using a mixed methods approach allowed the researcher to explore the phenomenon of relationship quality both as a static state and as a dynamic process. The advantage to studying static states of relationship quality was that the phenomenon was identified and associations were explored. However, if only a quantitative approach was used, there is a potential for interpreting relationship quality as a static characteristic of individuals or of the relationship. This diverges from interpretations that are possible when a phenomena is viewed from the perspective of a naturalistic qualitative method or when the relationship characteristics are dynamic and emerge from the mutual transactions of the relationship partners. Mixed method approaches are only beginning to be used in developmental psychology (Tolan, Baker, & Deutsch, 2015), but it can anticipated that future research on the same phenomenon using mixed methods will lead to further challenges and future progress in the field.

Future research on social networks using mixed method approaches should explore the different information offered by macro and micro models of relationships and the different perspectives on a phenomenon offered by quantitative and qualitative methods. This more holistic approach to methodology (Valsiner, 2000) would help researchers to understand how the quality of dyadic relationships influences the quality of the overall social network. Moreover probing phenomena of relationship change uncovered at a macro level of analysis would shed light on the processes that inform how individuals initiate, maintain, and dissolve network
relationships. This type of research design would explore interactional processes and provide a deeper understanding about how individuals make choices about social relationships within a social network.

Lastly, there are also clinical implications for mental health professionals. Study 1 identified positive and negative relational quality patterns related to psychological well-being and psychological distress. These patterns provide support for Tomm's (1991) proposal of healing and pathologizing interpersonal patterns. In addition, this dissertation extends Tomm's work by identifying potential processes underlying individuals ability to cope with pathologizing relationships. Study 2 demonstrated that a number of participants experienced ambivalence, ambiguity, and uncertainty in their experiences of pathologizing interpersonal patterns. The qualitative analysis highlighted how individuals manage or cope with their experiences of negative relational dynamics. Tomm's (1991) proposal outlined the assessment of interpersonal patterns, but not the processes involved with managing the experience of these relational patterns. Study 2 extends Tomm's proposal by highlighting how individuals manage and make sense of their changing interpersonal patterns. This dissertation may be helpful to clinicians because it demonstrates areas of support, evaluation, and meaning making that would assist individuals in developing coping strategies for ambivalence, ambiguity, and uncertainty while managing their dissolution process.
References


Appendix A

Recruitment Poster

Changes in Social Networks
part of Robyn Prim and Stupian's PhD Thesis being conducted at the University of Guelph (supervised by Dr. Leon Kuczenski)

Family and Friend Relationships

Are you in your 1st OR 3rd year of university?
Are you aged 18-28?

Contribute to an understudied body of knowledge about changes in relationships

Interested? Take a survey link ticket below ↓

You will be entered into a draw for a chance to win 1 of 3 x $50.00 Visa gift cards for participating in an online questionnaire

*chance of winning is out of 300 participants
Appendix B

APPROVAL PERIOD: November 26, 2009 to November 26, 2010

REB NUMBER: 09NV007

TYPE OF REVIEW: Delegated Type 1

RESPONSIBLE FACULTY: LEON KUCZYNSKI

DEPARTMENT: Family Relations & Applied Nutrition

SPONSOR: N/A

TITLE OF PROJECT: Processes and Outcomes Associated With Changes to Social Networks During Adolescence and Young Adulthood

Changes: 11 Feb 10: B.10 Methodology

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human subjects in the above-named research project and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement.

The REB requires that you adhere to the protocol as last reviewed and approved by the REB. The REB must approve any modifications before they can be implemented. If you wish to modify your research project, please complete the Change Request Form. If there is a change in your source of funding, or a previously unfunded project receives funding, you must report this as a change to the protocol.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Responsible Faculty, the safety of the participants, and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-council Policy Statement requires that ongoing research be monitored by, at a minimum, a final report and, if the approval period is longer than one year, annual reports. Continued approval is contingent on timely submission of reports.

Membership of the Research Ethics Board: M. Dwyer, Legal Representative; M. Fairburn, Ethics and External; D. Emslie, Physician; B. Ferguson, CME; Lachapelle, S. COA; J. Minogue, EHS; Saunders, P. Alternative Health Care and External; Spriet, L. CBS; L Trick, Psychology; J. Tindale, FRAN; T. Turner; SOAN.

Approved: ____________________________  Date: ____________________________

per Chair, Research Ethics Board
Appendix C

Study 1 Consent Form

CONSENT TO PARTICIPATE IN RESEARCH

**Title of Research Project:** Outcomes associated with changes to social networks during adolescence and young adulthood.

You are asked to participate in a research study conducted by Robyn Pitman, PhD Candidate and Dr. Leon Kuczynski (lkuczyns@uoguelph.ca, 519-824-4120 ext. 56325) from the department of Family Relations and Applied Nutrition at the University of Guelph. The results of the study will be contributed to Robyn Pitman’s dissertation. If you have any questions, concerns about the research, or would like a summary of the research once completed, please contact Robyn Pitman (rpitman@uoguelph.ca, 519-824-4120 ext. 56325).

**Purpose of the study**
This project will be exploring changes in relationships and their organization during university. The quality of close relationships with individuals such as family members, peers, and romantic partners are related to positive and negative feelings. Research has suggested that changes in social networks are an indication of healthy and typical development. This study will be exploring changes to quality of relationships and how social networks are related to positive and negative feelings.

**Procedures**
You will be asked to complete a series of questionnaires using an online survey about your close relationships with your mother, father, close friends, and romantic partners, your mood, feelings of loneliness, anxiety, life satisfaction, optimism, and your feelings of self worth. You will also be asked to evaluate relationships with other individuals who you feel are important in your life. You can review these questionnaires before you decide to participate by contacting the student investigator. The questionnaire will take 40-60 minutes to complete.

**Potential risks and discomforts**
There is no expected harm from completing these questionnaires. However, some of the questions may be viewed as personal and you can refuse to answer any question(s) and stop participating at any time by closing the browser of the online survey. Some people report that the survey gets them to think about their relationships more deeply than they might do otherwise. This may be a benefit or a risk depending on the nature of my relationships.

**Potential benefits**
This research will help to increase knowledge and understanding of the importance of social networks during stressful life events such as the transition to university and the outcomes these relationships may have on one’s development. It contributes to applied knowledge by providing research findings regarding associations between relationship quality and psychological functioning that may inform therapeutic services, support services, and community support groups about the importance of healthy and supportive relationships during stressful life events in young adulthood.

**Payment for participant**
For your participation in the study, you will be entered into a draw for a chance to win 1 of 3 $50.00 Visa gift cards out of 300 participants.

**Confidentiality**
Your responses will be completely confidential; no identifying information will be recorded on the questionnaires. You are completing these questionnaires online. If you would rather complete a paper and pencil version, you can contact the researcher at rpitman@uoguelph.ca. The questionnaire data will be used for research and teaching purposes. All data will be secure and encrypted on transfer similar to online banking. All data will be stored on a computer in a password-protected file in Dr. Kuczynski’s lab for at least five years after publication of these results. Your answers will not be told to anyone who is not involved with the study unless you give written consent. Your name will not be associated with your questionnaire data and your name will not be used in any report of the study.

**Participation and withdrawal**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don’t want to answer and still remain in the study. If you stop taking part in the study, the information you have given up to the time of withdrawal will be kept for the study unless you request that it not be used. If you stop taking part in the study, you may request that the questionnaire data be destroyed by contacting Robyn Pitman (rpitman@uoguelph.ca, 519-824-4120 ext. 56325).

**RIGHTS OF RESEARCH PARTICIPANTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. This study has been reviewed and received ethics clearance through the University of Guelph Research Ethics Board. If you have questions regarding your rights as a research participant, contact:

<table>
<thead>
<tr>
<th>Research Ethics Coordinator</th>
<th>Telephone: (519) 824-4120, ext. 56606</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Guelph</td>
<td>E-mail: <a href="mailto:sauld@uoguelph.ca">sauld@uoguelph.ca</a></td>
</tr>
<tr>
<td>437 University Centre</td>
<td>Fax: (519) 821-5236</td>
</tr>
<tr>
<td>Guelph, ON N1G 2W1</td>
<td></td>
</tr>
</tbody>
</table>

**Would you like to be contacted about participation in future research? Please select one of the boxes.**

- [ ] YES, you agree to be contacted about participating in future research and understand that your contact information will be stored with your research ID number in a file separate from your questionnaire data – in other words your name will never be associated with your data. Both your contact email and research ID number will be used to match any data collected from you now with data that you may provide in the future.

  You understand that if you choose to be contacted about participating in a future study, at the time of the future study, you will have the opportunity to ask questions about the study, review the questionnaires, and sign an informed consent before you agree to participate. You can decide whether or not to participate at that time.

Please provide your University of Guelph email address or a reliable email address to be contacted for future studies:

- [ ] NO, you do not agree to be contacted about participating in future research.
Appendix D

Demographics Questionnaire

Gender (please circle one): Male Female

Age:

Ethnicity (please circle and fill in all that apply)
Caucasian (please specify:__________________)
Black (please specify:__________________)
Asian (please specify:__________________)
First Nations (please specify:__________________)
Other (please specify:__________________)

Marital status (please circle the option that best describes your relationship status)
Single (not dating)
Single (dating casually)
Dating (but not living with romantic partner)
Living with romantic partner
Married or common law
Separated
Divorced
Widowed
Other (please specify:__________________)

If you are currently in a romantic relationship, how long have you been in this relationship?

What is your year of education (please circle one)?
1st year
2nd year
3rd year
4th year
Other (please specify:__________________)

Parent’s marital status (please circle one)
Never married
Married but separated/divorced when I was ______
Married but widowed when I was ______
Still married
Other (please specify:__________________)
Appendix E

**Relationship Scales Questionnaire: Mother**

Please read each of the following statements and rate the extent to which it describes your feelings about your mother on the 7-point scale. Please think about your relationship with your mother past and present, and response in terms of how you generally feel in this relationship.

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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Not at all like me</td>
<td>somewhat like me</td>
<td>very much like me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I find it difficult to depend on my mother.
2. It is very important to me to feel independent from my mother.
3. I find it easy to get emotionally close to my mother.
4. I worry that I will be hurt if I allow myself to become too close to my mother.
5. I am comfortable without a close emotional relationship with my mother.
6. I want to be completely emotionally intimate with my mother.
7. I worry about being alone.
8. I am comfortable depending on my mother.
9. I find it difficult to trust my mother.
10. I am comfortable having my mother depend on me.
11. I worry that my mother does not value me as much as I value her.
12. It is very important to me to feel self-sufficient from my mother.
13. I prefer not to have my mother depend on me.
14. I am somewhat uncomfortable being close to my mother.
15. I find that my mother is reluctant to get as close as I would like.
16. I prefer not to depend on my mother.
17. I worry about having my mother not accept me.
Appendix F

**Relationship Scales Questionnaire: Father**

Now, please read each of the following statements and rate the extent to which it describes your feelings about your father on the 7-point scale. Please think about your relationship with your father past and present, and response in terms of how you generally feel in this relationship.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all like me</td>
<td>somewhat like me</td>
<td>very much like me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I find it difficult to depend on my father.
2. It is very important to me to feel independent from my father.
3. I find it easy to get emotionally close to my father.
4. I worry that I will be hurt if I allow myself to become too close to my father.
5. I am comfortable without a close emotional relationship with my father.
6. I want to be completely emotionally intimate with my father.
7. I worry about being alone.
8. I am comfortable depending on my father.
9. I find it difficult to trust my father.
10. I am comfortable having my father depend on me.
11. I worry that my father does not value me as much as I value him.
12. It is very important to me to feel self-sufficient from my father.
13. I prefer not to have my father depend on me.
14. I am somewhat uncomfortable being close to my father.
15. I find that my father is reluctant to get as close as I would like.
16. I prefer not to depend on my father.
17. I worry about having my father not accept me.
Appendix G

**Relationship Scales Questionnaire: Close Friends**

Now, please read each of the following statements and rate the extent to which it describes your feelings about close friendships on the 7-point scale. Think about all of your close friendships, past and present, and respond in terms of how you generally feel in these relationships.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>somewhat</td>
<td>like me</td>
<td></td>
<td></td>
<td></td>
<td>very much</td>
</tr>
<tr>
<td></td>
<td>Like me</td>
<td>like me</td>
<td>like me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I find it difficult to depend on my close friends.
2. It is very important to me to feel independent from my close friends.
3. I find it easy to get emotionally close to my close friends.
4. I worry that I will be hurt if I allow myself to become too close to my close friends.
5. I am comfortable without close emotional relationships with my close friends.
6. I want to be completely emotionally intimate with my close friends.
7. I worry about being alone.
8. I am comfortable depending on my close friends.
9. I find it difficult to trust my close friends completely.
10. I am comfortable having my close friends depend on me.
11. I worry that my close friends do not value me as much as I value them.
12. It is very important to me to feel self-sufficient from my close friends.
13. I prefer not to have my close friends depend on me.
14. I am somewhat uncomfortable being close to my close friends.
15. I find that my close friends are reluctant to get as close as I would like.
16. I prefer not to depend on my close friends.
17. I worry about having my close friends not accept me.
Appendix H

**CES-D**

To the left of each question, please select the appropriate number that best describes how often you felt or behaved this way - DURING THE PAST YEAR.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Rarely or none of the time</td>
<td>Some or little of the time</td>
<td>Occasionally or a moderate amount of the time</td>
<td>Most or all of the time</td>
</tr>
</tbody>
</table>

1. I was bothered by things that usually don’t bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get “going”.

Appendix I

**SCL Anxiety and Depression Scales**

The next set of questions concern a variety of feelings, symptoms, and complaints. For each problem, fill in the number to the left that best describes the extent to which you have experienced that symptom during the past year. Write one number for each problem. At one extreme 0 means that you have not been bothered by the problem. At the other extreme, 4 means that the problem has been an extreme bother.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No bother</td>
<td>extreme bother</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**How well do the following fit your feelings at times?**

1. Nervousness or shakiness inside
2. Loss of sexual interest or pleasure
3. Feeling low in energy or slowed down
4. Thoughts of ending your life
5. Trembling
6. Crying easily
7. Feeling of being trapped or caught
8. Suddenly scared for no reason
9. Blaming yourself for things
10. Feeling lonely
11. Feeling blue
12. Worrying too much about things
13. Feeling no interest in things
14. Feeling fearful
15. Heart pounding or racing
16. Feeling hopeless about the future
17. Feeling tense or keyed up
18. Feeling everything is an effort
19. Spells of terror and panic
20. Feeling so restless you can't sit still
21. Feelings of worthlessness
22. Feeling that familiar things are strange or unreal
23. Feeling pushed to get things done
Appendix J

**Revised UCLA Loneliness Scale**

Below are some statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by writing the appropriate number beside each of the items. Please be open and honest in your responding. The 7-point scale is as follows:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Neither agree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1. I feel in tune with people around me.
2. I lack companionship.
3. There is no one I can turn to.
4. I do not feel alone.
5. I feel part of a group of friends.
6. I have a lot in common with the people around me.
7. I am no longer close to anyone.
8. My interests and ideas are not shared by anyone around me.
9. I am an outgoing person.
10. There are people I feel close to.
11. I feel left out.
12. My social relationships are superficial.
13. No one really knows me well.
14. I feel isolated from others.
15. I can find companionship when I want to.
16. There are people who really understand me.
17. I am unhappy being so withdrawn.
18. People are around me but not with me.
19. There are people I can talk to.
20. There are people I can turn to.
Appendix K

**Rosenberg Self-Esteem Scale**

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, choose the “4” bubble. If you agree with the statement, choose the “3” bubble. If you have no feeling either way, choose the “2” bubble. If you disagree, choose the “1” bubble. If you strongly disagree, choose the “0” bubble. Please place your answer beside the question.

<p>| | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
<td></td>
</tr>
</tbody>
</table>

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

Life Orientation Test-Revised (LOT-R)

Below are ten statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by choosing the appropriate number and writing it beside each of the items. Please be open and honest in your responding. The 7-point scale is as follows:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Neither agree nor disagree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1. In uncertain times I usually expect the best.
2. It’s easy for me to relax.
3. If something can go wrong for me, it will.
4. I’m always optimistic about my future.
5. I enjoy my friend a lot.
6. It’s important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don’t get upset too easily.
9. I rarely rely on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.
Appendix M

Satisfaction with Life Scale

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by choosing and writing the appropriate number beside each of the items. Please be open and honest in your responding. The 7-point scale is as follows:

1. Strongly disagree
2. Slightly disagree
3. Neither agree nor disagree
4. Slightly agree
5. Agree
6. Strongly agree

1. In most ways my life is close to ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important thing I want in life.
5. If I could live my life over, I would change almost nothing.
Appendix N

Social Networks Questionnaire

**INSTRUCTIONS:** In the following table, please list the significant people in your life; those people that you currently feel a strong emotional tie to or have a personal relationship with, regardless of whether that tie is positive, negative, or mixed. These individuals can be listed in any order. In addition, please fill in the other information requested about these individuals.

<table>
<thead>
<tr>
<th>Initials of Name</th>
<th>Relationship (e.g. friend, brother)</th>
<th>Gender M/F</th>
<th>Age (yrs)</th>
<th>Distance From You 1 = same house 2 = within 10 min drive 3 = within 1 hour drive 4 = within 1 day drive 5 = more than 1 day drive</th>
<th>Frequency of Contact (visit, phone, write) 1 = daily/almost daily 2 = at least once/week 3 = at least once/month 4 = 3 to 4 times/year 5 = approx. once/year 6 = less than once/year</th>
<th>Amount of Time You Have Known Each Other (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<td>5.</td>
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<tr>
<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
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<tr>
<td>9.</td>
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<tr>
<td>10.</td>
<td></td>
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</tbody>
</table>
Social Networks Questionnaire: Network of Relationships Inventory - Social Provisions Version

INSTRUCTIONS: For the individuals listed in the previous table, please put their initials in the table on the next page. Now please answer the following questions below (A to I) in the corresponding place in the table on the next page using the 5-point scale below. Sometimes the answers for different people may be the same but sometimes they may be different.

1 = little or none     2 = somewhat     3 = very much     4 = extremely much     5 = the most

A. How much do you turn to this person for support with personal problems?
B. How much do you depend on this person for help, advice, or sympathy?
C. When you are feeling down or upset, how often do you depend on this person to cheer things up?
D. How much do you talk about everything with this person?
E. How much do you share your secrets and private feelings with this person?
F. How much do you talk to this person about things that you don't want others to know?
G. How much do you and this person get upset with or mad at each other?
H. How much do you and this person disagree and quarrel?
I. How much do you and this person argue with each other?
J. How much do you and this person get on each other’s nerves?
K. How much do you and this person get annoyed with each other’s behaviour?
L. How much do you and this person hassle or nag one another?
Appendix O

Mean Differences for Relationship Quality Measures

<table>
<thead>
<tr>
<th></th>
<th>Paired T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family support</td>
<td>$t (104) = 0.18, p &gt; .05$</td>
</tr>
<tr>
<td>Family conflict</td>
<td>$t (104) = 0.32, p &gt; .05$</td>
</tr>
<tr>
<td>Family intimacy</td>
<td>$t (104) = 0.03, p &gt; .05$</td>
</tr>
<tr>
<td>Family antagonism</td>
<td>$t (104) = 0.62, p &gt; .05$</td>
</tr>
<tr>
<td>Mother support</td>
<td>$t (100) = 1.94, p &lt; .10$</td>
</tr>
<tr>
<td>Mother conflict</td>
<td>$t (100) = -1.02, p &gt; .05$</td>
</tr>
<tr>
<td>Mother intimacy</td>
<td>$t (100) = 1.13, p &gt; .05$</td>
</tr>
<tr>
<td>Mother antagonism</td>
<td>$t (100) = -1.31, p &gt; .05$</td>
</tr>
<tr>
<td>Father support</td>
<td>$t (86) = 1.59, p &gt; .05$</td>
</tr>
<tr>
<td>Father conflict</td>
<td>$t (86) = 0.22, p &gt; .05$</td>
</tr>
<tr>
<td>Father intimacy</td>
<td>$t (86) = 1.16, p &gt; .05$</td>
</tr>
<tr>
<td>Father antagonism</td>
<td>$t (86) = 1.35, p &gt; .05$</td>
</tr>
<tr>
<td>Peer support</td>
<td>$t (104) = -1.52, p &gt; .05$</td>
</tr>
<tr>
<td>Peer conflict</td>
<td>$t (104) = -0.17, p &gt; .05$</td>
</tr>
<tr>
<td>Peer intimacy</td>
<td>$t (104) = -1.44, p &gt; .05$</td>
</tr>
<tr>
<td>Peer antagonism</td>
<td>$t (104) = -0.99, p &gt; .05$</td>
</tr>
</tbody>
</table>
Evidence for normality is provided by the Shapiro-Wilk test of normality. This test provided evidence to suggest that the data was not normally distributed ($p < .05$).

<table>
<thead>
<tr>
<th>Test of Normality</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
</tr>
<tr>
<td>Family Support</td>
</tr>
<tr>
<td>Family Conflict</td>
</tr>
<tr>
<td>Family Intimacy</td>
</tr>
<tr>
<td>Family Antagonism</td>
</tr>
<tr>
<td>Mother Support</td>
</tr>
<tr>
<td>Mother Conflict</td>
</tr>
<tr>
<td>Mother Intimacy</td>
</tr>
<tr>
<td>Mother Antagonism</td>
</tr>
<tr>
<td>Father Support</td>
</tr>
<tr>
<td>Father Conflict</td>
</tr>
<tr>
<td>Father Intimacy</td>
</tr>
<tr>
<td>Father Antagonism</td>
</tr>
<tr>
<td>Peer Support</td>
</tr>
<tr>
<td>Peer Conflict</td>
</tr>
<tr>
<td>Peer Intimacy</td>
</tr>
<tr>
<td>Peer Antagonism</td>
</tr>
</tbody>
</table>
Appendix Q
Email Recruitment Invitation for Study 2

Hello,

My name is Robyn Pitman and I am a PhD candidate in the Family Relations and Human Development program at the University of Guelph. Over the last year, you have participated in 2 online studies that are part of my PhD research. Both of these studies asked you questions about close relationships with parents, friends, and romantic partners. You may have been recruited through a poster on campus, an email through your department / course, or an email from me.

Now, I would like to invite you to participate in a face to face interview with me about relationships that have stayed the same and one’s that have changed based on your answers from the questionnaires you have previously completed.

The interview will take 1 to 1.5 hours to complete. For your participation in the interview, you will receive a $5.00 Tim Hortons gift card for coming to the interview and after you complete it, you will also be entered into a draw for a chance to win 1 of 2 $50.00 Master-card gift cards out of 30 participants.

If you are interested in participating in the research interview or have any questions, please contact me at rpitman@uoguelph.ca or at 519-824-4120 ext. 56325.

Robyn Pitman
Appendix R

One way ANOVA results comparing 22 participants to overall sample using Time 2 Data Only

<table>
<thead>
<tr>
<th></th>
<th>F statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother Self</td>
<td>F (1, 103) = 0.38</td>
</tr>
<tr>
<td>Mother Other</td>
<td>F (1, 103) = 3.02</td>
</tr>
<tr>
<td>Father Self</td>
<td>F (1, 103) = 0.27</td>
</tr>
<tr>
<td>Father Other</td>
<td>F (1, 103) = 0.00</td>
</tr>
<tr>
<td>Friend Self</td>
<td>F (1, 103) = 0.14</td>
</tr>
<tr>
<td>Friend Other</td>
<td>F (1, 103) = 0.96</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>F (1, 103) = 0.64</td>
</tr>
<tr>
<td>Satisfaction with life</td>
<td>F (1, 103) = 1.37</td>
</tr>
<tr>
<td>Optimism</td>
<td>F (1, 103) = 1.23</td>
</tr>
<tr>
<td>UCLA Loneliness</td>
<td>F (1, 103) = 0.17</td>
</tr>
<tr>
<td>CESD- Depression</td>
<td>F (1, 103) = 0.62</td>
</tr>
<tr>
<td>SLC-Anxiety</td>
<td>F (1, 103) = 1.49</td>
</tr>
<tr>
<td>SLC-Depression</td>
<td>F (1, 103) = 1.15</td>
</tr>
</tbody>
</table>
Appendix S
Consent Form for Study 2

CONSENT TO PARTICIPATE IN RESEARCH

Title of Research Project: Processes and outcomes associated with changes to social networks during adolescence and young adulthood.

You are asked to participate in a research study conducted by Robyn Pitman, PhD Candidate and Dr. Leon Kuczynski (lkuczyns@uoguelph.ca, 519-824-4120 ext. 56325) from the department of Family Relations and Applied Nutrition at the University of Guelph. The results of the study will be contributed to Robyn Pitman’s dissertation. If you have any questions, concerns about the research, or would like a summary of the research once completed, please contact Robyn Pitman (rpitman@uoguelph.ca, 519-824-4120 ext. 56325).

Purpose of the study
This project will be exploring the reasons why changes occur in relationships with individuals such as family members and peers. Little to no research has explored the reasons or decision making process that individual’s undertake when deciding to maintain or change a relationship during the university experience.

Procedures
You will be asked to participate in a 1 hour to 1.5 hour interview about 3-4 close relationships that you identified and answered questions about when you participated in 2 online studies entitled “Processes and outcomes associated with changes to social networks during adolescence and young adulthood” during winter 2010 and fall 2010. You will be asked to discuss 1 family and 1 peer relationship that stayed the same and 1 family and 1 peer relationship that changed. Interview questions include discussing specific events or memories about these relationships and were you see them going in the future.

Potential risks and discomforts
There is no expected harm from participating in the interview. However, some of the questions may be viewed as personal and you can refuse to answer any question(s) and stop participating at any time. Some people report that the interview gets them to think about their relationships more deeply than they might do otherwise. This may be a benefit or a risk depending on the nature of your relationships.

Potential benefits
This research will help to increase knowledge and understanding of the importance of social networks during stressful life events such as the transition to university and the outcomes these relationships may have on one’s development. It contributes to applied knowledge by providing research findings regarding associations between relationship quality and psychological functioning that may inform therapeutic services, support services, and community support groups about the importance of healthy and supportive relationships during stressful life events in young adulthood.

Payment for participant
For your participation in the study, you will receive a $5.00 Tim Hortons gift card for attending the interview and once you have completed the interview, you will also be entered into a draw for a chance to win 1 of 2 $50.00 Mastercard gift cards out of 30 participants.
Confidentiality
Your responses will be completely confidential; no identifying information will be recorded. You will be completing face to face interviews with Robyn Pitman. Your transcribed interview will be used for research and teaching purposes. All data will be stored on a computer in a password-protected file in Dr. Kuczynski’s lab for at least five years after publication of these results. Your answers will not be told to anyone who is not involved with the study unless you provide written consent. Your name will not be associated with your interview and your name will not be used in any report of the study.

Participation and withdrawal
You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study. If you stop taking part in the study, the information you have given up to the time of withdrawal will be kept for the study unless you request that it not be used. If you stop taking part in the study, you may request that the questionnaire data be destroyed by contacting Robyn Pitman (rpitman@uoguelph.ca, 519-824-4120 ext. 56325).

RIGHTS OF RESEARCH PARTICIPANTS
You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. This study has been reviewed and received ethics clearance through the University of Guelph Research Ethics Board. If you have questions regarding your rights as a research participant, contact:

Research Ethics Coordinator
University of Guelph
437 University Centre
Guelph, ON N1G 2W1
Telephone: (519) 824-4120, ext. 56606
E-mail: sauld@uoguelph.ca
Fax: (519) 821-5236

SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE
I have read the information provided for the study “Processes and outcomes associated with changes to social networks during adolescence and young adulthood.” as described herein. My questions have been answered to my satisfaction and I agree to participate in this study. I have been given a copy of this form.

____________________________________
Name of Participant / Legal Representative (please print)

____________________________________
Signature of Participant or Legal Representative

______________________________________
Date

SIGNATURE OF WITNESS

____________________________________
Name of Witness (please print)

______________________________________
Signature of Witness

______________________________________
Date
Appendix T

Support Services Contact List

University of Guelph Counselling Services
Offers individual counselling sessions to help support students as they work through the personal challenges that impair their ability to succeed at school and in other areas of their lives. Please call Ext. 53244 to schedule an appointment with a Therapist/Counsellor or drop by the front desk on the third floor of the University Centre.
Counselling Services: Monday-Friday, 8:15am-4:15pm
Fall Walk-in Service: Monday-Friday, 12:30pm-3:30pm
Summer Walk-in Service: Monday-Friday, 2:00pm-3:30pm

Contact: University Centre - Level 3 South
Phone: (519) 824-4120 ext. 53244
Email: counsell@uoguelph.ca

University of Guelph Couple and Family Therapy Centre
Family, couple and individual therapy available for all ages. Therapy is provided by interns who are graduate candidates for Master's degrees. Supervisors are highly experienced therapists and are members of AAMFT.

Contact: For clinic hours, directions and general information, please call our reception at (519) 824-4120 ext. 56426
For first time callers seeking counseling services please call Sarah at (519) 824-4120 ext. 56335

Trellis Mental Health and Developmental Services
Description: A community based clinic providing services to those who have serious mental health problems, those who are developmentally challenged and those who are at risk for developmental delay. Staff includes: social workers, mental health workers, psychologists, psychiatrists, nurses, early interventionists, behavior therapists, family support workers and support staff.

Contact: 519-821-2060 (Delhi Street)
519-836-4991 (Silvercreek Parkway)

Website Address: http://www.trellis.on.ca/
Appendix U

Semi Structured Interview Script

First, I would like to thank you for taking the time to participate in the study both today and for the online questionnaires you had previously completed. The purpose of today’s interview is to gain an understanding about the things we do to maintain relationships, what happens when they change, and what events or memories are important to us when making decisions about them.

Today we are going to talk about some of the relationships you listed when you completed the questionnaires on both occasions in winter and fall 2010. If you remember, part of the questionnaire asked you to list up to 10 relationships that are important to you and answer a number of questions about them. What I did with that data is that I went through both of your questionnaires and created a list of relationships that stayed the same and a list that changed.

For the interview today, I want to start by going through the list of relationships. From each list, I would like you to pick 1 family and 1 peer that stayed the same and 1 family and 1 peer that changed. Let’s start with the list of relationships that stayed the same and tell me who these people are. Then we will pick the individuals we will talk about today (go through list with participant for stable relationships and pick 2 relationships for stable interview). Now let’s move to the list of relationships that changed and tell me who these people are and why you did not list them on your T2 questionnaire (go through list with participant for changed relationships and pick 2 relationships for change interview).

The reason I am asking you questions about your relationships is because I want to understand why they change or stay the same, what you do, if anything, to maintain them, important events or moments, and where you think they are going in the future.

Questions about 1 family and 1 peer relationship that remained stable (Listed on T1 & T2 networks)

For the first half of the interview, let’s focus on the relationships you selected that have remained the same. Let’s start by talking about ____________.

1. Can you tell me how the two of you get along?

Additional probes:
• What happens when the two of you are together?
• What do your interactions look like together?
• How would you characterize your relationship?
  o How would you describe your relationship with this person?
• What do you like about your relationship with this person?
  o What do you not like about your relationship with this person?
  o Is there anything you would like change?

Optional question
  o Why did you list this person in your network?

2. Now I am going to ask you some questions about how you keep your relationship going.

Additional probes:
• What are your ideas about how your relationship works?
• What do you and this person do to maintain this relationship?
  o What do you do?
  o What does the other person do?

3. When you have problems or tensions in your relationship, do you do anything to change them?

Additional probes:
• Have you noticed any changes as a result of doing something to make it different?
• Have you noticed any changes as a result of not doing something to make it different?

4. Now, I want to ask you some questions about specific moments or events that may have caused your relationship to change or be different. Can you think of a specific moment or event that was a turning point in your relationship?

Additional probes:
• What is that specific moment or event?
  • What happened?
  • What was different as a result of that moment or event?
• What does that moment or event mean to you?
Questions about 1 family and 1 peer relationship that changed (Not listed on T2 network)

Now for second half of the interview, let’s focus on the relationships you selected that have changed. Let’s start with ________________.

1. Where is this relationship at right now?
   
   Additional probes:
   - Did this relationship end?
   - Is this relationship on hold or on-going?
   - Why didn’t you list this person in your network at T2?
   - What are your ideas about why this relationship has changed?

2. Now, I want to ask you some questions about specific moments or events that may have caused your relationship to change or be different. Can you think of a specific moment or event that was a turning point in your relationship?
   
   Additional probes:
   - What is that specific moment or event?
     - What happened?
     - What was different as a result of that moment or event?
   - What does that moment or event mean to you?
     - What does that moment or event tell you about your relationship?

3. When you had problems or tensions in your relationship, did you or the other person do anything to change those problems/tensions?
   
   Additional probes:
   - Did you notice any changes as a result of doing something to make it different?
   - Did you notice any changes as a result of not doing something to make it different?

4. Do you and this person ever get together now? What happens when you are together?
   
   Additional probes:
• How did you characterize your relationship before it changed?
• How do you characterize your relationship now?

**Final Interview Questions**

1. Where do you see yourself and each of these relationships going in the future?
   • What would you like to see happen?

2. Do you have anything else to add or something you would like to contribute that I may not have asked you?