Similarity of Autonomy, Responsive Caregiving and Depressive Symptoms among Same-Sex Adolescent Friends

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Abstract

Similarity of Autonomy, Responsive Caregiving and Depressive Symptoms among Same-Sex Adolescent Friends

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The tendency for individuals to be attracted to similar others, the *similarity effect,* has been widely studied among children, adolescents, and adults and across demographics, behaviours, emotions and personality, and is the focus of this research.

The first study examined similarity in two developmentally relevant personality constructs, autonomy and responsive caregiving, as well as similarity of well-being (i.e., depressive symptoms) among adolescent same sex-friends, nominated disliked peers, and randomly assigned peers. Results indicated that friends were marginally more similar than non-friends in depressive symptoms, but not more similar in autonomy or responsive caregiving. Moreover, adolescents were not more dissimilar to their disliked peers on autonomy, responsive caregiving or depressive symptoms, and there were no interactions between similarity/dissimilarity and gender.

Study two examined potential changes in similarity among friends over time. Specifically, the aim of Study two was to investigate if similarity of autonomy, responsive caregiving and depressive symptoms increased over time, in support of the socialization hypothesis. Furthermore, to illuminate the process of friendship development, stability of friendships was examined.

For depressive symptoms, findings somewhat supported the hypotheses, in that adolescent friends became more similar over time at a marginally significant level. However, in contrast to the hypotheses, adolescent friends became more dissimilar over time in autonomy.

Dissimilarity of autonomy, responsive caregiving and depressive symptoms did not reliably separate those who were in a stable friendship from those in an unstable friendship.

Similarity among same-sex adolescent friends has been suggested to be a function of three processes: selection of similar friends, de-selection of dissimilar friends, and socialization (i.e., increased similarity over time.) For depressive symptoms, modest support was found for the selection hypothesis (study one) in that friends were marginally more similar than non friends, and the socialization hypothesis (study two) since friends became marginally more similar over time. However, findings from study two also challenge the socialization hypothesis by showing that friends became more dissimilar in autonomy over time. No support was found for the de-selection of dissimilar friends, when examining friendship stability.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

Chapter 1

General Introduction

The Similarity Effect and Close Adolescent Friendships

Across the lifespan belonging is arguably one of the most central tasks (e.g., Maslow, 1943). Finding a companion, whether a friend or romantic partner, can be pivotal to psychosocial functioning and is a crucial task for 90% of adults (Price & Vandenberg, 1980).

In the field of social psychology, romantic interpersonal processes (e.g., Buss, 1983) and friend selection have received special attention. The process of friend selection is in many ways similar to that of mate selection. Indeed researchers have described adolescent friendships as being dress rehearsals for adult romantic relationships (Sullivan, 1953). The extent to which individuals are able to communicate, relate, and share influences their ability to build stable friendships. Such social abilities may be governed by the individual's personality, which can be defined as the complex attributes of emotion, thoughts, behaviours, and goals unique to that individual (Alport, 1960). Personality can influence to whom an individual is attracted, and as well who will be attracted to that individual (e.g., Botwin, Buss, & Shackelford, 1997). Furthermore, the quality of a relationship is influenced by the personalities of the members of that relationship. Among adult romantic couples, personality has been reported as being the strongest predictor of relationship quality (Robins, Caspi, & Moffitt, 2002). However, given the complexity of significant relationships, the interplay between two individuals' personalities (interindividual personality) may be of greater importance than their individual traits examined separately.

Although several processes in the dynamic of personalities within social relationships have been examined, the most consistent finding is related to similarity of partners. This effect, named the *similarity effect,* is among the strongest in social psychology (Berger, 1975; Poulin, Cillessen et al., 1997). The *similarity effect* has been examined from various perspectives. For example, psychodynamic theories have proposed that being with a similar individual allows one to mirror oneself and experience a sense of belonging (e.g., Baker and Baker, 1987). Also, interpersonal theories of psychology predict that being in a relationship with a similar individual results in fewer reasons to argue or disagree, thus leading to a more peaceful and perhaps more satisfying relationship (Luo & Klohnen, 2005). Thus, similarity is thought to be a key agent in friendship selection (e.g., Urberg, Degirmencioglu, & Tolson, 1998) and maintenance.

Similarity facilitates attraction among children (e.g., Haselager, Hartup, Van Lieshout and Riksen-Walraven, 1998), adolescents (e.g., Akers, Jones and Coyl, 1998), and adult romantic partners (e.g., Luo & Klohnen, 2005). Significant effects of similarity on attraction across the lifespan are found in values (Hoyle, 1993), physical attractiveness (Stevens, Owen and Shaefer, 1990) and attitudes (Akers, Jones and Coyl, 1998) to mention a few. Adolescent friends are similar regarding delinquent behaviours such as smoking (Tolson & Urberg, 1993), personality (Selfhout, Denissen, Branje, & Meeus, 2009; Duck, 1975), beliefs (i.e., Daddis, 2008), antisocial behaviours (Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1998), well-being measures, such as depression (Van Zalk, Kerr, Branje, Stattin, & Meeus, 2010), and race (Clark & Ayers, 1990).

The exact nature of the processes accounting for the similarity effect remains unclear. Do adolescents choose friends who have similar personalities to themselves

(selection hypothesis) or do adolescent friends become more similar in personality over time (socialization hypothesis)? The two studies in this manuscript examine whether adolescents choose friends who are similar to themselves in personality and well-being, compared to disliked peers and randomly assigned friends (Study one,) and whether friends become more similar over three years (Study two). Furthermore, in order to examine the process by which similarity affects friendship stability, a comparison of similarity between stable and unstable friendships is made (also Study two).

The Selection Hypothesis. According to the selection hypothesis, we are more likely to be attracted to an individual who is similar to ourselves. Several significant theories have been proposed to account for this initial similarity between friends. Theories mainly centre upon the positive experience of being in a relationship with someone similar. For example Kohut (1971, 1977) theorized that being in a friendship, or as he coined "twinship", with a similar individual resulted in the process of mirroring which was rewarding for the self. Thus it is innately rewarding to select a similar individual as a friend or partner. Byrne and Nelson (1965) also suggested that it is rewarding to be in a relationship with a similar individual because it validates who we are; and we are therefore, unknowingly, attracted to individuals whom we perceive to be similar to ourselves. The most consistent experimental evidence supporting the selection hypothesis comes from Byrne's classic research on what he named "the bogus stranger paradigm." In a series of experiments, Byrne showed that individuals are more likely to be attracted to a stranger if they believe that the stranger has similar attitudes (Byrne & Nelson, 1975). Given that Byrne was assessing attraction to a stranger in the absence of any interaction or physical characteristics, and found support for the similarity

hypotheses, it follows that this supports a selection rather than convergence hypothesis. In fact, the research was not intended to test the socialization hypothesis.

These findings are not without their critics. Rosenbaum (1986) noted that similarity is often the expected status of two strangers and thus would not alone motivate attraction. Instead Rosenbaum proposed that it is dissimilarity that creates repulsion (Rosenbaum, 1986). Others have criticized Byrne's bogus stranger paradigm for lacking ecological validity and any evidence of a causal link between attitudinal similarity and attraction (e.g., Sunnafrank, 1992), stating that the bogus stranger paradigm does not directly address the selection hypothesis.

In a series of studies by Newcomb, it was reported that initial similarity of attitudes predicted which college housemates would later develop friendships (Newcomb, 1961, 1963). This evidence suggests that initial attitude similarity is a reliable predictor of later friendships; that is, friends are selected partly due to similarity of attitudes. Selfhout, Denissen, Branje and Meeus (2009) elaborated on the selection theory by differentiating between two processes of selective similarity. The first process, the *uncertainty reduction hypothesis,* states that two friends may encounter fewer interpersonal conflicts and other unpredictable behaviors if they have similar personalities. The second process, the *reinforcement-affect explanation,* suggests that two individuals with similar personalities and similar values reinforce each other's opinions and views, resulting in an increased affective response. In their study examining perceived, actual, and peer-rated similarity they found that only perceived and peer-rated similarity of personality were associated with increased friendship intensity in just-acquainted young adults. In other words, although their findings indeed support the

selection hypothesis, they do not support an association between actual similarity and attraction. The results did not distinguish between the two processes of similarity specifically.

The Socialization Hypothesis. According to the socialization hypothesis, we are likely to become more similar to our partner/friend through exposure to and imitation of someone close to us. Since we are likely to remain in a friendship/relationship with someone we like and admire, the socialization hypothesis posits that we become more like our partner. Similarity as a function of socialization has been the centre of many studies. However, no clear consensus about increasing similarity of personality over time has been reached (e.g., Selfhout, Denissen, Branje & Meeus, 2009).

Few studies have supported the socialization hypothesis. For example, Conzaga, Compas and Bradbury (2007) found that among newly married couples there was a convergence in personality across the first 1.5 years of marriage. The authors report some surprise at this finding, but argue that the convergence of personality and emotionality across time is adaptive in a relationship in that it secures flexibility and understanding among the partners. Similarly, Van Zalk and colleagues (2010) found evidence that adolescent similarity increased over time in depressive symptoms. This study notably examined well-being and not personality. In contrast, findings from a classic similarity study on attitude similarity indicate that there is little difference in attitude similarity between newlyweds and long-term married couples (e.g., Newcomb & Svhela, 1937). Newer research also rejects the idea that personality similarity increases over time in relationships (Caspi, Hoebner & Ozer, 1992)

Support for the socialization hypothesis for personality among adolescent friends is difficult to find. No direct evidence that adolescents become more similar to their friends over time was found in the extant literature; however, given the large changes adolescents experience emotionally, cognitively and socially, they might be an ideal age group to study the socialization hypothesis within.

Dissimilarity among Adolescents. The similarity effect has also been proposed to work in the opposite direction such that dissimilarity is associated with dislike or repulsion (Rosenbaum, 1986). Several studies have found significant associations between dissimilarity and the termination of friendships (e.g., Van Zalk, et. al. 2010, Ellis & Zarbatany, 2007). However, few studies have been able to establish an association between dislike and dissimilarity outside a nominated friendship. One of these studies was conducted by Rosenbaum (1986), who showed undergraduate students yearbook photographs with attitude descriptions, which were either similar or dissimilar to the students, or with no attitude information. He found, consistent with his repulsion hypothesis, that there was no attraction difference between the similar and no description conditions, but there were significant negative associations between dissimilar attitudes and attraction. However, Smeaton, Byrne and Murnen (1989) highlight that Rosenbaum's "no information" condition, does in fact contain plenty of information on which undergraduate students could assess similarity, such as, race, gender, physical attractiveness, etc. Thus, it is not surprising that there is no significant difference between the similarity and no-information condition in Rosenbaum's experiment. In Byrne's similarity paradigm, no photograph was presented to the participant in order to diminish the effect of such variables.

The role of dissimilarity of personality among disliked peers is not clearly understood (e.g., Nangle, Erdley, Zeff, Stanchfield, & Gold, 2004). Dissimilarity may be a factor in the choice not to form or to end a friendship. Dissimilarity in areas other than personality, such as smoking, organized activities, and sport activities (Urberg, Degirmencioglu, & Tolson, 1998), social status and behavioural styles (Nangle et. al., 2004), has been associated with friendship dissolution or disliking. Research on the sociometric properties of adolescent and child friendships has questioned whether to define disliking as the polar opposite to liking. However, research has shown that when using nominational data for peer status, there is a significant difference between being disliked and not being nominated as a liked peer (e.g., Coie, Dodge, & Coppotelli, 1982). Thus, a more direct examination of dissimilarity to disliked peers is needed to tease apart the processes of liking versus disliking peers as a function of their similarity in personality. The present research (Study one) enriches the current literature on similarity among adolescent friends by examining dyads with both liked (friends) and disliked peer nominations.

Gender, Similarity and Dissimilarity. Since girls and boys appear to approach and utilize friendships differently (e.g., Berndt, 1982), there is reason to expect gender differences in similarity. Girls' friendships are often more intimate and girls are generally more discriminating in their friendship choices (Nangle, et. al., 2004). Whereas boys tend to have larger peer groups, girls tend to be more exclusive (Urgberg et. al., 1998).

Research on gender differences in the similarity-attraction association has rendered mixed results (e.g., de Klepper, Sleebos, de Bunt, & Agneessens, 2010). Clark and Ayers (1990) found that girl dyads were more similar than boy dyads in aspects such

as achievement, general attitudes towards achievement, and level of abstract thinking as measured by the High School Personality Questionnaire HSPQ (Cattell & Cattell, 1975). Different results were found, however, in a study of similarity in prosocial behaviour, antisocial behaviour, shyness and SES among middle childhood friends and non-friends (Hasleager, Hartup, Lieshout, & Riksen-Walraven, 1998). Although friends were more similar than non-friends regarding antisocial behaviour, prosocial behaviour and size of friend network, no differences were found for shyness and SES. The study also examined a possible moderating role of gender, but found no difference in the similarity association for girl friendships vs. boy friendships. However, same-sex and opposite-sex friendships were combined, possibly masking a moderating role of gender on similarity.

Even less consensus emerges with respect to gender differences in similarity among disliked peers. If girls seek more similarity in friendships than boys do, girls might also be less tolerant of differences than boys are. Also, since girls are more discriminating in their friendship choices and tend to have smaller but closer circles of friends as noted previously (e.g., Nangle, et. al., 2004), they may be more likely to dislike a dissimilar adolescent than boys would.

A multiple process model. Similarity among friends might be the result of the dichotomously proposed processes of socialization and selection. These processes are not inherently mutually exclusive. Similarity may contribute to early attraction and then convergence may take place in a given friendship. Van Zalk and colleagues (2010) examined how similarity of depressive symptoms among 847 Swedish adolescents predicted who would select and deselect friends over time. Specifically, they found evidence of initial similarity of depression (*selection hypothesis*) as well as increased

depressive similarity over time (*socialization hypothesis*). Through a proposed process of co-rumination (such as dwelling on negative effects,) friends increased each other's depressive symptoms. This study used ecologically valid friendships in that it included friends from school, from different age groups and friends outside their own school, thereby including up to 30% more close friends (Van Zalk, et. al., 2010) than traditional in school social network studies. However, the study exclusively focused on similarity of depressive symptoms and did not theorize how such similarity may be related to other important friendship determinants, such as similarity of personality. Interestingly, the authors found that adolescents both selected and de-selected friends based on similarity of depression. They thereby included three processes related to similarity: selection, socialization, and de-selection.

The current studies seek to add to this research by examining similarity in more accessible aspects of personality during adolescence; such as autonomy and responsive caregiving, as well as in well-being (depressive symptoms.) Similarity of well-being may be associated with initial attraction as well as increasing similarity either by a decrease or, as is supported by research, by an increase in depressive symptoms through the co-rumination process.

Perceived versus Actual Similarity. The process of similarity is different depending on what type of similarity is examined. Specifically, although two individuals might believe they are similar (*perceived* similarity,) they might not be *actually* similar (e.g., as measured by two sets of self-reports). This distinction has significant implications for how the concept of similarity is defined and studied.

There is a lack of consensus regarding the theoretical importance of perceived versus actual similarity, and empirical evidence reflects this lack of consensus. For example, perceived similarity between friends has been suggested as being responsible for the stronger effect on the individual (e.g., Erwin, 1993). Buunk and Bosman (1986) found significant correlations of perceived similarity among married couples, but none for actual similarity. In contrast: Watson, Hubbard, and Wiese (2000) examined perceived similarity among adolescent friends, dating couples, and married couples. Their findings included moderate correlations between married couples and friendship dyads for actual similarity, but only one significant correlation of perceived similarity between adolescent friends (openness to new experiences). In a meta-analysis Montoya and colleagues (2008) examined actual and perceived similarity among strangers with no interactions or limited (i.e., short) interactions, as well as within existing relationships Findings indicated that actual similarity was important in both no interaction and short-interaction dyads, but not in existing relationships. This finding thereby challenges the ecological validity of the well supported association between actual similarity and attraction. Similarly, a recent study examining a large sample of first year college students over time also concluded that only initial *perceived* similarity and not *actual* similarity of personality plays an important role in friendship formation (Selfhout, Denissen, Branje, & Meeus, 2009). In contrast, an important study with the same primary investigator (Selfhout, Burk et al. 2010), examined the stepwise effect of social network among late adolescent friends (mean age 19) by asking them to nominate friends and complete personality assessments (Big Five traits) on five occasions across the first year of university. The researchers found that actual similarity of Extraversion, Agreeableness

and Openness to new Experience, more core aspects of personality, surprisingly predicted friendships. There was, however, no evidence for socialization effects for similarity among friends. This study utilized unique statistical methods to establish the gradual effect of similarity and these important findings should be replicated, especially in a younger adolescent sample, in order to be generalizable to other adolescent research. Thus, it might be that Selfhout, et al.'s later, more statistically sensitive study, captured the true effect of actual similarity, which may not have been detectable before.

There is good reason to investigate both perceived and actual similarity. In a previous study (Linden-Andersen, Markiewicz & Doyle, 2008), adolescents were found to rate their friendships more favorably when they perceived themselves to be similar on levels of autonomy, responsive caregiving and prosociality. Building on those findings, the current studies explore whether a similar result holds true for actual (self-rated) friendships with respect to autonomy and responsive caregiving, as well as depressive symptoms.

Methodological issues in similarity research. The field of similarity research has suffered from methodological limitations such as dependent data and limited ability to examine similarity within a dyad rather than similarity among a group of dyads, as well as a lack of sensitive statistics to deal with these challenges. As previously noted, the different methodologies used in studies of similarity have likely affected the generalizability of the results. Absolute difference scores, which were previously the statistical unit of choice for similarity research, can in some cases overestimate true score variance (e.g., Griffin, Murray, & Gonzalez, 1999). In an important methodological paper examining dyadic similarity, Luo and Klohnen (2005) criticized the use of absolute

difference scores because they only indicate whether a sample is generally similar to their partners, not whether individuals are similar and or even what the qualitative differences between such couples are. Early similarity research examined either binary correlations of a given characteristic between two members of a dyad or absolute difference scores between two individuals (e.g., Erwin, 1993). General correlational studies examining actual and perceived similarity have found correlations to be moderate at about r = .40 (Erwin, 1993). However, similarity research has traditionally been based on a variable centered approach (VCA) as defined by Luo and Klohnen (2005). Such an approach examines the direct association between two individuals on a given variable, traditionally by examining correlations (e.g., Meyer & Pepper, 1977; Watson, Hubbard, & Wiese, 2000) or via absolute difference scores (e.g., Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1998). Due to the aforementioned limitations of such methodologies they should only be used when other statistical methods are not appropriate.

Adolescent similarity to friends on personality and well-being. Although research on general similarity of adolescent friends vs. non-friends is copious (e.g., similarity on behaviours such as smoking, attitudes towards smoking and school activities; Tolson & Urberg, 1993), research on similarity of personality in late childhood and adolescence is sparse as well as yielding inconsistent findings. Some studies have found that youth tend to be friends with others similar in personality styles (e.g., Akers, Jones, & Coyl, 1998), whereas others have found no significant relationship between friends' personalities (Curry & Kenny, 1974). Actual similarity of traditional personality variables such as the Big Five have generally rendered stronger results among adult couples than among child and adolescent friends (e.g., Lee et. al., 2009); the nature of

similarity of personality remains elusive among adolescents. In fact, Selfhout and colleagues (2009, p. 1125) noted that there is a: "…lack of studies examining whether individuals tend to form friendships with others who have similar personality traits in real-life situations…". Although Duck (1975) found similarity of personality constructs higher among friends than non-friends, little information was provided about the type of personality studied. Studies have also failed to differentiate among possible mechanisms associated with similarity where it exists. That is, they do not indicate better support for processes such as uncertainty reduction versus reinforcement. Two friends may encounter less interpersonal conflicts and other unpredictable behaviours if they have similar personalities (uncertainty reduction, Selfhout, Denissen, Branje & Meeus, 2009). It might also be that two individuals with similar personalities and similar values reinforce each others' opinions and views, resulting in an increased affective response and thus creating attraction, the so called reinforcement-affect explanation (Selfhout et al., 2009).

One potential reason for the inconsistency regarding similarity of personality is the degree of developmental relevance of the personality traits examined. During adolescence, personality traits are generally believed to be moderately stable among individuals, depending on the component of personality examined (e.g., Costa & McCrae, 1994, Akse, Hale, Engels, Raaijmakers, & Meeus, 2007). Duck and Craig (1978) found that similarity of different types of personality (easily accessible; e.g., values) versus core aspects (e.g., Kelly's personal constructs) are important in different stages of relationship development. Specifically, similarity of more core aspects of the personality only become important later in the relationship. It is pertinent to examine similarity among adolescents of some of the most important and accessible personality aspects during adolescence.

One developmental task during adolescence related to personality, which has received special attention, is the process of developing autonomy; that is, the individual process by which adolescents learn to make important decisions for themselves without their parents' immediate involvement. This pattern of behaviour might evolve into a more general autonomous style. Adolescents vary uniquely in their level and nature of autonomy development. Autonomy is a multifaceted personality dimension that may play a key role in the foundation of relationships. Until adolescence the most important relationship for individuals is the parent-child relationship. During adolescence the time spent with parents dramatically decreases and the time spent with peers dramatically increases (Steinberg, 1999). Because the spheres in which an adolescent functions, such as the parent-child relationship and peer relationships, influence each other (e.g., Bronfenbrenner, 1989), autonomy is developmentally important in both types of relationships. Friendships between adolescents with similar levels of autonomy could reinforce the process of autonomy development in both adolescents. Similarity in autonomy might thus be an important factor in friendships during this period.

The degree to which adolescents are able to appropriately rely on themselves and friends for their emotional needs, is crucial during friendship formation *(*Levpušček, *2006*), which is central in adolescence (e.g., Erikson, 1968). Individuals might thus be more attracted to friends at similar stages in this development. Although there is stronger support for the selection hypothesis than the socialization hypothesis, if adolescents observe and learn from their close friends how to balance self-reliance and reliance on others, adolescents could become more similar in autonomy over time.

Previous research on personality similarity of adolescent friends has mainly focused on traditional measures of personality, such as the five-factor model (e.g., Watson, Hubbard, & Weise, 2000). However, during adolescence there is considerable instability in traditional personality inventories, such as the Five Factor Model, due to the identity formation taking place (McCrae and De Fruyt 2002). In contrast, autonomy measures have been shown to be reliable during adolescence (Noom, Dekovic and Meeus, 1999).

Another potentially important and developing trait to consider during adolescence is caregiving. Bowlby has argued that the ability to make emotional bonds, and sometimes to express these in a caregiving role, is essential for personality and emotional functioning (Bowlby, 1988). Compared to adolescent-parent relationships, friendships are more egalitarian and reciprocal. Thus, acquiring the ability to provide (as well as to receive) care becomes an important component of friendships. Adolescents might expect reciprocity with respect to giving and receiving care in their friendships, and thus select and maintain friends based on their level of responsive caregiving. Adolescents might learn how to be caring of their friend by imitating the friend's behavior, and thus similarity of responsive caregiving might increase over the friendship relationship. Thus, similarity in responsive caregiving might be a function of socialization rather than merely due to selection.

Whereas personality aspects as described above appear to facilitate early attraction, similarity of well-being variables such as depressive symptoms may facilitate stability in a relationship. Also, whereas earlier interactions in a friendship might not include personal emotional experiences, such as expressions of depressive symptoms,

these expressions might become more important and available as the friendship develops and becomes more secure and less fragile. As this exchange takes place during friendship development, adolescents might adjust to their friends' emotional expressions and in turn exhibit more similar levels of depressive symptoms.

In an important study examining the effect of perceived similarity of depression, Rosenblatt and Greenberg (1988) found that non-depressed individuals preferred other non-depressed individuals, whereas depressed individuals did not share this preference for similarity, indicating that similarity of depression might not be a facilitator of friendship attraction for depressed adolescents. However, alternate theories of similarity of well-being have predicted that being in a friendship with an individual with similar depressive symptoms may serve to decrease both members' depression through a reciprocal protective adjustment. In a similar process, two friends with similar levels of depressive symptoms are likely to have mutual feelings of understanding and use disclosure of feelings, which has also been linked to increased positive feelings about a friendship, but only among boys (Rose et. al, 2007). These two processes both result in decrease of depressive symptoms, resulting in decreased variability in symptoms and thereby increase similarity of depressive symptoms. That is friends would become more similar over time in depressive symptoms due to mutual exchange and acceptance of each other. In the Van Zalk and colleagues (2010) study described earlier, the authors found evidence of three processes (selection, socialization and de-selection), each contributing to higher similarity in depression among friends over time. The authors thus partially challenged Rosenblatt and Greenberg's (1988) findings in that there is not an optimal preferable level (low) of depression which most adolescents prefer, but rather there is a

preference for similarity of depressive symptoms. Furthermore, they concluded that all three processes together resulted in more similarity than each of the processes alone, highlighting the need to examine more than one process among adolescent friends. Building on these findings it is central to examine more than one process within the same sample. In contrast to these findings of similarity in depression associated with a protective function, Brengden, Lamarche, Wanner, and Vitaro (2010) examined the association between types of friendship experiences (either having no friends, depressed friends or non-depressed friends) and longitudinal trajectories of adolescents' depressed mood. Their trajectories revealed that those who are friends with depressed adolescents are at higher risk of depressed mood than those with non-depressed mood and even more than those with no friends. This reinforces the co-rumination model which is one of the explanations of the observed similarity (and increase) of depressive mood among friends during adolescence.

Selection versus socialization. Whether adolescents become more similar to their friends over time has puzzled researchers for decades. The *socialization hypothesis* posits that by being in a close friendship with someone, similarity increases by a process of validation of self and/or imitation resulting in convergence. Empirical support for the socialization hypothesis is inconsistent depending on the construct examined. From the adult similarity literature we know that there does not appear to be consistent increases in similarity of personality over time in a relationship. Luo and Klohnen (2005) found that married couples did not increase in similarity of personality over time. Humbad, Donnellan, Iacono, McGue and Burt (2010) examined 1296 married couples and found no consistent support for increased personality similarity across length of marriage.

Critics have noted that the lack of increase in similarity over time (i.e., lack of support for the socialization hypothesis) does not necessarily support the selection hypothesis (i.e., a causal relationship between initial similarity and attraction; e.g., Sunnafrank, 1992.) Consistent with this point, the purpose of Study two is to examine potential changes in similarity across time within adolescent friendships. It will not, however, enable us to establish support for the selection hypothesis.

There is consistent evidence that dissimilarity of preferred activities such as sports (Urgberg, Degirmencioglu, & Tolson, 1998,) or adherence to popular youth culture (Laursen et al., 2010) is associated with disliking peers. Dislike presumably will lead to the termination of a friendship with a dissimilar individual. Methodologically, directly examining long-term effects of being disliked due to dissimilarity is challenging because although friends tend to remain fairly stable across time in adolescence (e.g., Degirmencioglu, Urberg, Tolson, & Richard, 1998), disliked peer dyads do not. In other words, adolescents tend to nominate the same individuals as friends over time, whereas they tend to nominate different disliked peers. An alternative way of assessing the association between dissimilarity and termination of friendship is to examine instability in friendships. Hafen, Laursen, Burk, Kerr and Stattin (2011) used difference scores to determine that greater similarity of delinquent behaviours among adolescent friends was associated with stability of friendships. In other words dissimilar adolescents are more likely to be in unstable friendships.

Hypotheses and research overview. As highlighted above adolescents select friends who are similar in some aspects, and there is evidence that similarity in adolescent friendships might increase over time. The goal of the present research project

was to examine these processes more closely in two studies. Both studies examined autonomy and responsive caregiving, which are important emerging personality aspects of adolescence, as well as depressive symptoms, an important index of well-being. Study one examined how similarity of autonomy, responsive caregiving and depressive symptoms differed across three types of dyads: friends, disliked peers, and randomly matched peers. It was expected that similarity would be greatest among friends and lowest among disliked peers. The study also examined the moderating role of gender. In particular, it was expected that, because girls emphasize intimacy in a friendship more than boys do (e.g., Berndt, 1982), similarity would be greatest among girl friends and least between girls and their disliked peers, with similar but smaller differences for boys. The second study explored whether adolescent friends became more similar over time in autonomy, responsive caregiving and depressives symptoms. Consistent with the socialization hypothesis, we predicted that similarity of autonomy, responsive caregiving, and depressive symptoms would increase in adolescents' friendships over three years. Furthermore, the second study examined whether dissimilarity was associated with instability in friendships. To examine if dissimilarity leads to the termination of a friendship, a distinction was made between those adolescents who consistently nominate the same friend (stable friendships) and those who only nominate the same friend occasionally (unstable friendships.) Higher levels of initial dissimilarity were expected to predict instability in friendships at the end of two years.

Study 1

The aim of study one was to examine if friends are more similar than non-friends and if disliked peers are more dissimilar than non-disliked peers on autonomy, responsive caregiving and depressive symptoms.

Method

Participants and Procedure

Participants took part in a five year longitudinal study examining well-being and friendships among adolescents. Study one used only data from the first year. The entire sample included 205 (100 boys) adolescents (Time one mean age = 13 years) from an English language high school in a suburban area of a large Canadian city. The sample was mainly English-speaking (71.1%). Those who endorsed one ethnic background (66.8%) mainly endorsed "other European" (41.5%) and "British/Irish" (31.4%), with the remaining sample indicating they were of "French" (6.3%), "Asian" (11.1%), "West Indian" (4.4%), or "Aboriginal" (1.3%) descent.

The socio-economic status (SES) of the sample was 33.28 (*SD* = 9.81) according to Hollinghead's (1975) Index, indicative of a sample whose parents were on average employed as skilled craftsmen, clerical and sales workers.

In this first year of the longitudinal study, the consent rate was 46.7%; 12.7% refused to participate and 40.6% did not respond. The high rate of adolescents who did not respond possibly reflected that adolescents at this age were required to obtain written consent from their parents. Two testing sessions took place each year of the longitudinal study, one session in fall and one in early spring. Adolescents were recruited from their French classes. Students who consented to participate were brought to a room in the

library in groups of approximately 20 to fill out questionnaires. After each testing session, participants were debriefed, received a minor reward (chocolate) and their names were entered into a draw for a portable compact disc player.

Measures

Friend type nominations. Participants were asked to nominate up to five same-sex friends (mean number of nominations = 3.6; 39 nominated 1 friend, 15 did not nominate any friends[1]) from a list of study participants. Adolescents were also asked to nominate up to five same-sex peer participants that they disliked (mean number of nominations = 2.5; 45 nominated 1 disliked peer and 72 did not nominate any disliked peers). In addition, five same-sex non-nominated participating peers were randomly assigned to each participant, using the random function and match function in the statistics package Excel.

The mean total number of peers (friends, disliked peers and randomly assigned peers) for each participant was 11.1. Since HLM does not assume equal numbers of data points no corrections for number of nominations were made.

Autonomy (Noom, Dekovic, & Meeus, 1999)**.** The 15-item autonomy scale measure decision making autonomy in general and includes items such as "I go straight for my goal". Items are rated on a five-point Likert type scale (1 = "Not Like Me at All", 5 = "Very Like Me"). The reliability of the autonomy measure was moderate (α = .75) and comparable to that reported by Noom, Dekovic, & Meeus, (1999), which ranged from .60 to .71. Noom, Dekovic and Meeus, (2001) further validated this measure and the

[1] Of the 15 who did not nominate any friends 5 did not nominate any disliked peers either and these 5 were excluded from all analyses

concept of adolescent autonomy by assessing its associations with parent behaviours as well as with an external relevant construct relating to autonomy, self-determination.

Responsive Caregiving (Feeney, & Collins, 2001). Responsive caregiving was assessed using 15 items, each rated on a six-point Likert type scale (1 = "Never", 6 = "Always"), such as "I'm good at recognizing my friend's needs and feelings". The internal reliability was good (α = .84).

Depressive symptoms *(Adapted from Kovacs, 1985)*. Kovacs' original child depression inventory measures depression; but for ethical reasons the scale was adapted by omitting one item assessing suicidal ideation. Twelve items were then selected from the original 26 based on the highest item-total correlations in year 1. The shortened Child Depression Inventory (CDI) is a measure of various expressions of depressive feelings and cognitions. Participants were asked to endorse one of three sentences of varying degrees of intensity (e.g., 0 = "I am sad once in a while" or 1 = "I am sad many times" or 2 = "I am sad all the time"). Item scores are summed to yield a total score (α = .86). A high score on the scale indicates frequent depressive feelings and cognitions.

Planned Hierarchical Linear Modeling (HLM) analyses. HLM (Bryk & Raudenbush, 1987), traditionally used to analyze within subject data, was used in study one to obtain indices of similarity without using absolute difference scores. As noted previously, difference scores often overestimate the true score variance and should only be used when other statistical techniques are not appropriate. Due to the nature of HLM, when comparing three groups, one must be compared against the two others; thus, for each participant two dummy variables (coded zero and one) were created for each peer to distinguish the types of peer nominations (i.e., friend, disliked or randomly matched

peer). This allowed analyses to include all dyads. Separate analyses were conducted for the measures of, autonomy, responsive caregiving and depressive symptoms. For each set of analyses, the outcome variable was the peer's personality or well-being measure (autonomy, responsive caregiving or depressive symptoms). In order to test the hypotheses, up to four separate models were run in each set of analyses. The first two models were preliminary models. Their function was to examine whether the slope and intercepts had sufficient between person variance to be explained by Level 2 predictors. At Level 1, the type of dyad (either friend vs. non-friend or disliked peer vs. non-disliked peer) was entered in the model as the first predictor, thus creating a slope between the type of dyad and the peers' personality/well-being scores. This slope alone was not the focus of the study, but indicates whether peer personality and well-being scores vary as a function of being nominated as either a friend or disliked peer. The intercept indicates the average personality/well-being scores of peers (either non-friends or non-disliked peers, who were coded zero in a particular analysis). The third model, on the second level included the personality/well-being scores of the target adolescents, predicting the slope of the association between type of dyad and the peers' personality and well-being scores. This is the similarity index (a positive slope indicating dissimilarity) in study one. Gender was added as a main effect, predicting both the intercept and the slope of the association between peer personality and well-being measure and type of dyad. The main effect of gender was not a focus of the study. Finally, in the fourth model, a gender by target personality/well-being score was computed and entered at both the intercept and slope in order to examine if similarity was different for girls and boys. Each statistical model is

described as it relates to the specific hypotheses. The fixed effects with robust standard errors are reported in all analyses. For simplicity, only the full model tables are included.

Missing Data. In general there are only few participants excluded from analyses due to missing data (dfs = 192-195 with 4 parameters in the analyses). The missing data were specifically due to missing level 2 data for those participants whom researchers were repeatably unable to reach or the adolescents who refused participation. The scores of the adolescents who participated in both testing sessions of a year, but did not complete some measures, were manually mean substituted. The scores from those who only participated in one (out of two) waves during a year were left blank. It is noteworthy that the degrees of freedom of the Chi square dropped. This is due to missing information for the Chi-square only, which requires significant data within each target adolescent's set of friends to calculate an individual slope. All participants were included in estimating and testing the significance of the fixed effect and variance components, the main focus of the studies.

Results

Preliminary Analyses

Prior to primary analyses, all variables were examined for skewness and kurtosis, as well as for the associations among the variables. Table 1 includes the descriptive statistics for the three variables for all rated individuals. No corrections were needed for skewness and kurtosis given that no values exceeded 2.5. In Table 2 bivariate correlations between self and peer ratings on all variables are presented. There appears to be no consistent pattern among the correlations, which highlights the need for the use of sensitive statistics.

Autonomy

The unconditional model. An unconditional model was examined first. The Chi-squared value of the variance component of the coefficient revealed marginally significant between-subject variance, $X^2(194) = 224.09$, $p = .070$. A second aspect of the between-subject variance, i.e., the intra-class correlation, was computed using the Tau and Sigma squared values. The intra-class correlation revealed that 2 % of the variance in the autonomy ratings was between-subject variance. The unconditional model thus showed that there was a marginally significant amount of between-subject variance in autonomy to be explained by the type of peer group.

Friends vs. disliked and random peers. First the dummy variable distinguishing friend nominations from randomly assigned and disliked peers was added to the model (coefficient = -.06, $p = .070$). This finding suggested that there tended to be a difference among peers' autonomy dependent on their relationship to the target; that is, whether they were nominated as a friend or not. This finding is not central to the hypotheses of the

Table 1

Mean and S.E. for Autonomy, Responsive Caregiving and Depressive Symptoms

	N	Mean (Range)	Standard Deviation	Standard Error
Autonomy	196	3.32 (1.47–4.67)	.55	.04
Responsive Caregiving	198	4.60 (2.25-6.00)	.81	.06
Depressive Symptoms	199	.40 (0.00-1.67)	.33	.02

Table 2

Correlational Table for Self and Peer Scores (n)

Peer	Self Autonomy(*n*)	Self Responsive caregiving(*n*)	Self Depressive Symptoms(*n*)
Friend 1	.23(84)*	.38(82)**	.06(91)
Friend 2	-.09(72)	.13(70)	-.02(76)
Friend 3	.05(78)	.45(68)**	.05(82)
Friend 4	-.11(77)	.11(71)	.17(77)
Friend 5	.06(63)	.10(54)	.11(66)
Disliked Peer 1	.09(57)	.27^{t}(49)	.02(61)
Disliked Peer 2	-.05(56)	.09(53)	.08(57)
Disliked Peer 3	.27(47)^{t}	.16(43)	-.14(52)
Disliked Peer 4	.20(34)	.37(32)*	.32(37)*
Disliked Peer 5	-.01(22)	.14(22)	-.05(23)
Random 1	-.08(139)	.07(138)	-.10(151)
Random 2	.07(139)	.10(138)	-.05(153)
Random 3	-.10(137)	-.05(136)	.09(152)
Random 4	-.16(135)^{t}	.06(133)	-.09(148)
Random 5	.00(138)	.04(137)	-.05(152)

** *p<.01,* * *p<.05,* ^{t} *p<.10*

current study, but reveals that those nominated as friends tend to have higher levels of autonomy. The addition of this dummy variable resulted in a lack of significant variance to be explained by additional variables $x^2(144) = 125.90$, $p > .50$. Further exploratory analyses were conducted, but possible effects should be interpreted with caution.

In order to examine the hypothesis that friends are more similar in level of autonomy than disliked peers and randomly matched peers, the target adolescents' autonomy was added to both the intercept and slope, and gender and a gender by target autonomy interaction were all entered on both the intercept and slope. The slope between the type of dyad and peer-rated autonomy was not predicted by the targets' autonomy scores (coefficient = -.08, $p = .202$; Table 3), failing to support the hypothesis that friends have more similar levels of autonomy than non-friends (disliked peers and randomly matched peers together). No other predictors were significant.

Disliked vs. liked and random peers. To test the second hypothesis, that disliked peers have less similar levels of autonomy than friends and randomly matched peers, a similar model was run using the dummy variable, disliked peer vs. friend and randomly matched peer. First, the disliked peer vs. non-disliked peer slope was entered and revealed that there are significant differences in autonomy for disliked peers versus other peers (coefficient = .08, $p = .039$). This indicates that those nominated as disliked peers have higher autonomy scores than those nominated as friends and randomly assigned peers. This finding is not central to the hypotheses of interest in the study. There was no longer significant variance to be predicted by the addition of other variables ($x^2(97) =$

Table 3

Slopes and intercepts for the Associations between Peers' Autonomy and Target Adolescents' Self-Reported Autonomy for Friends compared with Disliked Peers and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept					
Intercept	3.33	.03	113.599	195	<.001
Target aut	.01	.05	.241	195	.810
Gender	-.27	.23	-1.173	195	.243
Interaction	.10	.07	1.451	195	.148
Gender by target autonomy					
Friend/non-friend Slope					
Intercept.	-.01	.04	-.366	195	.715
Target aut	-.08	.07	-1.281	195	.202
Gender	.07	.34	.215	195	.831
Interaction	-.05	.10	-.490	195	.624
Gender by target autonomy					

86.88, $p > .500$) and further results should be interpreted with caution. The much lower degrees of freedom number indicate the lower rates of nomination of disliked peers (n = 216, compared to 374 friend nominations). When the target adolescent's self-rated autonomy scores, gender and the interaction between gender and target autonomy scores were added to the model at Level 2, results showed that the slope between the peers' autonomy and the disliked peers vs. liked and randomly assigned peer categories was not significantly predicted by the target adolescent's autonomy scores (coefficient = .03, p = .686; Table 4). This indicates that disliked peers were not less similar than friends and randomly matched peers together, thus failing to support the hypothesis.

Gender and similarity. The hypothesis that girls have more similar autonomy to their friends than do boys was not supported in that the interaction between gender and target autonomy did not predict the association between dyad type and peer autonomy. The hypothesis that girls are more dissimilar to their disliked peers than boys are was not supported either, in that the interaction between target autonomy and gender was non-significant.

Responsive Caregiving

The unconditional model. Similar models to those above were run for responsive caregiving. The Chi-squared value of the variance component of the coefficient revealed significant between-subject variance to be predicted ($x^2(156) = 273.34$, $p < .001$). The intra-class correlation revealed that 10 % of the variance in the responsive caregiving ratings was between-subject variance. The unconditional model thus showed that there was a significant amount of between-subject variance in responsive caregiving to be explained by the type of peer group.

Table 4

Slopes and intercepts for the Associations between Peer Autonomy and Target Adolescents' Self-Reported Autonomy for Disliked Peers compared with Friends and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept	3.32	.03	131.349	195	<.001
Target aut	-.04	.04	-1.071	195	.286
Gender	-.15	.22	-.673	195	.502
Interaction	-.11	.15	-.709	195	.479
Gender by target autonomy					
Disliked/non-disliked Slope					
Intercept.	.01	.06	.090	195	.929
Target aut	.03	.08	.405	195	.686
Gender	-.39	.42	-.933	195	.352
Interaction	.17	.12	1.360	195	.175
Gender by target autonomy					

Friends vs. disliked and random peers. First, the peer type variable was entered into the model and was non-significant (coefficient = -.08, p = .229). This is not surprising and is not part of the hypotheses. In order to examine the hypothesis that friends are more similar in levels of responsive caregiving than disliked peers and randomly matched peers, the target adolescents' responsive caregiving scores were added to both the slope and intercept prediction. Gender and the target caregiving by gender interaction term were also added to both the intercept and the slope. The target adolescents' self-rated responsive caregiving scores did not significantly predict the slope between the friend category variable and peer adolescent's responsive caregiving (coefficient = .02, p = .825; Table 5). There is no support for the hypothesis that friends were more similar in levels of responsive caregiving than non-friends.

Disliked peers vs. liked and randomly assigned. The disliked peer type variable was added to the unconditional model and revealed that there was no association between disliked peer nominations and peers' responsive caregiving scores (coefficient = .01, p = .889). To test the hypothesis that disliked peers have less similar levels of responsive caregiving than friends and randomly matched peers, target caregiving scores along with gender and the gender by target caregiving interaction term were added to the model. The slope between the peers' responsive caregiving scores and the disliked peer variable was not significantly predicted by the target adolescents' self-rated responsive caregiving scores (coefficient = .02, p = .895; Table 6), indicating no evidence that disliked peers have less similar levels of responsive caregiving than friends and randomly assigned peers. There was still significantly more variance to be explained in the model ($x^2(99)$ = 126.66, p = .023) and thus more variables could be entered into the model.

Table 5

Slopes and intercepts for the Associations between Peer Responsive Caregiving (RC) and Target Adolescents' Self-Reported RC for Friends Compared with Disliked Peers and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept	4.94	.04	129.803	192	<.001
Target RC	.01	.06	.262	192	.793
Gender	-1.02	.42	-2.408	192	.017
Interaction Gender by target RC	.08	.09	.890	192	.375
Friend/non-friend Slope					
Intercept.	-.32	.08	-3.795	192	<.001
Target RC	.02	.11	.222	192	.825
Gender	1.19	.70	1.68/7	192	.093
Interaction Gender by target RC	-.14	.14	-.957	192	.340

Table 6

Slopes and intercepts for the Associations between Peer Responsive Caregiving (RC) and Target Adolescents' Self-Reported RC for Disliked Peers Compared with Friends and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept	4.76	.04	108.243	192	<.001
Target RC	.01	.05	0.250	192	.803
Gender	-.31	.37	-.817	192	.415
Interaction Gender by target RC	-.00	.08	-.044	192	.965
Disliked/non-disliked Slope					
Intercept.	.20	.09	2.337	192	.021
Target RC	.02	.11	.133	192	.895
Gender	-.56	.78	-.714	192	.476
Interaction Gender by target RC	.05	.17	.320	192	.749

Gender and similarity. The hypotheses that girls have more similar responsive caregiving to their friends than boys, and less similar levels of responsive caregiving to their disliked peers, were not supported. Gender was added to both above models to examine possible effects. The main effect of gender marginally predicted the slope between friend and peer responsive caregiving (coefficient = 1.19, p = .093; table 5). The interaction term, which indicates possible gender differences in similarity, was not significant (coefficient = -.14, p = .340; Table 6). Similarly, the main effect of gender as well as the interaction between target responsive caregiving and gender was not significant for disliked peers (coefficient = .05, p = .749) indicating that girls were not less similar to their disliked peers in responsive caregiving than were boys.

Depressive Symptoms

The unconditional model. The unconditional model indicated that there was no significant between subject variance in depressive symptoms to be predicted by additional variables $X^2(197) = 220.45$, $p = .12$. This means that interpretations of possible significant results should be made with caution. The between-subject variance, i.e., the intra-class correlation, revealed that less than 2 % of the variance in the depressive symptoms was between-subject variance.

Friends vs. disliked and random peers. The friend dummy variable distinguishing between the nominated friends versus non-friends was added to the model first and was not significant (coefficient = -.01, $p = .762$) and there was not significant between-subject variance left to predict on the slope ($X^2(194) = 169.40$, $p = .17$). However, exploratory analyses continued and possible results are interpreted with caution. In order to examine the hypothesis that friends are more similar in levels of

depressive symptoms than disliked peers and randomly matched peers, the target adolescents' depressive symptoms scores along with gender and a gender by target depressive symptoms interaction were added to the model on both the intercept and slope. The target depressive symptoms measure marginally predicted the slope between friend vs. non friend and peer depressive symptoms (coefficient = -.15, p = .069; Table 7) indicating that friends tended to be more similar than non-friends in depressive symptoms.

Disliked peers vs. liked and randomly assigned. To test the hypothesis that disliked peers have less similar levels of depressive symptoms than friends and randomly matched peers, first the dummy variable disliked peer versus friend and randomly assigned peers was added and was not significant (coefficient = -.002, p = .942). Then target depressive symptoms, gender, and a gender by target depressive symptoms interaction term were added to both the intercept and slope. The slope between the peers' depressive symptoms scores and the disliked peer variable was not significantly predicted by the target adolescents' self-rated depressive symptoms scores (coefficient = .09, p = .527 Table; 8), indicating that disliked peers do not have less similar levels of depressive symptoms than friends and randomly assigned peers.

Gender and similarity. The hypotheses that girls have more similar levels of depressive symptoms to their friends than boys, and less similar levels of depressive symptoms to their disliked peers, were not supported. The main effect of gender was added to both above models to examine possible effects. Gender did not predict the slope between friend type and peer depressive symptoms (coefficient = .09, p = .138, Table 7). When the interaction between peers' depressive symptoms and gender was added to the

Table 7

Slopes and intercepts for the Associations between Peer Depressive Symptoms (DS) and Target Adolescents' Self-Reported DS for Friends Compared with Disliked Peers and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept	.44	.02	22.769	194	<.001
Target DS	.08	.06	1.325	194	.187
Gender	-.07	.04	-1.671	194	.096
Interaction Gender by target DS	-.07	.07	-1.002	194	.318
Friend/non-friend Slope					
Intercept.	-.06	.02	-2.624	194	.010
Target DS	-.15	.08	-1.827	194	.069
Gender	.09	.06	1.488	194	.138
Interaction Gender by target DS	.11	.10	1.107	194	.270

Table 8

Slopes and intercepts for the Associations between Peer Depressive Symptoms (DS) and Target Adolescents' Self-Reported DS for Disliked Peers Compared with Friends and Randomly Assigned Peers

Predictors	Coeff.	*SE*	*t-ratio*	*Df*	*p*
Intercept	.40	.01	26.962	194	<.001
Target DS	-.01	.04	.139	194	.890
Gender	-.01	.03	.257	194	.797
Interaction	-.02	.05	-.422	194	.673
Gender by target DS					
Disliked/non-disliked Slope					
Intercept.	.04	.03	1.235	194	.219
Target DS	.09	.14	.634	194	.527
Gender	-.07	.08	-.891	194	.374
Interaction	-.09	.16	-.530	194	.596
Gender by target DS					

model it was not significant (coefficient = .11, p = .270; Table 7) indicating that there is no evidence that girls have more similar levels of depressive symptoms to their friends than do boys. Among disliked peers, the main effect of gender was not significant (coefficient = -.07, p = .374, Table 8), and the interaction effect was also nonsignificant (coefficient = -.09, p = .596; Table 8.) Thus, there was no evidence that girls were less similar to their disliked peers in depressive symptoms than were boys. Due to the lack of between subject variance these finding should be interpreted cautiously.

Summary of results. Disappointingly and surprisingly, only one hypothesis was supported in this study: friends are marginally more similar with regards to depressive symptoms. This interesting finding should be interpreted with caution due to the minimal amount of variance the model explains.

Discussion

The present study examined similarity of autonomy, responsive caregiving and depressive symptoms among same-sex friends, disliked peer dyads and randomly matched dyads. The similarity effect was generally not confirmed. Only one marginally significant effect was found: friends were marginally more similar on depressive symptoms than were non-friends. The association between dissimilarity and dislike was not confirmed in that disliked peers were not less similar than friends and randomly matched peers on autonomy, responsive caregiving or depressive symptoms. There was no evidence of gender interacting with the similarity or de-selection process.

Similarity of autonomy. Adolescence is a stage in which identifying one's preferences and values is central to the evolving sense of self and future roles as encompassed by the concept of autonomy. Being at similar stages of this process was expected to facilitate and contribute to the exchanges central to this exploratory process, making dyadic interactions easier and causing less friction. Thus friendship was expected to be facilitated such that friends were expected to be more similar than non-friends on autonomy. The findings from this study did not confirm this hypothesis. The lack of support for similarity of autonomy puts into question previous research findings on personality similarity in adolescence (e.g., Selfhout, Burk et al. 2010) which supported similarity among adolescent friends, by finding that adolescents were more similar in extraversion to their friends.

Similarity of autonomy might be a less central selection process at age 13 and 14 than in later years. Specifically, similarity of autonomy might not be fully present because the young adolescents in this sample have not yet fully expressed to friends their

need for autonomy. Thus, similarity of autonomy might not be as important for friendship formations among this age group. This hypothesis could be tested further by repeating the study at a later time with the same sample. Secondly, the similarity literature generally supports the notion that qualities related to dominance in a dyad, such as some aspects of autonomy, are more likely to be complementary rather than similar (e.g., Sadler & Woody, 2003). In other words, complementary rather than similar levels of dominance appear to predict attraction. Such a finding was neither examined nor supported in the current study, but would be an interesting future direction. However, in order to fully assess the complementarity hypothesis, clearly defined dominance variables should be examined.

Similarity of depressive symptoms. Fletcher (1995) argued that there is interplay between socialization and selection, in such a way that adolescents select friends with similar adjustment levels (in turn associated with parental socialization strategies), but also amplify each other's adjustment and thereby increase in similarity over time, an example of a dual-processing model. Van Zalk and colleagues (2010) also examined depression among adolescent friends, and the interplay between initial similarity, influence and de-selection. They found support for an interplay model, whereby initial similarity was crucial in friendship formation, but that similarity also increased over time. The authors called for the inclusion of initial similarity as well as changes in similarity in future research to fully understand the process of similarity.

The present study established that friends tended to be more similar than non-friends on depressive symptoms with the caveat of limited variability in the model. However, because of lack of knowledge of the length of the friendship prior to

assessment; selection as a function of similarity can only be inferred. Alternatively, it could be that at an earlier stage of friendship development, depressive symptoms were not yet exposed between friends and therefore similarity of depressive symptoms may not be crucial factors in friendships. It seems likely that as the friendship matures, adolescents are more likely to share such symptoms and that similarity of depressive symptoms then will become important friendship maintenance features.

Similarity of responsive caregiving. Empirical support for similarity of personality attributes among adolescent friends is sparse. Previous non-significant findings have been based on statistical procedures, which may have masked the effect of similarity. However, the present study also failed to support the notion that adolescents are friends with those with whom they have similar levels of responsive caregiving, even using statistically sensitive methods. Although responsive caregiving was specifically chosen because it is developmentally relevant during early adolescence, it might not be a core part of selecting friends. This is surprising given the previously established finding that reciprocity in providing care for friends is important during early friendship formation stages (e.g., Berndt, 2002).

Dissimilarity between disliked peers. The dissimilarity/repulsion hypothesis (Rosenbaum, 1986) was not supported in the current study. This is surprising given the present study's use of nominated disliked peers, rather than merely non-nominated friends as previous research is based on. It could be that dissimilarity in the traits examined is less likely to be associated with dislike than other personality aspects, such as dissimilarity of extraversion (Cuperman & Ickes, 2009). Following this logic, it could be that adolescents have greater tolerance for differences on autonomy, responsive

caregiving and depressive symptoms than on other traits, and that dissimilarity would thus not be associated with dislike on these developmentally relevant traits. The lack of association between dissimilarity of depressive symptoms and disliked peers is inconsistent with the results from Van Zalk and colleagues (2010) who found that dissimilarity in depressive symptoms resulted in de-selection of friends. The process differs from the one examined by Van Zalk et. al. (2010) in that the current study directly assessed dislike, rather than analyzing a lack of nomination at a later time point as an indicator of non-friendships. Lack of nomination as friend might in fact not indicate dislike or dispute or even the end of a relationship, but rather a more emotionally neutral relationship, or perhaps adolescents merely forgetting to nominate a friend. It was hypothesized that by asking directly about disliked peers, it would make the dissimilarity and dislike association more salient than a non-nomination paradigm. However, the dislike- dissimilarity hypothesis was not supported in the current data.

Gender and similarity. Surprisingly, gender did not moderate the similarity or dissimilarity effects. The lack of support for more similarity among girls indirectly challenges the theory that girls are more discerning in their friendship choices than are boys at this age (Berndt, 1982,) and that similarity generally is higher among girls than boys (Furnham and Henderson, 1982; Luo & Klohnen, 2005). The lack of effect for girls in this study might be because although girl dyads are more intimate than boy dyads, they are not more similar. Girls might accept differences in some areas and undetectable similarities in other as long as the friendship is intimate.

Limitations and Future Directions

The present study's findings generally do not support the hypotheses. Some limitations in this study must be noted. All data used in the current study are self-report

scores. However, other similarity studies have used peer-reported and nominated personality scores (e.g., Haselager, et. al., 1998) and found support for the similarity hypotheses. One of the main strengths of the current study was the examination of developmentally relevant personality concepts: responsive caregiving and autonomy. However, given the lack of clarity in the literature regarding similarity of personality and attraction among adolescents, future research should examine the effect of similarity and dissimilarity across friendships, disliked peer nominations, and randomly assigned peers with additional, but developmentally relevant personality attributes, such as social competence attributes, and behaviours, in order to more fully understand the association between similarity and type of dyad. It would be pertinent to include a myriad of developmentally relevant areas of personality and social development within the same sample to draw a more complete picture of the function of similarity among adolescents.

Another concern relates to the statistical analyses used in this study. A small number of participants had missing data for some scales and were excluded from analyses, but a large number of participants did not have significant observations for computation in the chi-square estimation. This resulted in low degrees of freedom for those analyses making it less likely to detect effects. Due to these missing observations, the unconditional model for depressive symptoms did not have a significant amount of between subject variance to be explained by higher order variables; thus interpretations from these models should be made with caution. However, the actual analyses included almost all participants.

The limited amount of variance explained by the models in general, and the lack of findings for autonomy and responsive caregiving could be related to the nature of

friend nominations at this age. Half of the adolescents had only been at the same school for a few months when assessed, perhaps not sufficient time for the similarity effect to influence friendship choices.

As with any correlational study, no causality or directionality can be assumed from the current study findings. Thus, there are limitations in interpretation in the current study. As already mentioned, it is not known whether same-sex adolescent friends might become more similar in depressive symptoms over the course of the friendship, or whether they choose friends based on similarity at a later age. Nor does the present study assess whether disliked peers were disliked due to a break of a previous friendship. Study 2 uses a longitudinal design to address these questions by examining the possible change in similarity over three years with regards to autonomy, responsive caregiving and depressive symptoms among friends. Furthermore, Study 2 examines the implications for friendship stability of similarity on these important variables.

Study 2

Study one examined similarity of autonomy, responsive caregiving and depressive symptoms among same-sex friends, disliked peers and randomly attached peers among an adolescent sample. Generally, little evidence was found for either the similarity-attraction or the dissimilarity-repulsion effects. Limited results indicated that friends tend to be more similar than non-friends with regards to depressive symptoms. Study two examines whether or not adolescents become more similar over time in autonomy, responsive caregiving and depressive symptoms over three years. Based on the socialization hypothesis, it was expected that there would be an increase in similarity to friends across three years. It was also expected that dissimilarity would be positively associated with instability in friendships.

Method

Participants and procedure. In this study two samples were used to test the hypotheses and are described more fully below. The first sample (n = 75) was used to examine similarity over time. The second sample (n = 128) was used to examine the association between similarity and stability in friendships.

Similarity over time. The final sample of 75 adolescents was drawn from the 205 Study 1 participants. Of those 155 were followed for 3 years to examine similarity. Only those who nominated the same friend across all three years of the study (n = 89) were considered for the study. There were 28 reciprocated nominations, meaning 28 adolescents' nominated friend also nominated the adolescent resulting in 14 pairs of duplicate data. To avoid double representation of that data half of those dyads (n = 14) were eliminated from the study resulting in a final sample of 75 adolescents (45 girls).

Participation rate across the three years remained moderate. In the second year of the study, where parental consent was still needed for about half the sample, participation was the lowest (n = 164, 72% from year one participated; 17 declined participation, 12 left the school and 4 were excluded due to experimenter error). Year three of the study had slightly higher response rate (n = 176, 77%; 8 declined participation and 9 additional students left the school). The procedure for data collection was identical to Study 1 each year.

Stable friendships. The second sample, which was created to examine how similarity is associated with the stability of a friendship, included 128 adolescents. Adolescents in a stable friendship (n = 73[2]) were compared to the adolescents who only nominated the same friend one or two out of the three years (n = 55). Of those adolescents in a stable friendship, 20 were in reciprocally chosen dyads. To avoid overrepresentation of those dyads' difference scores, which would be identical, duplicate reciprocally nominated dyads were randomly removed resulting in a final sample of 63 dyads. Of the 55 participants in the unstable group, 44 nominated the friend at time 1 only and 11 nominated the same friend at time 1 and 2, but not time 3. No adolescents in the unstable friendship group nominated the same friend at time 1 and 3.

Measures

The same study one measures (autonomy, responsive caregiving, depressive symptoms and friend nominations) were collected each of the three years. The measures continued to show good internal consistency: Autonomy (T1α = .75, T2α = .75, T3α =

[2] Two from the longitudinal part of the study were excluded for this part of the study due to missing Time one depressive symptoms scores

.83), responsive caregiving (T1α = .84, T2α = .88, T3α = .88), and depressive symptoms (T1α = .86, T2α = .79, T3α = .72).

Missing data was mean substituted as in study one, with the exception of those not participating in a given research wave.

Analyses Overview

Hypothesis 1 & 2. To examine if similarity of personality and well-being within a close friendship increased over time, the following analyses were conducted. An absolute difference score was created between the target adolescent and his or her friend for each of the three constructs of interest (autonomy, caregiving, and depressive symptoms,) where a large score represents dissimilarity and a small score similarity. The use of difference scores, which has significant limitations, was the only feasible statistical method due to the longitudinal design and the relatively small sample. For each of these variables, a model examining similarity among adolescents, similarity over time and the moderating effect of gender was examined according to the hypotheses. For all HLM analyses the fixed effects with robust standard errors are reported.

After examining the unconditional model of the outcome variables (absolute difference scores of autonomy, responsive caregiving and depressive symptoms), time as a predictor was added where Time 1 was coded 0. This slope indicated whether or not similarity of personality and well-being changed over time and allowed an evaluation of the socialization hypotheses. The second level model included gender, as a moderator of the changes in similarity over time, where a score of 0 represents girls.

Hypothesis 3. To examine if more dissimilarity in a dyad at Time 1 was associated with instability in that friendship, a set of log linear regression analyses were

conducted, where dissimilarity at Time 1 was used to predict those who nominated the same friend across three years, stable friendships (coded 1) versus those who did not, unstable friends (coded 0).

Results

Descriptive analyses revealed moderate levels of association among the measures across time. See Table 9 for correlations. The binary correlations between the target adolescent's autonomy level and that of their friend are in the small range (r = .04 - .13). However, the overall correlations among the entire sample are not of great interest, but rather the individual changes over time in a given friendship dyad. (For correlations among difference scores please see Table 10.) Thus these relatively small correlations are not a limitation to the current study. All variables at all time points were examined for skew and kurtosis, and no violations of assumptions for the analyses were found. Within subject ANOVAS were run on all three variables to examine possible overall developmental changes among the sample. One significant change was found indicating that the adolescents decreased in depressives symptoms across the three years (F (1.997, 135.767) = 9.297, $P < .001$; please see table 11). Planned comparisons revealed that there were significant differences between Time One and Time Three, as well as between Time Two and Time Three, but not between Time One and Time Two

Autonomy

The unconditional model was examined first. The Chi-squared value of the variance component of the coefficient revealed significant between-subject variance, χ^2 (73) = 231.16, $p < .001$. The intra-class correlation revealed that 42 % of the variance in the difference scores of autonomy was between-subject variance. When time was regressed onto this model, the intercept remained significant (coefficient = .37, p <.001), as did the slope (coefficient = .23, $p < .001$). The positive slope coefficient indicated that

Table 9

Correlation table for self and friend scores

Variable	Self aut T1	Self aut T2	Self aut T3	Self RC T1	Self RC T2	Self RC T3	Self CDI T1	Self CDI T2	Self CDI T3
Friend autonomy T1	.10	.12	.26^{t}	.06	-.06	-.06	-.11	-.21^{t}	-.20
Friend autonomy T2	.02	.04	.07	.03	-.06	-.14	-.14	-.09	-.31*
Friend autonomy T3	.09	.13	.13	.06	.01	.06	-.10	-.02	-.24^{t}
Friend responsive Caregiving T1	.17	.01	-.03	.32*	.14	.29*	-.04	-.01	.05
Friend responsive Caregiving T2	.16	.10	-.12	.41**	.34**	.36**	-.10	-.03	-.12
Friend responsive Caregiving T3	-.02	-.02	-.14	.38**	.28*	.31**	-.24*	-.06	-.10
Friend depressive Symptoms (CDI) T1	-.19	.00	-.15	.15	.14	.06	-.00	.02	.13
Friend depressive Symptoms T2	-.08	-.07	-.25t	.17	.16	.14	-.04	-.01	.09
Friend depressive Symptoms T3	-.03	.02	-.20	.21t	.20	.16	-.03	.07	.09

Aut = autonomy, RC = responsive caregiving

*** p<.01, * p<.05, ^{t}p<.10*

Table 10

Correlation table for difference scores

Variable	1	2	3	4	5	6	7	8	9
Autonomy T1		.33*	.41**	-.06	.06	.03	-.05	-.06	-.01
Autonomy T2			.55**	.01	.00	.10	.13	-.03	-.03
Autonomy T3				.07	.13	.08	.02	.12	-.02
Responsive Caregiving T1					.50**	.06	-.01	.26*	-.18
Responsive Caregiving T2						.20	.00	.12	-.18
Responsive Caregiving T3							.28	.28	.03
Depressive Symptoms T1								.36**	.42**
Depressive Symptoms T2									.08
Depressive Symptoms T3									

** $p<.01$ * $p<.05$

Table 11

Means and SD for variables across time including F values for within subject-ANOVAs

Variable	*Mean*	*SD*	*SE*	*F*
Autonomy Time 1	3.35	.56	.07	1.508
Autonomy Time 2	3.31	.58	.07	
Autonomy Time 3	3.42	.66	.08	
Caregiving Time 1	4.65	.80	.10	.024
Caregiving Time 2	4.65	.78	.09	
Caregiving Time 3	4.67	.82	.10	
Depressive Symptoms Time1	.37	.29	.04	9.297***
Depressive Symptoms Time1	.35	.29	.03	
Depressive Symptoms Time1	.25	.21	.03	

*** $p < .001$

as time increased so did the difference scores, that is, dissimilarity increased over time. This surprising finding is in contrast to the hypotheses. When gender was added to the model on both the intercept and the slope, it predicted the intercept (coefficient = .35, $p <$ .001) indicating that there is a general gender difference in difference scores in peer autonomy ratings. In other words, boy dyads were more dissimilar in autonomy than were girls. Gender also predicted the similarity slope over time (coefficient = -.16, $p<$ .05) indicating that boys become more dissimilar to their friends over time than do girls. In other words, overall friends became more dissimilar over time in autonomy, this was particularly true for boys who were more dissimilar at time one and also became more dissimilar over time. There was significant variance in all three models to warrant further analyses. Please see Table 12.

Responsive Caregiving

The unconditional model indicated that 25 % of the variance in responsive caregiving was between-subject. The Chi-squared value of the variance component of the coefficient revealed significant between-subject variance, $\chi^2(74) = 144.21$, $p < .001$. When time was regressed onto the model, the slope was not significant (coefficient = -.01, $p = .889$) indicating that adolescents did not report more similar levels of responsive caregiving over time (Table 13). Gender did not significantly predict the intercept (coefficient = .04, $p = .546$) or the time slope (coefficient = -.03, $p = .275$).

Depressive Symptoms

The unconditional model revealed significant between-subject variance, $\chi^2(74) = 144.89$, $p < .001$. In the unconditional model, 25% of the variance was between-subject. When adding time to the model, it marginally significantly predicted similarity

Table 12

Fixed Effects Estimates, coefficients (and T-ratios), for Models Predicting Similarity of Autonomy

Parameter	Unconditional model	Model 1	Model 2
Intercept	.61(14.566)***	.37(8.799)***	.42(5.005)***
Gender			.35(5.927)***
Time		.23(9.065)***	.34 (12.099)***
Gender			-.16(-3.122)**

*** = $p < 0.001$, ** = $p<0.01$, * = $p < 0.05$

Table 13

Fixed Effects Estimates, coefficients and T-rations, for Models Predicting Similarity of Responsive Caregiving

Parameter	Unconditional model	Model 1	Model 2
Intercept	.70(15.771)***	.71(11.112)***	.29(8.464)***
Gender			.04(.607)
Time		-.01(-.141)	-.02(-.791)
Gender			-.03(-1.100)

*** = $p < 0.001$

(coefficient = -.03, p = .062; Table 14.) That is, adolescent friends reported marginally more similar levels of depressive symptoms over time. Gender was added both to the intercept level (coefficient = .04, p = .546) and the slope (coefficient =-.03, p = .275) and was not significant. There was significant variance remaining in depressive symptoms warranting additional variables to be added to the model and that the model does not fully account for all between-subject variability.

Dissimilarity Predicting Stability of Friendships

In order to predict whether dissimilarity of autonomy, responsive caregiving and depressive symptoms at Time 1 is associated with the stability of that friendship, log linear regressions were run predicting group membership: those who for all three years nominated the same friend (stable) versus those who selected the same friend 1 or 2 out of 3 years (unstable). Analyses revealed no significant associations between dissimilarity of autonomy, responsive caregiving or depressive symptoms at time 1 and instability.

Table 14

Fixed Effects Estimates, coefficients and T-rations, for Models Predicting Similarity of depressive symptoms

Parameter	Unconditional model	Model 1	Model 2
Intercept	.27(13.187)***	.30(10.164)***	.29(8.464)***
Gender			.04(.607)
Time		-.03(-1.891)^{t}	-.02(-.791)
Gender			-.03(-1.100)

*** = $p < 0.001$, ^{t} = $p < 0.10$

Discussion

Generally, results did not support the socialization hypothesis, with only one marginally significant effect: that adolescent friends reported marginally more similar levels of depressive symptoms over time. Interestingly, and in contrast to the socialization hypothesis, adolescents became more dissimilar over time in autonomy. Dissimilarity at time one of autonomy, responsive caregiving or depressive symptoms, did not reliably differentiate between those who were in stable or unstable friendships across three years. These findings add to the current body of literature in that the socialization process associated with the similarity-attraction effect was examined for developmentally relevant personality aspects.

Similarity of Personality

Autonomy. Similarity of autonomy does not increase over time among adolescent friends, and moreover, dissimilarity increases over time. The findings from the current study thus fail to support the socialization hypothesis with regards to autonomy. The increase in dissimilarity of autonomy is somewhat puzzling. As adolescent friendships mature, adolescents might feel more secure in their autonomy from parents and thus accept and express their differences more openly resulting in increased dissimilarity over time, that is they might initially hide these dissimilarities from each other and perhaps themselves in order to avoid potential conflict. With time the friendship becomes more committed and adolescents feel more secure in showing and reporting their independence from their parents more openly, which is tolerated in the friendship and does not appear to result in the end of a friendship. That is adolescents might not report to each other, to them selves or to researchers their actual levels of autonomy, knowing they are different

from their friends until well into the friendship. The increase we see in dissimilarity of autonomy over time might be a function of increased expression of autonomy rather than a true change in dissimilarity. Alternatively, perhaps autonomy becomes more variable across adolescence as friends might begin individuation from parents at different time points. Previous studies have supported an overall increase in levels of autonomy during adolescence (e.g., Noom, Dekovik & Meeus, 1999), but relatively little is known as to the nature of this increase. Mean analyses did not reveal significant increases or decreases in autonomy over time across all adolescents. It could be that adolescents merely shift their need to belong and function individually and securely within a relationship from their parents to their friends. The notion that adolescents change the object of their need to individuate securely from parents to peers is established in research (e.g., Levpušček, 2006). If the process of relying more on peers and less on parents is smooth there might not be an overall change in autonomy during these years. This conclusion is however speculative and was not directly assessed.

Responsive caregiving. Adolescents did not become more similar in responsive caregiving over time. The ability to care for others is a significant and flexible trait among adolescents that might be pivotal for friendship success. However, adolescents might not require reciprocal care in their friendships, and thus dissimilarity or lack of similarity might be tolerable over time. Although there is an overlap between the sample from the previous study (Study 1), it was not within the scope of the study to directly test the dual processing model to disentangle the degree to which adolescents select similar individuals and then continue to converge on responsive caregiving.

Well-being. In partial support of the socialization hypothesis, adolescents became marginally more similar in depressive symptom levels over time. Overall the sample became less depressed at Time Three compared to Time One and Time Two indicating that there is a significant drop in depressive symptoms in Year Three. Generally, depressive symptoms are expected to increase during adolescence, especially for girls (e.g., Hankin & Abramson, 2001). This finding is surprising, but does not address the increased similarity over time. Adolescents might have greater understanding of other's symptoms if they have similar levels of depressive symptoms and this could facilitate conversations about mood, etc., which could help ease depressive symptoms in both adolescents. Similarly, those who are less depressed might model healthy behaviours and activities, protecting both members of the friendship from developing further depressive symptoms. Brendgen and colleagues (2010) supported the notion that being in a friendship with a non-depressed adolescent buffered against depression. Similarly, they indirectly supported the socialization hypothesis in that being in a friendship with a depressed individual put the adolescent at further risk for depressive symptoms through the process of co-rumination. Since the current study examined difference scores, there is no indicator if adolescent friends became more or less depressed over time. Findings from previous studies have indicated that depressive symptoms sharply increase from middle to late adolescence (e.g., Hankin, Abramson, & Siler, 2001.). The current sample is distinct from previous studies in that they all have stable friends, which has been indicated as a supportive factor against depressive symptoms (e.g., Nangle et al., 2003), and which would likely reduce or eliminate increases in depressive symptoms over time. It is interesting that the current sample did not show the overall increase in depression as

the age group in general has been found to experience. Future research should compare similarity of depressive symptoms over time among friends to a sample of adolescents not in a friendship to disentangle the process of socialization and co-rumination. This was not possible in the current sample, given the small number (n = 3) of adolescents who did not nominate any friends across time. Future research should disentangle the possible effect of friendships when examining similarity of well-being over time.

Gender and similarity. Girl dyads did not become more similar over time in autonomy, responsive caregiving, or depressive symptoms compared with boy dyads. However, boys became more dissimilar over time in autonomy than did girls. Boys might express their autonomy differently than girls across time; that is, boys might feel more confidant expressing autonomy as they mature than girls do. The low support of gender differences are puzzling and should be explored. Girls are more discerning in their friendship choices in general (e.g., Berndt, 1982) and initial greater similarity of responsive caregiving and autonomy would be expected among girls than boys. Given their closer friendships, they might develop different levels of responsive caregiving, each adopting a particular role as the "helper" vs. the recipient of help to deal with reactions to subtle differences. This could explain the lack of increased similarity among girl dyads while still positing that girl and boy dyads are qualitatively different with regards to similarity. Alternatively, girls might have a higher tolerance of differences between two friends and thus allow partners to individuate on such traits without this having a negative effect on the friendship. This was not directly examined in the study and these interpretations should be tested in future studies.

Dissimilarity and stability of friendship. Previous studies have found that dissimilarity is associated with dislike of peers, and dislike of peers has in turn been associated with the dissolvement of friendships (e.g., Laursen et. al., 2010.) It was therefore hypothesized that dissimilarity of personality could predict instability of friendships. This hypothesis was not supported. It could be that the definition of unstable friends being those that did not nominate each other for all three years was too generous and did not truly reflect unstable friends. As mentioned previously the lack of a friend nomination does not imply lack of friendship or admiration. This would result in minimum difference between the stable and unstable friends. Interestingly, the same analyses were run where unstable friends only included those who nominated each other in year one and not in year two or three and the same non-significant results were found. This indicates that rather than this being a methodological issue there might not be an association between dissimilarity of autonomy, responsive caregiving and depressive symptoms and friendship instability.

Limitations and conclusions. The current study is not without limitations. First and foremost, friends could only be nominated among other study participants. To increase the ecological value of the findings the study would have to be replicated among naturally occurring friendship dyads. A higher response rate than 46.7% would have improved the ecological validity of the findings. However, despite numerous return trips to the school to collect informed consent, the majority of students failed to gain written consent from their parents to participate. The current study did, however, allow cross-year nominations, which presumably included more actual friendships. Second, measures were all self-report data and the study did not include any other reports. Peer reports of

personality and well-being were out of the scope of the present study and some researchers have indicated that self-report data on concepts such as depressive symptoms are equally likely to detect depressive symptoms and change in those compared to clinician reports (e.g., Rush et al, 2006). Third, the participants in the current study were assessed at the first year of a longer longitudinal study. Thus there is no information on how long the friendships existed before the initial assessment. It may be that the adolescents had already gone through a socialization period and that similarity had stabilized. However, in the school system in Quebec where the assessment took place at the first year of high school, adolescents were brought together from multiple elementary school districts. It is therefore likely that many of the friendships were new and socialization had not taken place. Also, the mere lack of evidence for socialization, which in the literature is often used a support for the selection hypothesis (e.g., Newcomb, 1961) is not not direct evidence for the selection hypothesis, nor does it establish a causal link between similarity and attraction.

Finally, it would have enhanced the scope of the current study to examine both stable friendships and stable disliked peer dyads, which the data set could have included. However, as previous studies have indicated, disliked peer dyads are not as stable as friendships during adolescence. Thus there were not sufficient stable disliked peer dyads to compare to the friendships.

In conclusion, the present study found that adolescents' levels of depressive symptoms became marginally more similar to their friends over time. This was not true for autonomy nor responsive caregiving. Interestingly, adolescent friends became more dissimilar in autonomy over time and this was more true for boys than girls. The current

study partly supports the similarity effect among adolescents in a developmentally relevant aspect (well-being) and examined each dyad's similarity growth curve over time, which allowed for a clear and sensitive understanding of similarity among adolescent friends. The socialization hypothesis was generally not supported, but the selection hypothesis and the dual process model cannot be ruled out currently as affecting similarity among adolescents.

General Discussion

Study one examined similarity among friends, disliked peers, and randomly assigned peers at time one, and tested the similarity-attraction effect. The hypotheses were that friends would be more similar on autonomy, responsive caregiving, and depressive symptoms than were randomly matched peers and disliked peers.. It was also hypothesized that disliked peers would be more dissimilar than friends and randomly assigned peers on autonomy, responsive caregiving and depressive symptoms in support of the dissimilarity-repulsion hypothesis. Study two expanded on this research by examining changes in similarity among friends for autonomy, responsive caregiving and depressive symptoms over three years. It was expected that similarity would increase over time, consistent with the socialization hypothesis. Finally, study two examined the association between dissimilarity and instability in friendships. It was hypothesized that dissimilarity at Time One would predict instability in friendships such that higher dissimilarity would be associated with instability. Generally, results were not consistent with the hypotheses. One exception was that adolescent friends tended to be more similar in depressive symptoms than randomly assigned and disliked peers (study one), and adolescent friends tended to become more similar in levels of depressive symptoms over time (study two.) In contrast to the hypotheses, adolescents became more dissimilar in autonomy over time. Finally, dissimilarity at time 1 did not predict who was in a stable versus unstable friendship by time 3.

The nature of similarity of personality among friends is complex. Are friends similar from the onset of a friendship (selection hypothesis)? Do they become more similar over time (socialization hypothesis)? Or is the observed similarity effect due to

de-selection of non-similar friends? Results from the present studies generally failed to find a similarity effect, and thus differentiating among these processes may be less relevant. That is, the proposed processes associated with similarity across developmentally relevant personality and well-being aspects (autonomy, responsive caregiving and depressive symptoms) were generally not confirmed. However, several important findings regarding actual similarity were uncovered. Similarity among friends appears to be different depending on the construct examined.

Similarity of well-being. Adolescent friends were marginally more similar in depressive symptoms than were disliked peers and randomly assigned peers at time one; furthermore, they tended to become more similar across the three years. Similarity of depressive symptoms may be somewhat important in the initial phase of a friendship as well as across time. These two findings together offer some support for both the selection and socialization hypotheses for depressive symptoms, but include some caveats. First, inferring selection from similarity in existing friendships should be done with caution. There is no knowledge of the length of the friendships. Although half the sample at time one was in the first year of high school and thus likely to be in new relationships, this remains an unknown factor. Second, causality was not tested. Thus, it might be that adolescents who are recent friends adapt to the emotional state of their friends rapidly and thus become more similar early, as well as continuing to converge in depressive symptoms, rather than selecting friends with similar levels of depressive symptoms. The interplay between selection and socialization could not be fully teased apart in the current studies, but findings are comparable to two of those Van Zalk and colleagues established in 2010, when they concluded that similarity among adolescents in depression is a

function of selection, socialization (both supported in the current research) and de-selection (which was not be supported by the current data.)

Another potential caveat when studying similarity of depressive symptoms among friends is the effect of having a friend on mood in general. Brendgen, Lamarche, Wanner, and Vitaro (2010) examining trajectories of depressed mood among friends and friendless youth concluded not only that friendlessness is a risk factor for the development of depressed mood, but so is close friendships with other depressed youth. In other words, merely being in a friendship does not ward off depression, especially when two friends have similar and high levels of depression. This process is also highlighted in the alternate co-rumination theory where adolescent depression is expected to increase in friendship with similar, high levels of depressive symptoms. According to this theory adolescent friends with high levels of depressive symptoms are expected to re-hash problems, and reinforce negative thoughts and feelings in each other thus increasing the levels of depressive symptoms for both (Rose, Carlson, & Waller, 2007). The present studies did not directly examine the level of depression among the dyads over time, since this is not feasible with difference scores used in study two. However, it appears that similar and high levels of depressive symptoms are not adaptive and can have emotional consequences for the adolescent. A process of co-rumination occurring in the sample could explain the increasing similarity; however, this was not directly examined and could be explored in greater detail in future research.

Similarity and personality. Although adolescent friends were not more similar at time one with regards to responsive caregiving and autonomy compared to disliked peers and randomly assigned peers, they interestingly became more dissimilar over time in

autonomy. The lack of direct support for similarity of autonomy is possibly related to the multifaceted concept of autonomy, in that some aspects of autonomy are more likely to be associated with complementarity rather than similarity. The essence of complementarity has been defined as when "an individual's interpersonal behaviour alters the behavior of his or her interaction partner in predictable ways" (Sadler & Woody, 2003, pg. 81). This means that one partner has influence over another, and this type of dominance is associated with complementarity in a relationship rather than similarity. Interestingly, research on complementarity among adults has supported dissimilarity of traits like domination and submissiveness among married couples (e.g., Buss, 1984). The complementarity hypothesis suggests that when two individuals are both high or low on traits like dominance, they are either more likely to compete for domination (both high) or lack assertiveness to make decisions in the relationships (both low.). Both of theses situations are associated with less relationship quality. Some aspects of autonomy could be considered comparable to those of domination, and dissimilarity according to the complementarity hypothesis would be likely to be a maintaining rather than terminating factor in a friendship. However, autonomy during adolescence is an adaptive and malleable process, and thus similarity would not likely result in the conflicts that similarity of domination traits would. Aspects of autonomy related to making individual decisions could be associated with complementarity rather than similarity, which could possibly explain the increase in autonomy dissimilarity over time; whereas other aspects of autonomy, such as the cognitive and emotional outcomes associated with increasing autonomy are likely to be associated with similarity. It could be that within the multifaceted construct of autonomy, these two processes cancel out each other, in that

adolescents are more dissimilar on the complementary aspects of autonomy, but more similar on other aspects of autonomy. This could account for the failure to find a similarity effect at Time One (study one), and increased dissimilarity over time as the complementarity of autonomy between the dyad members becomes clearer and a leader/follower relationship is created. The function of complementarity of autonomy could be examined further if the autonomy items were factor analyzed and broken into latent variables possibly associated with complementarity and similarity. However, the call in similarity research has been to utilize developmentally relevant broader constructs and to avoid single variable centered research, where similarity is examined separately among individual variables rather than a broader and more inclusive traits (e.g., Luo & Klohnen, 2005). Thus, the broad construct of autonomy, rather than its separate components, appears to be the more conservative construct to examine among adolescents.

No significant findings with regards to similarity and responsive caregiving were found. More specifically, adolescent friends were not more similar in responsive caregiving than disliked peers and randomly assigned peers, nor were they more dissimilar to their disliked peers than friends and randomly matched peers. Furthermore, friends did not become more similar in responsive caregiving over time. A construct such as responsive caregiving, which is related to the adolescents' attachment systems, might not be salient in young friendships or even in the friend selection phase. The developmental salience of a personality construct would be expected to increase the likelihood of supporting the similarity effect (Erwin, 1993). Responsive caregiving might however, become more overt with time, as friends begin to trust their friends to express

nurturing feelings for each other. The expression of such feelings and cognitions then would validate responsive caregiving in the other and set the stage for bidirectional learning and thus increased similarity over time. This highlights the importance of examining similarity over time in addition to cross-sectionally. This is one of the strengths of the current research project, but longitudinal data did not support a change in similarity of responsive caregiving. It could be that responsive caregiving is not sufficiently overt and perceivable during adolescence to affect selection due to similarity or convergence over time. It might be that adolescents vary greatly on this trait and do not assume or demand similarity, but accept that one adolescent cares for the other and that this inequality is compensated for in other aspects of the relationship.

Dissimilarity and instability in friendships. Disliked peers were not more dissimilar in autonomy, responsive caregiving and depressive symptoms than were friends and randomly matched peers. The lack of support for the association between dissimilarity and dislike could be explained by several factors. Dissimilarity on these particular aspects might not be sufficient to warrant a nomination as a disliked peer. The use of direct nominations of dislike is unique and a strong point of study one, but perhaps dissimilarity would be associated with the absence of friend nominations rather than dislike. Such an explanation is however in contrast to Rosenbaum's repulsion hypothesis (Rosenbaum, 1986), which posits that dissimilarity of personality causes repulsion, which again results in no relationship formation. The lack of evidence for the repulsion hypothesis from the current studies, as well as the finding that friends become more dissimilar in autonomy over time challenges the inclusion of a de-selection process in similarity proposed by Van Zalk and collogues (2010). We found no evidence that

adolescents de-select peers due to dissimilarity. Recommendations from van Zalk et al. (2010) were to control for initial similarity when examining socialization. The current study examined the potential increase in similarity across time, and given the use of difference scores, did not directly control for initial similarity. Theoretically it is possible that a lack of effect is due to complete changes in autonomy associated with the same dissimilarity scores that is one adolescent increased autonomy by two but his friend decreased by two resulting in the same difference score. This is one of the limitations of using difference scores and a reason only to use them when other methods are not appropriate. The lack of association between dissimilarity and dislike in study one can be explained by several methodological and developmental factors, such as the ability of adolescents to overcome dissimilarity in the traits of autonomy, responsive caregiving and depressive symptoms and should be explored further in future studies.

Similarity and gender. Girls, who are more selective in their friends (e.g., Berndt, 1982) were surprisingly not more similar in autonomy, responsive caregiving or depressive symptoms than disliked and randomly matched peers (study one,) nor did findings support this over time (study two.) The lack of support for gender differences in similarity and dissimilarity warrants consideration.

Previous research findings have failed to create a consensus regarding gender and similarity. One potential methodological reason is that similarity research often combines girls and boys (e.g., Newcomb, 1961), possibly to avoid decreasing the subjects in each group or possibly because of lack of differences between the genders. It is likewise possible that the variability in support for a gender effect on similarity is related to the individual association between the construct studied and gender. For example, girls are

more likely to endorse higher ratings of emotional constructs, whereas boys are likely to indicate higher levels of aggression, etc. (e.g., Berndt, 1982.) This could cloud the picture of expected higher similarity between girls, depending on the construct studied. For example, Erwin (1985) examined gender differences in similarity of attitudes and construct ratings (description of friends) among children (aged 7-10) and found that boys were more similar than girls in attitudes and girls were more similar in construct ratings than were boys. This gender difference is important because it highlights that similarity might affect girls more in areas of social and emotional constructs. Women generally self-disclose more than men do (Cozby, 1973) and girls might through self-disclosure have a closer understanding of potential differences in responsive caregiving than boys might have. Given the general emotional and social differences between girls and boys, the complete lack of gender differences as pertaining to girls being more similar is puzzling. Boys did become more dissimilar over time, but girls were not more similar to their friends, dissimilar to their nominated disliked peers or became more similar over time. Perhaps two opposing processes are at play resulting in no differences. It might be that although girls emphasize similarity more than boys do, they are also better at tolerating differences of an emotional, cognitive or behavioural type.

Limitations. Although study one and two shed light on existing research conclusions, the studies are not without limitations. The exact nature of selection, socialization and de-selection is not entirely clear from the data. It would have been preferable to examine these three processes within the entire sample rather than using subsamples. This was not possible, due to lack of repeated disliked peer ratings over time.

In order to increase ecological validity, future research should allow adolescents to make more general nominations, rather than merely nominating participating peers from within the same class. This should result in more nominations, including ones which are more ecologically valid, making it more likely to find reciprocally nominated friends and repeated disliked peers. Studies, using larger samples could likely examine these three processes closely without jeopardizing ecological validity.

There were some limitations due to lack of power because of insufficient data points to compute the Chi-Square reliability coefficient. The Least Square index requires two data points in order to be included. For some adolescents in study one they only nominated one friend or one disliked peers. This is not a problem for the analyses of random and fixed effects in HLM, which does not assume equal amounts of data points, but it did result in limited power. Although the analyses for depressive symptoms in study one did not have significant amount of variability, analyses proceeded and interpretations were made with caution. Due to the conservative inclusion criteria for the Chi-Square by HLM, it seems warranted to make cautious conclusions even with limited variability detected.

Conclusions. Although most of the hypotheses in the current research were not supported, similarity of developmentally relevant personality constructs remains a key part of social functioning for adolescents as noted by other researchers. Adolescents tended to be more similar in depressive symptoms than were disliked peers and randomly assigned peers. Similarity of depressive symptoms tended to increase with the duration of a friendship. A two-process model was thus supported whereby, adolescent friends are more similar with regards to depressive symptoms than are disliked peers and randomly

assigned peers, consistent with selection based on similarity, and second, they become more similar over time in depressive symptoms, consistent with the socialization process. In comparison, Van Zalk and colleagues (2010) found support for a third process, the de-selection hypothesis, which was not supported in the current study. Furthermore, the study could not provide support for an association between dissimilarity and instability in friendships. Future research should examine the initial similarity of other developmentally relevant personality aspects during adolescence along with the change in time and de-selection in order to fully understand this proposed three process model.

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APPENDIX A

Centre for Research in Human Development
Department of Psychology
tel: (514) 848-2424 ext 7560 fax: (514) 848-2815*

Consent Form For Students To Participate in Research

Student's Name:_____

Student's Date of Birth:_____Age:_____

School: LCCHS Grade:_____ French Teacher's name/class:_____

Check where applicable:

_____ YES, I agree to **participate** in the Relationships and Well-being study conducted by Dr. Anna Beth Doyle, and Dr. Dorothy Markiewicz. **(Student please sign below).**

_____ Before I agree to participate, please call me or my parents to discuss the project. Name_____ and phone number _____.

_____ NO, I do not agree to participate.

IF YOU AGREE TO THE STUDENT'S PARTICIPATION, please complete the following:

I have been informed that the purpose of the study is to understand students' relationships with family and peers, adjustment and well-being. Participation will involve approximately 1 ½ hours of class time during the year, completing questionnaires about friendships and family relationships, self-perceptions and emotional and behavioural adjustment. I understand that **all information will be confidential** to the research team and identified only by number, although if life-threatening circumstances are reported, the research team will legally have to break confidentiality. I understand that general results may be published. I also understand that the student may withdraw consent and may discontinue participation at any time.

Student's Signature:_____Date_____

Parent(s) Name(s)_____

Address_____

City & Postal Code_____ Phone Number_____

PLEASE RETURN THIS FORM TO YOUR FRENCH TEACHER AS SOON AS POSSIBLE.

APPENDIX B

GENERAL INFORMATION

Please do not mark in this area

				1

This information will help us describe the participants in our study.

1. Age: ☐☐

   Date of Birth: DAY ☐☐ / MONTH ☐☐ / YEAR ☐☐

2. Sex: ☐ Female ☐ Male

3. Grade: ☐ 7 ☐ 8 ☐ 9 ☐ 10

4. My mom is (☒ one box) :

   ☐ Single ☐ Divorced
   ☐ Common-law ☐ Widowed
   ☐ Married ☐ Other
   ☐ Separated

5. My dad is (☒ one box) :

   ☐ Single ☐ Divorced
   ☐ Common-law ☐ Widowed
   ☐ Married ☐ Other
   ☐ Separated

6. Who lives in your house with you?
   (☒ all that apply)

   ☐ Mom ☐ Sisters/Stepsisters
   ☐ Dad ☐ Brothers/Stepbrothers
   ☐ Stepmom ☐ Other (Specify)
   ☐ Stepdad _____

7. I have ☐☐ sister(s)/stepsister(s).

8. I have ☐☐ brother(s)/stepbrother(s).

9. What is your mother tongue (first language)?

   ☐ English ☐ French ☐ Other (specify) _____

10. What languages do you speak at home?

    ☐ English ☐ French ☐ Other (specify) _____

11. My ethnic/cultural background is
    (☒ all that apply)

    ☐ English ☐ Asian
    ☐ French ☐ South-West Asian
    ☐ Aboriginal ☐ Middle Eastern
    ☐ African ☐ Latin American
    ☐ Other European ☐ Other (specify:) _____

12. I have lived in Canada ☐☐ year(s).

13. Performance in academic subjects.
    (☒ a box for each subject that you take)

    a. English

    ☐ **Failing** ☐ **Below Average** ☐ **Average** ☐ **Above Average**

    b. History or Social Studies

    ☐ **Failing** ☐ **Below Average** ☐ **Average** ☐ **Above Average**

    c. Mathematics

    ☐ **Failing** ☐ **Below Average** ☐ **Average** ☐ **Above Average**

    d. Science

    ☐ **Failing** ☐ **Below Average** ☐ **Average** ☐ **Above Average**

APPENDIX C

Making Decisions (AUT)

Please do not mark in this area

					1

Read each statement. Make an ☒ in the box that most closely describes you.

	Not at all like me		Neutral		Very like me
1. I find it difficult to decide what I want.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2. When I act against the will of others, I usually get nervous.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3. I go straight for my goal.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4. I can make a choice easily.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5. I have a strong tendency to comply with the wishes of others.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6. I find it difficult to start a new activity on my own.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7. I often don't know what to think.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8. When I disagree with others, I tell them.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9. I often change my mind after listening to others.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10. When people ask me what I want, I immediately know the answer.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11. I often agree with others, even when I'm not sure.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12. I can easily begin new undertakings on my own.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13. I often hesitate about what to do.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14. I am an adventurous person.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15. I quickly feel at ease in a new situation.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Not at all like me		Neutral		Very like me

APPENDIX D

CAREGIVING PATTERNS (CPF)

Please do not mark in this area

				1

Please take a moment to think about the way your classmate _____ usually acts when a friend is upset or is experiencing a problem. Read each of the following items and mark ☒ in the box that most closely describes how this student feels and acts.

When you see ***, think of this student.

	Never	Almost Never	Some-times	Often	Very Often	Always
1. *** is bossy when trying to help a friend.	☐1	☐2	☐3	☐4	☐5	☐6
2. *** doesn't realize when a friend is upset or worried about something.	☐1	☐2	☐3	☐4	☐5	☐6
3. *** is good at recognizing a friend's needs and feelings.	☐1	☐2	☐3	☐4	☐5	☐6
4. *** can tell when a friend needs comforting, even when the friend does not ask for it.	☐1	☐2	☐3	☐4	☐5	☐6
5. *** tells a friend what to do when the friend is trying to make a decision.	☐1	☐2	☐3	☐4	☐5	☐6
6. When *** helps a friend with something, *** likes to do things "his/her way".	☐1	☐2	☐3	☐4	☐5	☐6
7. *** doesn't get involved in a friend's problems.	☐1	☐2	☐3	☐4	☐5	☐6
8. When a friend wants to tell *** about a problem, *** makes excuses not to talk about it.	☐1	☐2	☐3	☐4	☐5	☐6
9. When a friend has a problem, *** tries to help come up with something to do about it.	☐1	☐2	☐3	☐4	☐5	☐6
10. When a friend tells *** about a problem, he/she changes the topic or says it's not important.	☐1	☐2	☐3	☐4	☐5	☐6
11. When a friend has a problem that only he/she can solve, *** tries to do other things to help (e.g., bring food, etc.).	☐1	☐2	☐3	☐4	☐5	☐6
12. When a friend is feeling bad about something, *** says things to let the friend know he/she cares.	☐1	☐2	☐3	☐4	☐5	☐6
13. When a friend needs help with something, *** spends a lot of time helping.	☐1	☐2	☐3	☐4	☐5	☐6
14. When a friend is having a problem, *** tries to show that he/she understands how the friend is feeling.	☐1	☐2	☐3	☐4	☐5	☐6
15. When a friend is feeling stressed about something, *** encourages the friend to say how he/she is feeling.	☐1	☐2	☐3	☐4	☐5	☐6

APPENDIX E

FEELINGS AND IDEAS (CDI)

Please do not mark in this area

				1

People sometimes have different feelings and ideas. This form lists feelings and ideas in groups. From each group, pick **one** sentence that describes you best for the past two weeks. There are no right or wrong answers. Just pick the sentence that best describes the way you have been recently.

From each group, put an ☒ next to the sentence that **best** describes your feelings and ideas **in the past two weeks**.

---

1. ☐ I am sad once in a while.
   ☐ I am sad many times.
   ☐ I am sad all the time.

---

2. ☐ Nothing will ever work out for me.
   ☐ I am not sure if things will work out for me.
   ☐ Things will work out for me O.K.

---

3. ☐ I do most things O.K.
   ☐ I do many things wrong.
   ☐ I do everything wrong.

---

4. ☐ I have fun in many things.
   ☐ I have fun in some things.
   ☐ Nothing is fun at all.

---

5. ☐ I am bad all the time.
   ☐ I am bad many times.
   ☐ I am bad once in a while.

---

6. ☐ I think about bad things happening to me once in a while.
   ☐ I worry that bad things will happen to me.
   ☐ I am sure that terrible things will happen to me.

Please do not mark in this area

7. ☐ I hate myself.
   ☐ I do not like myself.
   ☐ I like myself.

---

8. ☐ All bad things are my fault.
   ☐ Many bad things are my fault.
   ☐ Bad things are not usually my fault.

---

9. ☐ I feel like crying everyday.
   ☐ I feel like crying many days.
   ☐ I feel like crying once in a while.

---

10. ☐ Things bother me all the time.
    ☐ Things bother me many times.
    ☐ Things bother me once in a while.

---

11. ☐ I like being with people.
    ☐ I do not like being with people many times.
    ☐ I do not want to be with people at all.

---

12. ☐ I cannot make up my mind about things.
    ☐ It is hard to make up my mind about things.
    ☐ I make up my mind about things easily.

---

13. ☐ I look O.K.
    ☐ There are some bad things about my looks.
    ☐ I look ugly.

---

14. ☐ I have to push myself all the time to do my school work.
    ☐ I have to push myself many times to do my school work.
    ☐ Doing school work is not a big problem.

---

15. ☐ I have trouble sleeping every night.
    ☐ I have trouble sleeping many nights.
    ☐ I sleep pretty well.

---

16. ☐ I am tired once in a while.
    ☐ I am tired many days.
    ☐ I am tired all the time.

Please do not mark in this area

17. ☐ Most days I do not feel like eating.
☐ Many days I do not feel like eating.
☐ I eat pretty well.

---

18. ☐ I do not worry about aches and pains.
☐ I worry about aches and pains many times.
☐ I worry about aches and pains all the time.

---

19. ☐ I do not feel alone.
☐ I feel alone many times.
☐ I feel alone all the time.

---

20. ☐ I never have fun at school.
☐ I have fun at school only once in a while.
☐ I have fun at school many times.

---

21. ☐ I have plenty of friends.
☐ I have some friends but I wish I had more.
☐ I do not have any friends.

---

22. ☐ My school work is alright.
☐ My school work is not as good as before.
☐ I do very badly in subjects I used to be good in.

---

23. ☐ I can never be as good as other kids.
☐ I can be as good as other kids if I want to.
☐ I am just as good as other kids.

---

24. ☐ Nobody really loves me.
☐ I am not sure if anybody loves me.
☐ I am sure that somebody loves me.

---

25. ☐ I usually do what I am told.
☐ I do not do what I am told most times.
☐ I never do what I am told.

---

26. ☐ I get along with people.
☐ I get into fights many times.
☐ I get into fights all the time.

APPENDIX F

RELATIONSHIPS AT SCHOOL

Please do not mark in this area

				1

- Please name your **closest same-sex friends in secondary 1 or 2 from the attached list *(first & last names)***. **BEGIN WITH YOUR VERY BEST FRIEND.**

  You can name as many or as few friends as you like (you don't have to fill all the lines).

1. _____
2. _____
3. _____
4. _____
5. _____

Please do not mark in this area.

- Please name the same-sex students **in secondary 1 or 2 *(first & last names)*** that you don't like to spend time with.

  (You don't have to fill all the lines).

1. _____
2. _____
3. _____
4. _____
5. _____
