Gender differences in adolescent anxiety symptoms:

Interactions between peer experiences and individual characteristics

by

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ABSTRACT

Anxiety is the most common mental health concern among children and adolescents globally. Anxiety symptoms such as fears and worries increase markedly in early adolescence, particularly for girls. However, not all early adolescents experience this increase in anxiety symptoms. Guided by the developmental psychopathology framework, this study examined risk and protective factors at the peer and individual levels that may influence anxiety symptoms in early adolescence. The first goal was to describe short-term person-level fluctuations in anxiety symptoms over eight weeks during the Spring term of Grade 7. The second goal was to examine bi-weekly co-variation between adolescents' anxiety symptoms and their peer experiences (peer victimization, friendship closeness). The third goal was to investigate the main and moderating effects of individual characteristics (self-blaming attributions, social competence) on anxiety symptoms and on the co-variation between peer experiences and anxiety symptoms. The fourth goal was to examine gender differences in these associations. These research goals were addressed using a series of two-level hierarchical linear models. Participants were 180 ethnically diverse adolescents (60.6% girls; mean age = 12.7 years, *SD* = .44 years) in 2 large junior high schools. Results indicate although both girls and boys experienced significant fluctuations in their anxiety symptoms across the eight weeks, girls experienced greater fluctuations. Further, on weeks when adolescents experienced more frequent peer victimization, they also concurrently experienced more frequent anxiety symptoms. Adolescents who made more self-blaming attributions also experienced more frequent anxiety symptoms, whereas more socially competent adolescents experienced fewer anxiety symptoms. Closeness in adolescents'

friendships did not co-vary with their anxiety symptoms. Furthermore, neither self-blaming attributions nor social competence moderated the associations between adolescents' anxiety symptoms and their peer experiences. There were also no gender differences in these associations. Overall, these findings expand current understanding of early adolescent anxiety symptoms by focusing on person-level variability in anxiety. How these findings parse the complex interplay between gender, and peer and individual risk and protective factors are discussed within the context of developmental psychopathology.

PREFACE

This thesis is an original work by Naheed Hosan. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “Early Adolescent Experiences Project”, No. Pro00048517, May 15, 2014.

TABLE OF CONTENTS

CHAPTER I: Anxiety in Early Adolescence 1

CHAPTER II: Developmental Psychopathology as a Theoretical Framework 6

Principles of Developmental Psychopathology Guiding this Study 6

Core Concepts of Developmental Psychopathology Guiding this Study 8

CHAPTER III: Literature Review 12

Patterns of Anxiety Symptoms in Early Adolescence 12

Co-variation of Peer Experiences with Anxiety Symptoms 13

Peer Victimization as a Peer Risk Factor 14

Friendship Closeness as a Peer Protective Factor 17

Individual Characteristics 18

Characterological Self-Blaming Attributions as an Individual Risk Factor 19

Social Competence as an Individual Protective Factor 22

Gender Differences 24

Peer Victimization as a Peer Risk Factor 25

Friendship Closeness as a Peer Protective Factor 26

Characterological Self-Blaming Attributions as an Individual Risk Factor 27

Social Competence as an Individual Protective Factor 28

Gaps in the Literature 29

CHAPTER IV: The Current Study 34

CHAPTER V: Method 37

Participants 37

Procedure 37

Measures 39

Anxiety Symptoms 38
Peer Victimization 39
Friendship Closeness 40
Characterological Self-Blaming Attributions 41
Social Competence 42
Data Analytic Strategy 44
Missing Data 47
CHAPTER VI: Results 49
Confirmatory Factor Analysis and Measurement Invariance 49
Confirmatory Factor Analysis (CFA) 48
Measurement Invariance 48
Descriptive Data 50
Fluctuations in Anxiety Symptoms 53
Co-variation with Peer Experiences 54
Main and Moderating Effects of Individual Characteristics 55
CHAPTER VII: Discussion 57
Fluctuations in Anxiety Symptoms 58
Co-variation with Peer Experiences 61
Main and Moderating Effects of Individual Characteristics 65
Gender Differences 69
Limitations and Future Directions 72
REFERENCES 87

LIST OF TABLES

Table 1: Measurement Invariance Across Gender for Anxiety Symptoms, Peer Experiences, and Individual Characteristics at Wave 77

Table 2: Descriptive Statistics of Anxiety Symptoms, Peer Experiences, and Individual Characteristics Overall and by Gender 79

Table 3: Bivariate Correlations between Anxiety Symptoms, Peer Experiences and Individual Characteristics at Waves 1 to 5 80

Table 4: Bivariate Correlations of Anxiety Symptoms at Waves 1 to 5 with Peer Experiences and Individual Characteristics by Gender 82

Table 5: Co-variation between Anxiety Symptoms and Physical Victimization Moderated by Individual Characteristics 83

Table 6: Co-variation between Anxiety Symptoms and Relational Victimization Moderated by Individual Characteristics 84

Table 7: Co-variation between Anxiety Symptoms and Friendship Closeness Moderated by Individual Characteristics 85

LIST OF FIGURES

Figure 1: Within-Person Fluctuations in Anxiety Symptoms Across 8 Weeks 86

CHAPTER I

Anxiety in Early Adolescence

Anxiety is one of the most common mental health problems in children, adolescents, and adults globally (Baxter, Scott, Vos, & Whiteford, 2013). Epidemiological research suggests that clinically significant rates of anxiety are experienced by 21-29% of individuals across the lifespan (Merikangas et al., 2010; Ramsawh, Weisberg, Dyck, Stout, & Keller, 2011) and that clinically significant rates of anxiety are on the rise (Twenge et al., 2010). Further, research with community samples that is not limited to clinical population suggests that such epidemiological research on prevalence rates of disorder may underestimate the scope of the issue: many more individuals experience subclinical (moderate to high) symptoms of anxiety beyond what is captured by prevalence rates (Twenge & Nolen-Hoeksema, 2002). Community sample research indicates that individuals who experience subclinical rates can experience as much impairment in functioning, such as a reduced ability to focus or inhibit behaviour, as those diagnosed with disorder (Ansari & Derakshan, 2011; Avila & Parcet, 2002). Taken together, these findings highlight the need to consider anxiety beyond clinical levels and in community samples.

The high prevalence rates of clinical and subclinical anxiety are matched by their substantial economic impact. Data from the World Health Organization suggests that anxiety disorders cost roughly one trillion US dollars annually on a global scale (Chisholm et al., 2016). In Canada, the average cost of anxiety symptoms in mental health insurance claims, workplace absenteeism, and loss of productivity and human capital is 17.3 billion annually (The Conference Board of Canada, 2016). A key finding

of such cost-benefit analyses is that investing in prevention efforts can lead to a return on investment that is as high as 5.7:1, if economic and health savings are considered together (Chisholm et al., 2016).

In clinical populations, most anxiety disorders have their onset before age 14 (Beesdo et al., 2009). Indeed, the median age of onset for all anxiety disorders is 11 years (Kessler et al., 2005). Beyond anxiety disorders, anxiety symptoms in general also increase on average in early- to mid- adolescence in community samples (Graber & Sontag, 2009; Reardon, Leen-Feldner, & Hayward, 2009). These findings suggest that early adolescence is an important period for the development of anxiety symptoms in both clinical and typically developing populations.

Although research indicates that on average early adolescence is an important period for the development of anxiety symptoms, it is less clear what may or may not contribute to adolescents' anxiety symptoms at the level of the individual. Part of this gap in understanding is due to a research focus on group-level rather than person-level variability in anxiety symptoms. For example, adolescents may vary in the frequency of their anxiety symptoms within an academic year (McLaughlin & King, 2015), or within the course of a day (Schneiders et al., 2007), yet few studies examine this person-level variability in adolescents' anxiety symptoms. Understanding person-level variability in anxiety symptoms in early adolescence, particularly for typically developing adolescents, may shed light on why some adolescents go on to develop anxiety disorders while others do not. Describing whether fluctuations in anxiety symptoms are experienced by typically developing adolescents and examining what contributes to these fluctuations may be key

in understanding why early adolescence is an important period for the development of anxiety symptoms.

Additionally, there may be differences across adolescents in how they vary in the frequency of their anxiety symptoms over time. For example, while average rates of anxiety symptoms increase in early adolescence (Reardon et al., 2009), some adolescents experience a decrease in anxiety symptoms during this time (Copeland, Angold, Shanahan, & Costello, 2014). These findings highlight that early adolescents vary in their experiences of anxiety symptoms, suggesting that the factors that contribute to anxiety symptoms may also vary across adolescents. However, because little is currently known about person-level variability in adolescents' anxiety symptoms, little is known about between-person differences in these fluctuations or about the factors that may contribute to these between-person differences. For example, does the frequency of adolescents' anxiety symptoms co-vary with their everyday experiences? Do these experiences influence anxiety symptoms the same way for all adolescents or is the influence of such experiences filtered through adolescents' individual characteristics? These are the some of the gaps in knowledge this study addresses.

This study also examines how these associations may vary for girls and boys as gender differences in anxiety symptoms first appear in early adolescence (Craske, 2003). Research suggests that girls and boys experience similar levels of anxiety symptoms throughout early and middle childhood (Beesdo et al., 2009). By middle adolescence, however, girls are two to three times more likely than boys to experience anxiety symptoms (Merikangas et al., 2010; Ramsawh et al., 2011). This 2:1 ratio of anxiety symptoms for girls continues throughout adolescence and into adulthood (McLean,

Asnaani, Litz, & Hofmann, 2011). These findings indicate that something is happening for girls in early adolescence to exacerbate their anxiety symptoms. This study examines whether girls and boys vary in their experiences of anxiety symptoms in early adolescence, and how the interplay between adolescents' experiences and individual characteristics may contribute differently to anxiety symptoms for girls and boys.

This study is framed by the developmental psychopathology approach as it is particularly well suited to: a) examine continuity and fluctuations in developmental outcomes such as anxiety symptoms, as well as b) how such continuity or fluctuations may be influenced by the interplay between individuals' characteristics and experiences (Cicchetti & Rogosh, 2002; Masten & Coatsworth, 1998). In this study, anxiety symptoms refer to symptoms that are shared by all anxiety disorders and that are often assessed in community samples (Higa-McMillan, Francis, & Chorpita, 2016). Such anxiety symptoms include feeling excessively afraid or having excessive worries, experiencing difficulty managing such fears and worries, as well as experiencing restlessness or feeling on-edge (Bevans, Diamond, & Levy, 2012).

This study addresses four research goals: 1) to describe variability in anxiety symptoms in early adolescence by examining short-term within-person fluctuations in anxiety symptoms; 2) to examine how adolescents' peer experiences (peer victimization and closeness in their friendships) co-vary bi-weekly with their anxiety symptoms; 3) to investigate how adolescents' individual characteristics (specifically, characterological self-blaming attributions and social competence) predict their anxiety symptoms and moderate the co-variation between their peer experiences and anxiety symptoms, and 4)

to examine gender differences in anxiety symptoms and in the associations between anxiety symptoms and adolescents' individual characteristics and peer experiences.

CHAPTER II

Developmental Psychopathology as a Theoretical Framework

The developmental psychopathology approach provides the overarching theoretical framework for this study. The primary goal of the developmental psychopathology approach is to describe and explain the origins and course of individual patterns of adaptation and maladaptation (Cicchetti & Toth, 2009; Masten & Coatsworth 1998; Sroufe & Rutter, 1984). As such, in the context of this study, this goal translates into describing person-level variability in early adolescents' anxiety symptoms and trying to explain why some adolescents experience maladaptation in the form of elevated frequencies of anxiety symptoms while others do not.

Principles of Developmental Psychopathology Guiding this Study

While several principles and core concepts define developmental psychopathology as a scientific field (Cicchetti & Toth, 2009; Masten, 2006; Sroufe, 2013), the developmental, the systems, and the normative principles in particular inform the research goals of this study and guide hypotheses about the expected findings. The developmental principle underscores that although development has a coherent and predictable course across the lifespan, there may be periods where the co-occurrence of changes across developmental domains can result in rapid fluctuations in developmental outcomes. For example, early adolescence reflects the transition from childhood into adolescence and marks the convergence of developmental changes across multiple domains of development, such as social and emotional development (Cicchetti & Rogosch, 2002; Masten, 2006). There may therefore be greater variability both within and across individuals in developmental outcomes, such as anxiety symptoms, during

early adolescence. In line with the developmental principle, a first goal of this study is to use an intensive longitudinal design to examine and describe such within- and between-person variability in anxiety symptoms in early adolescence.

Another principle of developmental psychopathology is the systems principle (Masten, 2006; Sameroff, 2000). The systems principle posits that part of what contributes to complexity in development is that individuals are complex systems composed of a multitude of characteristics, such as their social competence or their explanatory styles for their personal experiences. Moreover, individuals are also embedded within contexts that may vary across time or across individuals. Contexts that may be particularly salient for adolescent development include the school and peer contexts. Contextual variability within the peer context, such as whether adolescents experience more or less frequent peer victimization at any given time, may contribute to variability in adolescents' developmental outcomes, such as whether they experience more or less frequent anxiety symptoms. Furthermore, such influence of individuals' context on their developmental outcomes may not be the same for all individuals. For example, how individuals' peer contexts influence their anxiety symptoms may vary as a result of their individual characteristics. In line with the systems principle, the second goal of this study is to examine how within- and between-person variability in early adolescents' peer context influences their anxiety symptoms. The third and fourth goals are to examine whether this association varies by adolescents' individual characteristics and their gender.

The focus of this study on understanding how early adolescents' peer context contributes to their anxiety symptoms was also guided by the normative principle. The

normative principle underscores that to delineate adaptive from maladaptive behaviour, researchers need to consider developmental outcomes in relation to key developmental tasks for a given developmental period. Developmental tasks reflect major tasks of adaptation across the lifespan that are the key criteria by which successful adaptation and competence in a society is judged (Masten & Coatsworth, 1998). For example, anxiety symptoms are a commonplace experience in early adolescence that may in some degrees constitute a normative experience for early adolescents (Bongers, Koot, Van der Ende, & Verhulst, 2003; Haller, Kadosh, Scerif, & Lau, 2015). Additionally, some theorists have suggested that a key developmental task of early adolescence is understanding and manoeuvring competently within an increasingly complex and independent peer context (Warren & Sroufe, 2004; Westenberg, Siebelink, & Treffers, 2001). Therefore, this study focuses on how adolescents' peer experiences inform their anxiety symptoms. Also in line with the normative principle, this study examines anxiety symptoms as a continuum: anxiety symptoms are assumed to exist in varying degrees within all individuals and may intensify or lessen in their frequency depending on characteristics of individuals and their contexts.

Core Concepts of Developmental Psychopathology Guiding this Study

The developmental psychopathology approach highlights the importance of considering characteristics of individuals and their contexts as sources that may influence development (Cicchetti, 2010; Masten, Best, & Garmezy, 1990; Werner, 1995). Sources that influence development may be *risk factors*, characteristics of the individual or their contexts that increase the chances of the onset and duration of a disorder or maladaptive behaviour. For example, peer victimization is a well-established peer risk factor that may

increase adolescents' risk for more frequent anxiety symptoms (Hoglund & Hosan, 2013). Sources that influence development may also be *protective factors*, characteristics of the individual or contexts that promote resistance to maladaptation and provide a buffer against disorder. For example, adolescents who experience friendship closeness may be buffered against experiencing more frequent anxiety symptoms (Waldrip, Malcolm, & Jensen-Campbell, 2008). Importantly, developmental psychopathology research emphasizes that risk and protective factors are probabilistic rather than deterministic; this means that the influence of the risk or protective factor on developmental outcomes may vary over time and across individuals and contexts (Cicchetti, 2010; Sameroff, 2000). For example, although peer victimization is a known risk factor for anxiety symptoms, experiencing peer victimization does not guarantee that an adolescent will experience more frequent anxiety symptoms but rather increases the risk that she or he may do so.

One reason that risk and protective factors are probabilistic is because they can interact with one another to contribute to developmental outcomes (Cicchetti, 2010; Hinshaw, 2017). For instance, the influence of peer victimization on adolescents' anxiety symptoms may be contingent on the presence or absence of other sources of influence, such as how that adolescent interprets the reason for her or his experiences of peer victimization. An adolescent who blames himself for his experiences of peer victimization may be at greater risk for anxiety symptoms than an adolescent who attributes blame externally to the aggressor (Prinstein, Cheah, & Guyer, 2005).

The idea that different risk or protective factors can contribute to a shared developmental outcome refers to the concept of *equifinality*. Equifinality is a core

concept in developmental psychopathology (Cicchetti & Rogosch, 1996; Cicchetti & Toth, 2009; Masten, 2006). For example, adolescents may experience elevated frequencies of anxiety symptoms from experiencing frequent peer victimization (Stapinski, Araya, Heron, Montgomery, & Stallard, 2015), from making self-blaming attributions (Graham & Juvonen, 1998), or from a combination of both risk factors (Perren, Ettekal, & Ladd, 2013). Importantly, a robust finding in the literature is that experiencing several risk factors without the presence of compensating protective factors is more predictive of maladaptive outcomes than experiencing a single risk factor in isolation (Masten & Coatsworth, 1998). This study examines peer and individual risk factors that may uniquely or in tandem contribute to adolescent anxiety symptoms.

The concept of equifinality further underscores the importance of examining different risk and protective factors simultaneously in order to better understand their unique, additive, and interactive contributions to developmental outcomes (Cicchetti & Rogosch, 2002; Vasey & Dadds, 2001). Consistent with the concept of equifinality, this study examines two risk factors (peer victimization, characterological self-blaming attributions) and two protective factors (friendship closeness, social competence) at the peer- and individual-levels that may contribute to anxiety symptoms in early adolescence. In particular, this study focuses on the unique contribution of each of these risk and protective factors, whether factors at the same level (peer or individual) additively contribute to anxiety symptoms, and whether factors across peer- and individual-levels interact with one another and with gender to contribute to anxiety symptoms. In the next chapter, the literature on these risk and protective factors is reviewed and specific

hypotheses about how they may contribute to anxiety symptoms in early adolescence are developed.

CHAPTER III

Literature Review

Patterns of Anxiety Symptoms in Early Adolescence

Research that assesses anxiety symptoms on an annual or semi-annual schedule across multiple years finds that anxiety symptoms increase in adolescence (Dekker et al., 2007; Duchesne & Ratelle, 2016; Letcher, Sanson, Smart, & Toumbourou, 2012). For example, in studies using longitudinal data from the NICHD Study of Early Child-Care that followed youth from ages 2 to 12, researchers found that average rates of internalizing symptoms including anxiety symptoms increased across childhood and into early adolescence (Fanti & Henrich, 2010; Sterba, Prinstein, & Cox, 2007). Beyond these average rates, researchers also found significant differences across individuals in their within-person change over time. These studies highlight the importance of considering within-person variability in anxiety symptoms and looking beyond mean levels. However, these studies still used a group-based analysis that did not examine individual fluctuations in anxiety. Examining individual fluctuations in anxiety symptoms may have explained the considerable amount of within-group residual variability that was found in these studies. Likewise, these studies were not able to capture how anxiety symptoms may co-vary with adolescents' everyday experiences given that months or years passed between assessments.

On the other end of the spectrum of assessment schedules, the experience-sampling method asks individuals to report on their mood or activities at frequent intervals during the day over several days as they complete routine daily activities (Bolger, Davis, & Rafaeli, 2003; Csikszentmihalyi, Larson, & Prescott, 1977). Studies

that have used this method demonstrate that adolescents' mood and anxiety symptoms vary at much more frequent intervals than what is indicated by using yearly assessment schedules (Nishina, 2012; Schneiders et al., 2006; Schneiders et al., 2007; Uink, Modecki, & Barber, 2017). For example, a Dutch study with grade 7 adolescents that assessed anxiety symptoms nine times daily over five days founds that 7-11% of the total variability in anxiety symptoms could be explained by daily fluctuations (Schneiders et al., 2007). Furthermore, and consistent with the assumption from developmental psychopathology that greater variability in developmental outcomes may be expected when changes across developmental domains co-occur as in early adolescence (Cicchetti & Rogosch, 2002; Masten, 2006), early adolescents demonstrate more variability in their mood when compared with adults (Larson, Csikszentmihalyi, & Graef, 1980) or even late adolescents (Larson, Moneta, Richards, & Wilson, 2002). These findings suggest that particularly in early adolescence more frequent assessment periods may be necessary to a) adequately capture within-person variability in anxiety symptoms and b) examine how adolescents' experiences contribute to the within-person variability in anxiety symptoms.

Co-variation of Peer Experiences with Anxiety Symptoms

Peer experiences are a meaningful and influential developmental context for early adolescents (Brown & Larson, 2009). Starting in early adolescence, adolescents spend increasing amounts of time interacting with peers without adult supervision (Lam, McHale, & Crouter, 2014; Larson & Richards, 1991). For example, a longitudinal study that followed adolescents annually from ages 8 to 18 found that unsupervised time with peers increased linearly during this time period (Lam et al., 2014). Early adolescence is typically also when the structure of the peer group changes from a relatively unified,

classroom based peer group to smaller peer networks based on friendship groups (Cairns, Leung, Buchanan, & Cairns, 1995; Chen, Chang, & He, 2003; Kindermann, 2007). For these reasons, changes to the peer context are part of the normative experiences of early adolescence and, based on the normative principle of developmental psychopathology, manoeuvring competently within the peer context may be a key developmental task of early adolescence (Sullivan, 1953; Warren & Sroufe, 2004). As such, peer experiences may constitute a substantial proportion of the normative challenges and opportunities that are unique to adolescence and that may explain variability in anxiety symptoms (Bukowski, Buhrmester, & Underwood, 2011; Brooks-Gunn, 1991; Espelage, 2002; La Greca & Landoll, 2011). This study examines two facets of adolescents' peer experiences that may co-vary with their symptoms of anxiety. Adolescents' experiences of physical and relational victimization and their friendship closeness are examined as peer-level risk and protective factors, respectively.

Peer victimization as a peer risk factor. Peer victimization is characterized as the experience of being a target of peers' intentional aggressive behaviors (Crick & Grotpeter, 1996). Typically, researchers examine at least two subtypes of peer victimization – physical victimization and relational victimization (Crick & Grotpeter, 1996; Hawker & Boulton, 2000; Hoglund & Hosan, 2013; Juvonen & Graham, 2001). Physical victimization targets adolescents' physical safety. Acts of physical victimization occur in the presence of the victimized person and can include threats or incidences of bodily harm. Relational victimization, on the other hand, targets adolescents' social relationships and consists of acts that threaten adolescents' friendships or social status. Acts of relational victimization can occur in-person, such as inviting everyone in a peer

network to a birthday party and leaving one person conspicuously out, but can also occur without the presence of the victimized person, such as spreading mean rumours about someone without their knowledge. Peer victimization is a common experience among adolescents (Nansel et al., 2001; Wang, Iannotti, & Nansel, 2009). Whiles rates vary based on the type of victimization assessed, between 8-37.2% of grade 7 adolescents report experiencing either physical or relational victimization at least once per week (Bowes, Joinson, Wolke, & Lewis, 2015).

Reviews of the literature suggest that relational victimization may be more frequently experienced than physical victimization in early adolescence (Espelage & Swearer, 2003; Rubin, Cheah, & Menzer, 2009). Nevertheless, adolescents who experience either form of peer victimization may be more likely to also experience other forms of peer victimization (Nylund, Nishina, Bellmore, & Graham, 2007; Wang, Iannotti, Luk, & Nansel, 2010). For example, a cross-sectional study using a national sample of 7,475 adolescents in grades 6 through 10 found that both boys and girls were more likely to experience physical, verbal, relational, and cyber victimization than to experience just a single type of peer victimization on its own (Wang et al., 2010). This research also found that adolescents in grades 6 through 8 were more likely to experience all types of peer victimization relative to adolescents in grades 9 and 10, suggesting that early adolescence may be a particularly likely time for the experience of peer victimization. Similarly, another cross-sectional study of 79,492 adolescents in grades 6 through 12 also found that adolescents in grades 6 through 8 were more likely to experience physical and relational victimization than adolescents in grades 9 through 12 (Carlyle & Steinman, 2007). These studies of peer victimization demonstrate that both

physical and relational victimization are a common occurrence for early adolescents, perhaps more common than for older adolescents, and that these subtypes of peer victimization are likely to co-occur.

In addition to being a common experience in adolescence and co-occurring with one another, research suggests that both physical and relational victimization can co-occur with and contribute to adolescents' anxiety symptoms. A short-term longitudinal study with 5030 adolescents aged 11 to 16 years found that adolescents who experienced greater physical and verbal victimization reported greater concurrent anxiety as well as greater prospective anxiety six months later after controlling for stability in anxiety symptoms (Stapinski et al., 2015). A study of adolescents aged 15-16 years who were assessed in the Spring and Summer of the same academic year found that relational victimization uniquely predicted higher prospective anxiety symptoms after controlling for the effects of other forms of peer victimization, with stronger effects for girls, relative to boys (Siegel, La Greca, & Harrison, 2009). A daily diary study over eight consecutive days with 181 fifth-grade adolescents found that adolescents' daily experiences with each of physical, verbal, and relational victimization uniquely co-varied positively with their feelings of nervousness, controlling for the other types of peer victimization (Morrow, Hubbard, Barhight, & Thomson, 2014). Since anxiety is typically oriented to real or hypothetical future scenarios that are threatening to the individual (Craske, 1999), it is likely that experiencing peer victimization, which can be degrading and stressful, either fosters or maintains adolescents' fears and worries about future social situations. Because physical and relational victimization appear to similarly influence anxiety symptoms, it may be that the type of victimization is less important for adolescents' anxiety symptoms

than the actual experience of victimization. However, each type of victimization appears to uniquely contribute to anxiety symptoms, when controlling for the other type of victimization. Therefore, although the direction of the association may be the same, it is nevertheless important to examine the effect of each separately for their strength of association.

Friendship closeness as a peer protective factor. Friendship closeness is another important social aspect of adolescent development. Friendship closeness is a dimension of friendship quality that refers to the degree to which friendships are characterized by positive attributes, such as caring, intimacy, and validation (Berndt, 2004; Bukowski, Hoza, & Boivin, 1994; Parker & Asher, 1993; Way & Greene, 2006). During adolescence, friendships become increasingly characterized by intimacy and validation (Brendgen, Markiewicz, Doyle, & Bukowski, 2002; Clark & Ayers, 1993). The ability to balance friendship needs with individual needs, such as engaging with friends' preferred activities or adopting friends' values while maintaining a sense of individuality, seems to emerge at this time (Selman, 1980). Furthermore, the association between friendship closeness and adjustment also becomes stronger across adolescence (Buhrmester, 1990). In short, developing and maintaining friendship closeness appears to be an important developmental task for early adolescents that influences other aspects of their development (Bagwell & Schmidt, 2013). As such, friendship closeness may be an important aspect of normative adolescent development that may contribute to adolescents' anxiety symptoms.

Research finds that adolescents who report lower closeness in their friendships are more likely to frequently experience anxiety symptoms (La Greca & Lopez, 1998). For

example, adolescents aged 10-14 years who had at least one friendship where they self-reported high levels of closeness demonstrated lower levels of prospective teacher-rated internalizing symptoms than did adolescents' with lower quality friendships (Waldrip et al., 2008). Similarly, another study of 7-13 year old children and adolescents with anxiety disorders found that having at least one high quality friendship significantly improved adolescents' treatment outcome for their anxiety disorders (Baker & Hudson, 2013). These studies demonstrate that higher friendship closeness can be a protective factor that minimizes adolescents' anxiety symptoms. Having close friendships characterized by higher levels of intimacy may provide adolescents an opportunity to share their worries and concerns; their friends' demonstration of caring may alleviate some of these worries and concerns. Furthermore, friendships characterized by higher levels of caring may provide adolescents with support that could reduce adolescents' anxieties about novel or stressful situations or experiences (Baker & Hudson, 2013; Owens, Shute, & Slee, 2000).

Individual Characteristics

Whether adolescents' peer experiences contribute to their anxiety symptoms may vary as a function of their individual characteristics (Cannon, & Weems, 2010). In particular, given that almost all adolescents experience at least some peer challenges as a result of the changes that are normative to adolescence, it may be that some adolescents may possess individual characteristics that are risk factors and exacerbate the negative effects of the peer challenges (Cicchetti & Rogosch, 2002; Rutter, 1994). Conversely, some adolescents may possess individual characteristics that are protective factors against anxiety symptoms and enable them to successfully adapt to the challenges. The developmental psychopathology principle of equifinality, that different risk and

protective factors can contribute to a shared outcome, underscores the need for studying both positive and negative influences simultaneously in order to better understand their unique, additive, and interactive contributions to outcomes (Cicchetti & Rogosch, 1996; Vasey & Dadds, 2001). The systems principle of developmental psychopathology highlights the importance of considering interactions between characteristics of the individuals and characteristics of the contexts in which individuals are embedded (Masten, 2006). This study examines two individual characteristics that may uniquely or in conjunction with adolescents' peer experiences influence their symptoms of anxiety. Adolescents' tendency to make characterological self-blaming attributions and their social competence are examined as individual risk and protective factors, respectively.

Characterological self-blaming attributions as an individual risk factor. The manifestation of anxiety symptoms and other psychological outcomes may depend partly on how adolescents construe the reason for why things are happening to them, or the attributions they make for what is happening to them (Graham & Juvonen, 1998; Weiner, 1995). Most individuals make attributions, or find reasons, to explain both their positive and negative experiences, such as their social successes (e.g., experiences that make them feel closer to their friends) and failures (e.g., experiences of peer victimization; Bell-Dolan, 1995). These attributions share certain causal dimensions: locus, whether the cause is internal or external to the person; stability, whether the cause is constant or varies over time; and controllability, whether the cause can be changed willfully by the person (Graham & Juvonen, 1998). Characterological self-blaming attributions are a particular subset of attributions that are defined by an internal locus, stability, and a lack of controllability (Chen & Graham, 2012; Graham & Juvonen, 1998; Schacter &

Juvonen, 2015). That is, when adolescents who make characterological self-blaming attributions are faced with a negative or challenging situation, they are more likely to look inwards for the source of the negative experience (internal locus), think that the experience will be stable over time and keep re-occurring (stability), and feel that the experience or situation is outside their control (lack of controllability). Characterological self-blaming attributions can be contrasted with more adaptive attributions that may be defined by an external locus (e.g., "I am experiencing peer victimization because the other person is having a bad day), lack of stability (e.g., "I am simply in the wrong place at the wrong time), and controllability (e.g., "They laughed at me because I wore a red shirt so tomorrow I'll just wear a different shirt."). Characterological self-blaming attributions, like other forms of attributions, can be taught but are typically considered to be trait-like characteristics that are stable over time (Cole et al., 2008).

Adolescents who make more characterological self-blaming attributions may be at greater risk for anxiety symptoms because their attributions influence their beliefs about the degree to which their circumstances are controllable, their explanations for and tendency to dwell on events, and their behavioural and emotional response to these events (Alloy & Abramson, 2007; Hadwin, Frost, French, & Richards, 1997; Perren et al., 2013). For example, a cross-sectional study of 418 sixth and seventh grade students found that adolescents who reported greater characterological self-blame also reported greater concurrent anxiety symptoms (Graham & Juvonen, 1998). A longitudinal study with 159 grade 10 adolescents conducted across 17 months and two waves of data found that characterological self-blaming attributions were concurrently and positively associated with anxiety symptoms (Prinstein et al., 2005). These findings were robust

after controlling for other types of attributions such as hostile attributions, where individuals interpret hostile intent from social partners in ambiguous social interactions. These findings indicate that higher characterological self-blaming attributions may worsen adolescents' risks for anxiety symptoms.

Beyond these main effects and in-line with the systems principle that context matters, adolescents' tendency to make characterological self-blaming attributions may interact with their peer experiences to contribute to their anxiety symptoms. Adolescents who make more characterological self-blaming attributions may experience more anxiety symptoms following negative peer experiences such as peer victimization (Gibb & Alloy, 2006). For example, a longitudinal study of 478 adolescents followed from grades 5 to 7 found that higher peer-reported peer victimization was linked more strongly with increases in teacher- and parent-reported internalizing problems, defined as symptoms of depression, anxiety, and withdrawal, for adolescents who reported higher levels of characterological self-blaming attributions (Perren et al., 2013). Prinstein and colleagues (2005) also found that higher characterological self-blaming attributions contributed concurrently and prospectively to higher anxiety only for youth who also experienced higher peer victimization. When adolescents who make more characterological self-blaming attributions are exposed to peer victimization, they may subsequently experience greater anxiety symptoms relative to peers who make more adaptive attributions (Erath, Flanagan, & Bierman, 2007). Adolescents who make characterological self-blaming attributions may feel that their experiences of peer victimization are attributable to a facet of their self that they have little control over (e.g., their looks or personality) and expect they will continue to experience peer victimization over time, leading them to feel more

anxious. Indeed, adolescents who are more prone to making characterological self-blaming attributions are at greater risk for continued peer victimization across the first year of junior high school (Schacter, White, Chang & Juvonen, 2015).

Whereas characterological self-blaming attributions may increase the likelihood of experiencing anxiety symptoms following experiences of peer victimization, they may be less harmful for adolescents with close friendships (Camacho, Ehrensaft & Cohen, 2012). Close friends may counteract adolescents' characterological self-blaming attributions with more adaptive attributions - by reminding them, for example, that they have control over the situation. A cross-sectional study with a sample of twelfth grade adolescents tested this hypothesis (Chen & Graham, 2012). As expected, they found that adolescents who had friendships defined by higher levels of closeness were less likely to make self-blaming attributions. However, friendship closeness did not interact with self-blaming attributions to contribute to adolescents' anxiety symptoms. The lack of a moderation effect could be due in part to the cross-sectional nature of the study. An examination of the associations between characterological self-blaming attributions, friendship closeness and anxiety symptoms over more than one wave may uncover that friendship closeness and self-blaming attributions interact over time to contribute to adolescents' anxiety symptoms.

Social competence as an individual protective factor. Social competence refers to a broadly adaptive characteristic that encompasses a variety of social skills, which together allow adolescents to function better in social situations (Asher & McDonald, 2009; Harter, 1998). In this study, social competence refers to the ability to initiate

conversations with peers, the ability to make friends, and the prosocial skills that engender peer liking and acceptance (Harter, 2002).

Social competence has been linked to lower concurrent and prospective anxiety symptoms in adolescence (Bornstein, Hahn, & Haynes, 2010; Erath et al., 2007; Starr & Davila, 2008; Van Oort, Greaves-Lord, Ormel, Verhulst, & Huizink, 2011). For example, a longitudinal study that assessed anxiety symptoms and other internalizing problems at nine points over two years with a sample of Chinese adolescents across grades 10 and 12 found that less socially competent adolescents were more likely to experience concurrent and prospective internalizing problems (Cohen et al., 2015). Adolescents who are less socially competent may be less likely to seek out social interactions because they experience frustration from these interactions, leading to greater feelings of anxiety about social interactions over time (Motoca, Williams, & Silverman, 2012). Alternatively, adolescents who experience more frequent anxiety symptoms may be hyper-attuned to their own internal thoughts and cues at the expense of paying attention to social cues that support social competence (Kaeppler & Erath, 2016).

Adolescents' social competence may also interact with their peer experiences to influence their anxiety symptoms. Adolescents' perceptions of their social competence are hypothesized to be based on their own and others' feedback about their social skills across repeated social interactions with others (Cole, 1991). When adolescents' are asked to report on their self-perceived social competence, they draw on their own evaluations of their social performance in past social situation, such as their peer experiences, as well as any feedback they have received from others regarding their social competence in the past. Over time, adolescents' perception of their social competence are hypothesized to

inform their social strategies during peer interactions and are further refined based on the feedback from these interactions. In this way, adolescents' social competence and peer experiences may interact to influence their developmental outcomes, such as their anxiety symptoms. For example, more socially competent adolescents may be more likely to react adaptively during both negative and positive peer interactions (Cohen et al., 2014). Based on their previous peer experiences, more socially competent adolescents may have better strategies for clearly communicating their needs and goals during peer interactions. In negative social situations, socially competent adolescents may be more likely to be assertive and stick-up for themselves. Therefore, more socially competent adolescents may experience fewer anxiety symptoms following negative peer interactions such as peer victimization (Bornstein et al., 2010; Van Oort et al., 2011). In positive social situations, socially competent adolescents may engender more support from their friends and experience fewer anxiety symptoms as a result. Therefore, more socially competent adolescents who experience higher friendship closeness may experience even fewer anxiety symptoms than those who experience only one of these protective factors. This moderation has yet to be tested in the literature.

Gender Differences

Research typically finds mean-level differences in anxiety symptoms by gender, with girls experiencing more anxiety symptoms relative to boys (Derdikman-Eiron, et al., 2011; Kistner, 2009; McLean et al., 2011). These gender differences in anxiety symptoms have been found particularly in adolescence (Carballo et al., 2009; Ezpeleta, Kessler, Erkanli, Costello, & Angold, 2001; Hale, Raaijmakers, Muris, van Hoof, & Meeus, 2008). For example, by age 14, girls are twice as likely to be diagnosed with anxiety

disorders compared to boys (Kessler et al., 2005; Merikangas et al., 2010). However, the limited number of studies that have used intensive longitudinal designs have not found mean-level differences in adolescent anxiety symptoms (e.g., Schneiders et al., 2007; Uink et al., 2017). These mixed findings between studies that have used more traditional designs (e.g., cross-sectional or longitudinal over months or years) and intensive longitudinal studies warrants further examination. Additionally, given the mean-level gender differences in anxiety symptoms that are typically found in adolescence, the contributions of peer and individual risk and protective factors to anxiety symptoms may also vary by gender in adolescence (Zahn-Waxler, Shirtcliff, & Marceau, 2008). At the very least, examining gender differences in the contributions of peer and individual risk and protective factors using an intensive longitudinal design may shed some light on the discrepant findings on gender differences. The next four sections review how peer victimization, friendship closeness, self-blaming attributions, and social competence may influence girls and boys differently.

Peer victimization as a peer risk factor. Because girls show greater vulnerability to interpersonal concerns (Leadbeater, Kuperminc, Blatt, & Hertzog, 1999) and greater reactivity to stressful events involving peers (Shih, Eberhart, Hammen, & Brennan, 2006), the contributions of peer victimization to anxiety symptoms may be particularly pronounced for girls (Storch & Masia-Warner, 2004). However, research that examines gender differences in how peer victimization contributes to anxiety symptoms offers mixed findings. For example, a longitudinal study that followed 388 children aged eight to nine years annually for nine years did not find gender differences in the association between peer victimization and trajectories of internalizing problems

(symptoms of depression and anxiety) as rated by mothers or clinical interview (Schwartz, Lansford, Dodge, Pettit, & Bates, 2015). A cross-sectional study of 279 sixth grade students found that the concurrent association between self-reported physical and verbal victimization and self-reported anxiety symptoms did not vary by gender (Grills & Ollendick, 2002). However, meta-analyses suggest that physical and relational victimization relate to anxiety symptoms differently for girls and boys (Hawker & Boulton, 2000; Iyer-Eimerbrink, Scielzo, & Jensen-Campbell, 2015). For example, a meta-analysis of 32 studies with adolescents aged 10 to 18 years found that although both physical and relational victimization were positively associated with anxiety symptoms, the association between relational victimization and anxiety symptoms was stronger for girls than boys (Iyer-Eimerbrink et al., 2015). These findings suggest that whether gender moderates the association between peer victimization and anxiety symptoms may vary based on the type of peer victimization assessed. In particular, relational victimization may be particularly detrimental for girls' anxiety symptoms.

Friendship closeness as a peer protective factor. Research often finds that compared to boys, girls experience greater closeness, affection, and sharing in their relationships and are more likely to have close dyadic friendships or smaller, tightly-woven groups of friends rather than larger friendship groups (Bukowski et al., 1994; Parker & Asher, 1993; Rose, 2002; Rudolph, Ladd, & Dinella, 2007). Some researchers have speculated that girls may rely on their interpersonal relationships for emotional wellbeing more so than boys (Richards, Crowe, Larson, & Swarr, 1998; Rose & Rudolph, 2006; Rose & Smith, 2009). However, empirical studies have produced mixed results. Some studies suggests that both girls and boys are equally likely to benefit from high

quality friendships (Cillessen, Jiang, West, & Laszkowski, 2005; La Greca & Harrison, 2005), particularly in adjusting to the transition to junior high (Aikins, Bierman, & Parker, 2005; Berdnt, Hawkins, & Jiao, 1999; Kingery, Erdley, & Marshall, 2011). For example, a short-term longitudinal study that followed grade 5 adolescents through the transition into junior high and grade 6 found that both boys and girls gained friends across the transition to junior high, friendship quality remained stable for boys and girls from the spring of grade 5 to the spring of grade 6, and friendship quality equally predicted adjustment to junior high school, defined as academic adjustment and internalizing, for both boys and girls (Kingery et al., 2011). It may be possible that though boys view closeness in their friendships differently, such as less in terms of intimacy and more in terms of companionship, they nevertheless feel equally supported in their close friendships as girls do, at least in early adolescence (Bagwell & Schmidt, 2013). These findings suggest that the contributions of friendship closeness to anxiety symptoms may be similar for boys and girls in early adolescence.

However, the studies described above have assessed the associations between anxiety symptoms and friendship quality prospectively rather than concurrently. Research that assesses daily associations between positive peer experiences and adolescents' anxiety symptoms finds that positive peer experiences alleviate worried thoughts for girls only (Uink et al., 2017). Of course, positive peer experiences are not the same conceptually or practically as dyadic friendship closeness, so this finding should be generalized to friendship closeness with some caution. However, it may be that the associations between friendship closeness, a positive experience with a peer, and anxiety symptoms is stronger for girls than boys contemporaneously.

Characterological self-blaming attributions as an individual risk factor. Researchers have speculated that relative to boys, girls may be more likely to make characterological self-blaming attributions (Hankin & Abramson, 2002). As a result, actual and anticipated peer victimization may be particularly detrimental for girls, who are assumed to be more likely to blame themselves, perceive the peer victimization as hurtful and out of their control, and report more negative emotions as a result of the peer victimization. However, research that examines gender as a moderator of the association between peer victimization and anxiety symptoms has not typically found this. For example, in a longitudinal study across 17 months of predominately grade 10 adolescents, researchers found no gender differences in the association between concurrent self-blaming attributions, physical victimization, and internalizing problems (Prinstein et al., 2005). However, peer victimization interacted with self-blaming attributions to predict prospective depressive symptoms, but not anxiety symptoms, for boys. Prinstein and colleagues (2005) hypothesized that this finding may have occurred because they did not assess relational victimization. However, a short-term longitudinal study that examined concurrent and prospective associations across fall and spring of the first year of junior high school between self-reported self-blaming attributions, physical and relational victimization, and internalizing symptoms also did not find that gender moderated these associations (Schacter et al., 2015). These findings suggest that negative effects of self-blaming attributions on anxiety symptoms may be equally pronounced for girls and boys, especially if they also experience more frequent levels of peer victimization.

Social competence as an individual protective factor. Boys may be more likely to benefit from higher social competence relative to girls. Not only are anxious girls less

likely to perceive themselves as socially competent (Miers, Blote, de Rooij, Bokhorst, & Westenberg, 2013; Miers, Blote, & Westenberg, 2011), the negative associations between social competence and anxiety symptoms are heightened when girls are also confronted with peer victimization. A cross-sectional study of 327 adolescents in grades 6, 7, and 8 found that girls who experience more frequent anxiety symptoms and peer victimization were less likely to endorse socially competent strategies such as asserting themselves (Dirks, Treat, & Weersing, 2014). However, boys who experienced peer victimization were more likely to endorse such socially competent strategies. These findings suggest that the positive effects of social competence on anxiety symptoms may be especially pronounced for boys, particularly for boys who are confronted with experiences of peer victimization.

Gaps in the Literature

The last decade has seen a surge of research on anxiety symptoms in adolescence (Vasey, Bosmans, & Ollendick, 2014). But this research continues to be somewhat limited by its focus on group-level rather than person-level variability in anxiety symptoms. Most research on anxiety symptoms in early adolescence has focused on explaining group-based averages and variability around this average. For example, clinical research on anxiety is limited by its focus on group-based prevalence rates of specific disorders (e.g., Merikangas et al., 2010). Likewise, developmental research on anxiety symptoms has typically focused on describing and explaining variability in group-based trajectories composed of annual or semi-annual assessments (e.g., Ohannessian, Milan, & Vannucci, 2016). This research typically disregards person-level variability of individuals' fluctuations around their own average as part of the error term

(i.e., “noise”) or as part of the person-level residuals (i.e., unexplained variability between the person-level and group-level averages; Curran & Bauer, 2011). However, person-level variability may be an important contributor to prospective developmental outcomes (Boker, Molenaar, & Nesselroade, 2009; Eid & Diener, 1999). But before studies can ask, “Do adolescents’ fluctuations around their own mean contribute to their prospective anxiety symptoms?” research is needed that describes person-level variability in adolescent anxiety symptoms and examines whether there are between-person differences in this variability.

Part of the focus on group-based averages comes from study designs that assess anxiety symptoms at a single point in time or that employ annual or semi-annual assessments of anxiety symptoms. While this research has been important in highlighting early adolescence as a key period for the development of anxiety symptoms, it does not and cannot examine how adolescents’ anxiety symptoms fluctuate around their own averages. Intensive longitudinal designs that employ daily or weekly assessments are typically needed to examine such person-level fluctuations in developmental outcomes (Bolger & Laurenceau, 2013; Ram & Gerstorf, 2009). Intensive longitudinal designs are needed for three reasons: first, to examine whether there are short-term fluctuations in adolescents’ anxiety symptoms; second, to describe the short-term fluctuations and whether there are between-person differences in these fluctuations; and third, to examine the factors that contribute to short-term fluctuations in adolescents’ anxiety symptoms. Findings from existing intensive longitudinal studies, such as daily diary and experience sampling studies, suggest that adolescents’ anxiety symptoms do demonstrate short-term daily or weekly person-level variability (e.g., Nishina, 2012; Schneiders et al., 2007;

Uink et al., 2017). However, these studies either do not examine between-person differences in this person-level variability or the factors that contribute to this person-level variability. More research is needed that describes between-person differences in short-term fluctuations in adolescent anxiety symptoms and that examines risk and protective factors that contribute to these short-term fluctuations.

The current research on anxiety symptoms is also limited by its focus on risk factors at the expense of examining protective factors. For example, it is much easier to find research on how risk factors such as peer victimization may contribute to anxiety symptoms than to find research on how protective factors such as friendship closeness may buffer from anxiety symptoms. Examining risk factors is important because knowing which risks may contribute to maladjustment can help inform prevention efforts and aid in the identification of adolescents who may experience maladjustment. However, examining protective factors may be equally helpful in informing prevention efforts. A core idea of developmental psychopathology is that risk and protective factors interact with one another to contribute to maladjustment. Thus, since some risk factors such as peer victimization may not be avoidable, understanding which protective factors can buffer against these risks may be particularly valuable in informing prevention efforts. Furthermore, the research that does exist on protective factors like friendship closeness is often cross-sectional rather than longitudinal (e.g., Chen & Graham, 2012). Research is needed across multiple assessment periods that examines the interactive effects of peer- and individual-level risk and protective factors on adolescent anxiety symptoms.

In addition to the dearth of research on protective factors, research examining the interactive effects of cognitive (e.g., characterological self-blame) and social (e.g., peer

victimization) risks for adolescent anxiety is lacking. Research examining the dual contributions of cognitive and social risk factors has been very helpful in fostering greater understanding of other forms of maladjustment, such as depressive symptoms and aggression, and stands to do the same for anxiety. Furthermore, the separation between the research on cognitive and social risk factors stands in contrast to the principles of developmental psychopathology. Developmental psychopathology stresses the importance of considering risk and protective factors across multiple domains of development since individuals who experience multiple risk factors are more susceptible to maladjustment (Sameroff, 2000). More research that examines the combined effects of risk factors from cognitive and social domains of development on adolescent anxiety symptoms is needed.

Another limitation of the extant research on anxiety symptoms is that though epidemiological studies often report gender differences in adolescent anxiety symptoms (e.g., Ezpeleta et al., 2001), the circumstances under which those gender differences emerge remains unclear. Research that examines gender differences in the contributions of risk and protective factors to adolescent anxiety symptoms has produced mixed results. While some studies find that girls are more likely to experience more frequent anxiety symptoms following relational victimization (e.g., Rudolph, 2002) or to experience less frequent anxiety symptoms after positive peer interactions such as in close friendships (e.g., Uink et al., 2017), others do not find gender differences in these associations (e.g., Kingery et al., 2011). Given that gender differences in anxiety symptoms seem to emerge in early adolescence (Beesdo et al., 2009), more research is needed to better understand how the contributions of risk and protective factors to adolescent anxiety symptoms may

vary by gender, particularly in the short-term.

CHAPTER IV

The Current Study

Guided by the developmental psychopathology framework, this study examines peer and individual risk and protective factors that may influence anxiety symptoms in early adolescence. Specifically, this study examines short-term fluctuations in anxiety symptoms with an ethnically diverse community sample of adolescents in the Spring term of their first year of junior high school. This study also examines how adolescents' ongoing peer interactions and individual risk and protective factors contribute to within-person fluctuations in anxiety symptoms. Whether these associations vary by gender is also examined. Expected findings for each of the four research goals addressed in this study are summarized below.

The first goal of this study is to describe bi-weekly fluctuations in early adolescents' anxiety symptoms over eight weeks. This will add to the limited research on short-term fluctuations in anxiety symptoms and is unique in its examination of person-level rather than group-level variability in anxiety. In line with the developmental principle that suggests that greater variability in developmental outcomes may be expected when changes across developmental domains co-occur, such as during early adolescence (Masten, 2006), as well as findings from the literature (Nishina, 2012; Schneiders et al., 2007), it is expected that adolescents will experience bi-weekly fluctuations in the frequency of their anxiety symptoms.

The second goal of this study is to examine whether adolescents' anxiety symptoms co-vary bi-weekly with their peer physical and relational victimization and closeness in their friendships. This will add to current understanding of peer-level risk

and protective factors that may contribute to and co-vary with short-term fluctuations in adolescent anxiety symptoms. It is expected that adolescents' anxiety symptoms will co-vary positively with their experiences of peer victimization: On weeks when adolescents experience more frequent peer victimization, they will also report more frequent anxiety symptoms (Morrow et al., 2009). These findings are expected for both physical (Stapinski et al., 2015) and relational (Siegel et al., 2009) victimization. It is also expected that friendship closeness will co-vary negatively with anxiety symptoms: On weeks when adolescents experience more friendship closeness, they will also report less frequent anxiety symptoms (Baker & Hudson, 2013; Chen & Graham, 2012).

The third goal of this study is to examine whether adolescents' characterological self-blaming attributions and social competence predict their anxiety symptoms, and moderate the co-variation between their anxiety symptoms and peer victimization and friendship closeness. This will bridge research from cognitive and social domains and further understanding of how peer and individual risk and protective factors from cognitive and social domains may interact to contribute to short-term fluctuations in anxiety. Based on the literature, it is expected that adolescents who are more prone to making characterological self-blaming attributions will report more frequent anxiety symptoms at the start of and throughout the study (Daleiden & Vasey, 1997; Prinstein et al., 2005) while adolescents who are more socially competent will report less frequent anxiety symptoms at the start of and throughout the study (Bornstein et al., 2010; Starr & Davila, 2008). It is also expected that adolescents' individual characteristics will interact with their ongoing peer experiences to contribute to their anxiety symptoms. Characterological self-blaming attributions will accentuate the positive co-variation

between peer victimization and anxiety symptoms (Perren et al., 2013) and attenuate the negative co-variation between friendship closeness and anxiety symptoms (Camacho et al., 2012). Conversely, social competence will attenuate the positive co-variation between anxiety symptoms and peer victimization (Bornstein et al., 2010) and accentuate the negative co-variation between anxiety symptoms and friendship closeness (Cohen et al., 2015).

The fourth goal of this study is to examine gender differences in the within-person fluctuations, in the average frequency of anxiety symptoms across eight weeks, in the co-variation between anxiety symptoms and peer experiences, and in the main and moderating effects of self-blaming attributions and social competence. This will extend previous work on gender differences in adolescent anxiety symptoms by examining these symptoms within an intensive longitudinal framework while still examining concurrent associations between anxiety symptoms and its risk and protective factors. Overall, only some gender differences are expected. Gender differences are expected in the within-person fluctuations with girls showing more fluctuations across eight weeks than boys (Sterba et al., 2007). However, gender differences are not expected in the average frequency of anxiety across eight weeks (Schneiders et al., 2007). Given the mixed findings in the literature, it remains unclear whether gender will moderate the co-variation between anxiety symptoms and peer victimization and friendship closeness. Gender differences are not expected for the main (Coyne, Archer, & Eslea, 2006) or moderating (Chen & Graham, 2006; Schacter et al., 2015) effects of self-blaming attributions, but social competence is expected to have stronger main and moderating effects for boys relative to girls (Dirks et al., 2014).

CHAPTER V

Method

Participants

Participants were 180 adolescents in grade 7 (60.6% girls; mean age = 12.7 years, *SD* = .44 years, range = 11.42-14.25 years) who were recruited from two large junior high schools in a mid-sized city in Western Canada. Each school had a population of 680-700 adolescents in grades 7 to 9 across 24 homerooms. The sample of participating adolescents included diverse ethnic backgrounds: 50.9% South Asian, 30.4% Caucasian, 5.6% Southeast and East Asian, 4.3% Black/African Canadian, 3.1% Arab/Middle-Eastern, 1.9% Aboriginal, 1.9% Latin, and 1.9% multiple ethnicities. Approximately one-third of adolescents (31.6%) were born outside of Canada and almost half (45.7%) indicated that they spoke a language other than English at home "more than half the time" to "all of the time."

Procedure

The lead researcher gave a brief presentation describing the study to each grade 7 homeroom class in the two participating schools. One of the participating schools (School A) had eight grade 7 homerooms with 26 to 33 adolescents per homeroom, with the exception of the Behavioural Assistance class that had 12 adolescents. The other participating school (School B) also had eight grade 7 homerooms and the size of the homerooms ranged from 30 to 33 adolescents, with the exception of the Behavioural Assistance class that had 16 adolescents. In addition, one to two follow-up reminder presentations were also given to each homeroom class. During these presentations, research assistants distributed information packages that explained the purpose of the

study and contained parent consent forms to all grade 7 adolescents in the participating schools. Within each school, adolescents who returned a consent form (regardless of whether or not consent was granted) were entered into a draw to win one of three $25 gift certificates to a bookstore. School A also offered additional incentives in the form of small candies to adolescents who returned a consent form. Across the two schools, 47% of adolescents returned their consent forms (School A = 53%, range = 34-100% across homeroom classes; School B = 42%, range = 6-77% across homeroom classes). Overall, 40% of adolescents had active parental consent to participate (School A = 48%, range = 31-83% across homeroom classes; School B = 48%, range = 0-58% across homeroom classes). At the start of the first data collection, assent was obtained from all adolescents whose parents gave their consent.

Data were collected on five bi-weekly occasions across eight weeks during the Spring term of one school year. The bi-weekly schedule was designed to capture short-term fluctuations in adolescents' anxiety symptoms and in their peer experiences. This bi-weekly schedule also maps onto clinical assessments of internalizing problems that typically ask about the previous two weeks. The spring term was selected to allow adolescents enough time to have formed friendships following the transition to junior high school in the fall. The spring term also includes final assessments in core classes (e.g., Language Arts, Math, Science, Social Studies) and thus may be a stressful period for many adolescents. At each wave, data were collected on a single day in each homeroom classroom with a two-week break between each data collection wave. Adolescents completed surveys in groups of 20-30 from the same homeroom class. Homeroom classes with lower return rates were combined to form groups of 20-30

adolescents as well. Surveys were completed in the school library or cafeteria under the supervision of the lead researcher and two to three research assistants. The lead researcher read aloud the survey instructions while additional research assistants circulated to answer questions about the survey and ensure that adolescents stayed on task. Adolescents read survey questions quietly to themselves at their seat. Adolescents (*n* = 3) who required additional help due to language, reading, or other difficulties (e.g., behavioural assistance, physical disabilities) worked one-on-one with a research assistant. Given the short timespan between waves, adolescents who were absent for any given wave were not rescheduled for makeup surveys to avoid repeated disruptions to school activities and to maintain the bi-weekly assessment period.

Data on all demographic characteristics and all constructs (anxiety symptoms, characterological self-blaming attributions, social competence, peer victimization, friendship closeness) were collected at baseline from all 180 adolescents. Adolescents' demographic characteristics, characterological self-blaming attributions (Cole et al., 2008), and social competence (Asher & McDonald, 2009) were not expected to change over eight weeks and were assessed only at baseline. Adolescents' anxiety symptoms, peer victimization, and friendship closeness were assessed bi-weekly as these were expected to fluctuate across eight weeks and to assess the co-variation of anxiety symptoms with peer experiences.

Measures

Anxiety symptoms. Adolescents reported the frequency of their anxiety symptoms at each of the five waves using the anxiety subscale of the Behavioral Health Screen (BHS; Bevans et al., 2012). The BHS was developed to allow physicians and

other clinicians to screen adolescents for symptoms of anxiety, depression, and suicide risk in primary and ambulatory care settings where administration of more traditional but longer measures was not realistic. Although the BHS is shorter than the traditional measures, it assesses similar domains and demonstrates convergent validity with the more traditional measures (Diamond et al., 2010), including the anxiety subscale of the Trauma Symptom Checklist for Children (Briere, 1996) for anxiety, the Beck Depression Inventory II (Beck, Steer, & Brown, 1996) for depression, and the Scale for Suicidal Ideation (Beck, Brown, & Steer, 1997) for suicide risk. Adolescents reported how often in the prior two weeks they experienced anxiety symptoms on 4 items (e.g., "felt restless, keyed-up, anxious, or on edge," "worried so much that it was hard for you to stop worrying"). Items were rated on a 5-point scale: 0 (*Never*) to 4 (*Several times a day*). Items were averaged to create a composite anxiety score. Internal consistencies were good to excellent across waves for the overall sample (α = .83-.93) and for girls (α = .83-.92) and good to excellent for boys (α = .87-.94, except for at baseline, α = .65).

Peer victimization. Adolescents reported their experiences of peer victimization at each of the five waves using the physical/verbal and relational subscales of the Social Experiences Questionnaire (SEQ; Crick & Grotpeter, 1996). The SEQ is well established in the literature as a measure of peer victimization and has demonstrated good reliability and validity in other studies with adolescents (e.g., Hoglund & Hosan, 2013; Paquette & Underwood, 1999). Adolescents reported how often in the prior two weeks they experienced physical/verbal victimization on 5 items: (e.g., "push or shove you at school," "yell at you or call you mean names") and relational victimization on 5 items (e.g., "tell lies about you to make other youth not like you anymore," "leave you out on

purpose when it is time to hang out or do an activity"). Items were rated on a 5-point scale: 0 (*Never*) to 4 (*Several times a day*). The physical and relational subscales were moderately correlated at each wave (*r*s = .24-.54, $p < .01$). Internal consistencies were adequate to good for physical victimization and good to excellent for relational victimization across waves (physical α = .68 - .75, relational α = .82 - .95) and for girls (physical α = .67 - .76, relational α = .70 - .95) and boys (physical α = .64 - .77, relational α = .79 - .95).

Friendship closeness. Adolescents were instructed to nominate their six closest friends at school at each of the five waves, but were able to nominate more friends if they wanted. Thus, adolescents' friendships nominations were unlimited. Adolescents could nominate any adolescent who attended their school as a friend regardless of grade, gender, or participation in the study. Friendship nominations were based on free-recall by adolescents. Across all waves, adolescents reported one to eleven friends (*M* number of friends nominated across waves = 5, *SD* = 1.54). Following these friendship nominations, adolescents were asked to focus on their closest same-gender friendships and think about their typical experiences across the last two weeks with these closest same-gender friends. Restriction to same-gender friendships was used because research finds that opposite-sex friendship nominations are rare and are qualitatively different from same-sex friendships in early adolescence (Berndt & McCandless, 2009). In this study, the majority of the friendship nominations were same-gender friendships (*M* proportion across waves = 0.91, *SD* = 0.25). Adolescents were asked to think about their typical experiences with all of their closest same-gender friends rather than a single friend because the focus of this study is on adolescents' perception of closeness and support in

their overall friendships (Choukas-Bradley & Prinstein, 2014). Adolescents reported on their friendship quality using the closeness subscale of the Friendship Qualities Scale (FQS; Bukowski et al., 1994). The FQS was developed to assess friendship quality in adolescence and has demonstrated validity and reliability in numerous studies (e.g., Bollmer, Milich, Harris, & Maras, 2005; Hodges, Boivin, Vitaro, & Bukowski, 1999). The closeness subscale included 5 items (e.g., "I feel happy when I'm with my friend," "When I do a good job, my friend is happy for me"). Adolescents rated how true each item was for their closest friendships using a 5-point scale: 0 (*Not true at all*) to 4 (*Really true*). Items were averaged to create a composite friendship closeness score. Internal consistencies were good across waves for the overall sample (α = .81-.87) and for girls (α = .74-.88) and boys (α = .78-.85).

Characterological self-blaming attributions. Adolescents' tendency to attribute negative external events such as peer victimization to internal, stable, and uncontrollable personal characteristics were assessed using the characterological self-blame subscale of the Attributional Questionnaire at baseline only (Chen & Graham, 2012; Graham & Juvonen, 1998). Adolescents read two vignettes about hypothetical negative experiences with peers and were asked to imagine themselves in the situation. The first vignette asked adolescents to imagine that another adolescent put gum on their chair and their remaining classmates laughed at them. The second vignette asked adolescents to imagine that they were trapped in a washroom where they experienced a physical altercation with a group of their peers. These vignettes were selected from three possible vignettes used in previous research on adolescents' characterological self-blaming attributions (Chen & Graham, 2012; Graham & Juvonen, 1998). The third vignette was not used as it referred

to a stolen school uniform and was not relevant to the current sample of adolescents who did not wear uniforms. This measure has demonstrated good validity and reliability in previous studies (Chen & Graham, 2012; Graham & Juvonen, 1998). For each vignette, adolescents responded to eight items that assessed how likely they would be to make characterological self-blaming attributions if the incident actually happened to them (e.g., "This happens to me, not other kids," "I always get into situations like this."). Items were rated on a 4-point scale from 0 (*Not likely*) to 3 (*Very likely*). Item scores were averaged within each vignette. Given that adolescents answered the same eight items for each vignette and the moderately high correlation between the average scores of each vignette ($r = .69$, $p < .01$), items were averaged across vignettes to create a composite characterological self-blaming attribution score. The internal consistency across all 16 items for this construct was good at baseline for the overall sample ($\alpha = .88$) and for girls ($\alpha = .88$) and boys ($\alpha = .89$).

Social competence. Adolescents' perception of their ability to be socially successful (e.g., make friends, be popular, gain peer acceptance and likeability) was assessed using the social competence subscale of the Self-Perception Profile for Adolescents at baseline only (SPPA; Harter, 1988, 2012). The SPPA has demonstrated validity and reliability with diverse samples of adolescents (Rose, Hands, & Larkin, 2012; Thomson & Zand, 2002). In this 5-item measure, adolescents were presented with two descriptions of adolescents separated by the word "but" for each item; each description reflected either higher or lower social competence (e.g., "Some teenagers find it hard to make friends BUT other teenagers find it pretty easy to make friends."). Adolescents first chose which description most resembled them. Next, they rated whether

that description was “Really True” or “Sort of True” for them. Depending on whether adolescents chose the higher or lower social competence description, and whether they felt that it was “Really True” or “Sort of True” of them, their choice was transformed to a 4-point scale: 0 (*Low competence*) to 3 (*High competence*). These items were then averaged to create a composite social competence score. This measure demonstrated adequate internal consistency at baseline for the overall sample (α = .66) and by gender (α = .65 for girls and boys).

Data Analytic Strategy

Data analyses were designed to examine the construct validity of the constructs and to address each of the research goals. These analyses are presented in five sections.

First, confirmatory factor analyses (CFAs) were conducted with the wave 1 data to establish that the factor structures of the constructs were consistent with the original studies. All CFAs were conducted using Mplus 7.3 (Muthén & Muthén, 1998–2015). Absolute fit of the CFAs was determined using the chi-square statistic (χ^2) and approximate fit indices. Approximate fit indices included the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean residual (SRMR). For all tests of the chi-square statistic, an alpha level of $p \leq .01$ was adopted to determine statistical significance. Non-significant chi-square values indicated a good fit of the observed data to the hypothesized model (Kline, 2011). The CFI estimate compares the specified model with a model in which all variables are assumed to be uncorrelated. CFI values greater than .95 are considered excellent, while CFI values that range from .90 to .94 are considered adequate (Kline, 2011). The RMSEA index adjusts for model complexity and favors the most parsimonious model. RMSEA and

SRMR values less than .05 are considered excellent, and RMSEA and SRMR values that range from .06 to .08 are considered adequate (Kline, 2011).

Measurement invariance across gender at wave 1 was also examined to establish whether the criterion constructs represented the same construct for girls and boys. Relative fit of nested models, such as those used to assess measurement invariance, was determined using chi-square difference tests ($\Delta\chi^2$). When two models were significantly different from one another as indicated by a significant chi-square value, the model with better fit statistics was selected as the best-fitting model. When two models fit the data comparably as indicated by a non-significant chi-square test, the model with greater degrees of freedom was chosen. Model comparisons between just-identified models were made using the Bayesian Information Criterion (BIC), with lower values signifying better fit of the data to the model.

Second, basic descriptive statistics (means, standard deviations, ranges) for the primary constructs were examined for the overall sample and by gender. Bivariate correlations among the primary constructs were also examined for the overall sample and by gender.

The final three sections address the primary research goals of this study. A series of two-level hierarchical linear models (HLMs) with measures nested within persons were examined using HLM 7.01 (Raudenbush, Bryk, & Congdon, 2013). First, an unconditional means model for anxiety symptoms with random effects was specified (Model 1). Model 1 estimated the proportion of variability in anxiety symptoms that was attributable to within-person and between-person sources and the person-level means in anxiety that were not conditioned on any predictors. Model 1 also estimated the person-

level residuals that reflected the distance of each individual's mean from the grand-mean across the sample (Singer & Willett, 2003). Second, adolescents' peer experiences were added to the model as time-varying co-variates (Model 2). Model 2 examined concurrent co-variations between adolescents' anxiety symptoms and their peer experiences at each wave. Third, gender was introduced into the model as a time-invariant predictor (Model 3). Model 3 examined gender differences in the average frequency of anxiety symptoms across eight weeks and in the co-variation between anxiety symptoms and peer experiences. Fourth, adolescents' individual characteristics were added to the model as time-invariant predictors (Model 4). Model 4 examined the main effects of adolescents' individual characteristics on anxiety symptoms and the moderating effects of these characteristics on the co-variation between anxiety symptoms and peer experiences. Finally, interaction terms between gender and adolescents' individual characteristics were introduced into the model (Model 5). Model 5 examined whether gender moderated the main effects of the individual characteristics on anxiety symptoms and tested the three-way interactions between gender, individual characteristics, and the peer experiences on anxiety symptoms. The series of Models 1 to 5 were tested for each peer experience (physical victimization, relational victimization, and friendship closeness) separately.

In the HLMs, the frequency of adolescents' anxiety symptoms across eight weeks and the co-variation of anxiety symptoms with peer experiences were modeled at Level 1 (within-person level). The main effects of characterological self-blaming attributions, social competence, and gender on the average frequency of anxiety symptoms across eight weeks were modeled at Level 2 (between-person level). The moderating effects of characterological self-blaming attributions, social competence, and gender on the co-

variation of peer experiences with anxiety symptoms were modeled as an interaction between the Level 1 and Level 2 effects. The Level 1 effects of peer victimization and friendship closeness were group-mean centered (i.e., each adolescents' mean across all five waves were subtracted from their observed value at each wave so that a value of zero represented the person-level mean). Group-mean centering the Level 1 effects accounted for adolescents' fluctuations at each wave around their person-level mean across eight weeks. The Level 2 effects of characterological self-blaming attributions and social competence were grand-mean centered (i.e., the mean for the sample was subtracted from each adolescents' observed value at baseline so that a value of zero represented the sample mean). Grand-mean centering the Level 2 effects enabled comparisons of each adolescent with average levels across the sample. Gender was not centered as it was a categorical variable with a value of zero that was already meaningful for this study (boys = 0, girls = 1).

Missing Data

Missing data in this study were due to absenteeism from school during data collection activities and new entrant status for adolescents who returned their consent forms after baseline data were collected (n = 36). New entrants to the study included adolescents who had not previously returned their consent forms (n = 30) or were new to the participating schools (n = 6). Thirty adolescents (n = 30; 16.7% of 180) joined the study at wave 2, four adolescents (n = 4; 2.2% of 180) joined at wave 3, and two adolescents (n = 2; 1.2% of 180) joined at wave 4. Data for the new entrants were collected on a delayed schedule. For instance, participants who entered the study at wave 2 completed their baseline surveys at the same time as existing participants completed

their first follow-up survey and completed their final survey two weeks after the majority of participants completed their final survey. Participants who entered the study after the wave 2 did not complete additional makeup surveys as they represented a relatively small proportion of the sample (n = 6; 3.3% of 180). Additional makeup surveys were also not scheduled to avoid causing additional school disruptions.

No adolescents were missing baseline data and there were little missing data overall. Thus, adjustments for missing data were made using full information maximum likelihood estimation (FIML; Baraldi & Enders, 2010). FIML allows the majority of the sample to be retained to minimize bias in the results (Little & Rubin, 2002). Sample statistics derived from FIML are unbiased and approximately normally distributed when there are at least 30 individuals (Singer & Willett, 2003). Of the total 180 adolescents who participated in the study, 145 (80.6%) had all five waves of data, 26 (14.4%) had four waves of data, four (2.2%) had three waves of data, four (2.2%) had two waves of data, and one adolescent (0.6%) had only one wave of data. Adolescents with data missing at one or more waves reported fewer anxiety symptoms at baseline than adolescents with no missing data; t (*178*) = -2.08, $p < .05$. There were no significant differences between adolescents with and without missing data by gender or on any of the predictor variables at baseline. Given these modest differences, the pattern of missingness was presumed to not vary systematically as a function of the study constructs (Baraldi & Enders, 2010).

CHAPTER VI

Results

As outlined in the data analytic strategy, the results are presented in five sections. These sections examine the construct validity of the constructs and descriptive statistics, and address each of the four research goals.

Confirmatory Factor Analysis and Measurement Invariance

Confirmatory factor analysis (CFA). The CFA models for anxiety symptoms, physical and relational victimization, friendship closeness, and social competence each used the items as the indicators. The CFA model for characterological self-blaming attributions used the two subscales (one per vignette) as the indicators. The CFA models at wave 1 demonstrated good to excellent fit to the data for anxiety symptoms, physical victimization, friendship closeness, and social competence (see Table 1). The CFA model for relational victimization demonstrated adequate fit to the data ($\chi^2 = 47.28$, $df = 5$, $p < .01$) and had standardized loadings greater than the commonly used cut-off of .40 (.40 - .87, $p < .01$; Little, 2013). The CFA models for self-blaming attributions were just identified ($\chi^2 = 0.0$, $df = 0$, $p = .01$) with standardized loadings greater than .40 (.75 - .92, $p < .01$). Just-identified models have no available degrees of freedom to estimate model fit statistics as there are the same number of fixed parameters (e.g., means and variances based on the data) as free parameters (e.g., path estimates from one construct to another; Kline, 2011). These findings indicate that the factor structure of the variables in this study were comparable to the factor structure established in previous research.

Measurement invariance. Tests of measurement invariance of the constructs across gender at wave 1 were conducted to ensure that the overall factor structure of the

constructs was consistent across boys and girls. Measurement invariance was tested in four consecutive steps with increasingly constrained models (Widaman, Ferrer, & Conger, 2010). First, in the configural invariance model all the factor loadings, intercepts, and variances of the indicators were allowed to vary across gender. Next, in the metric invariance model the factor loadings of the indicators were constrained to be equal across gender. Third, in the scalar invariance model the intercepts and factor loadings of the indicators were constrained to be equal across gender. If scalar invariance was not achieved, partial scalar invariance where one or more indicator intercepts were free to vary across gender was examined (Little, Preacher, Selig, & Card, 2007).

The anxiety latent construct achieved partial scalar invariance across gender. The intercept for one anxiety item ("How often have you had unpleasant thoughts or images come into your mind that made you upset?") was allowed to vary across gender. The relational victimization subscale achieved configural invariance. The physical victimization and characterological self-blaming attribution latent constructs achieved scalar invariance, and the friendship closeness achieved metric invariance across gender. The social competence construct achieved metric invariance across gender after dropping one of the five social competence items ("Some teenagers don't have the social skills to make friends BUT Other teenagers do have the social skills to make friends.") that had a poor factor loading (.23) and low inter-item correlations (*r*s = .09 - 23) with the other items.

Descriptive Data

On average, adolescents reported low frequencies of anxiety symptoms and physical and relational victimization, high levels of friendship closeness and social

competence, and low levels of characterological self-blaming attributions (see Table 2). There were few gender differences: girls reported more frequent anxiety symptoms at wave 1, less frequent relational victimization at wave 4, and higher levels of friendship closeness at all waves than boys (see Table 2).

Across the whole sample, bivariate correlations indicated moderate to high stability over five waves for anxiety symptoms (rs = .51 – 86, $p < .01$), physical (rs = .50 – 72, $p < .01$) and relational (rs = .42 – 77, $p < .01$) victimization, and friendship closeness (rs = .65 – 83, $p < .01$; see Table 3). Anxiety symptoms were moderately and positively correlated within all and across most waves with physical victimization. Anxiety symptoms were also moderately and positively correlated within and across all waves with relational victimization, suggesting stronger associations and domain specificity between anxiety symptoms and relational victimization. Only anxiety symptoms at wave 1 were only positively correlated with friendship closeness at all waves while anxiety symptoms at waves 2 and 3 were positively correlated with friendship closeness at wave 1. This finding was unexpected both due to the lack of concurrent correlations between anxiety symptoms and friendship closeness and the direction of association, which was expected to be negative. Anxiety symptoms were positively correlated with self-blaming attributions at most waves and negatively correlated with social competence at most waves.

Physical and relational victimization were moderately and positively concurrently correlated at all waves and moderately and positively correlated across most waves, with the exception of some correlations with physical victimization at wave 2. Physical victimization was negatively concurrently associated with friendship closeness at all

waves, with the exception of wave 1. Relational victimization was only negatively concurrently correlated with friendship closeness at waves 4 and 5. Physical victimization was not correlated with self-blaming attributions or social competence at any wave. Relational victimization, on the other hand, was concurrently and positively associated with self-blaming attributions at wave 1 and concurrently and negatively associated with social competence at wave 1. Relational victimization was also associated with the individual characteristics across most waves in the same direction as the concurrent associations. These modest correlations further support the notion that although physical and relational victimization share some overlap, they are unique constructs.

Self-blaming attributions and social competence were not concurrently associated with friendship closeness, although self-blaming attributions at wave 1 were moderately and positively associated with friendship closeness at wave 3. Self-blaming attributions and social competence were, however, concurrently and negatively correlated with one another at wave 1.

Because gender differences in the contributions of peer experiences and individual characteristics to anxiety symptoms were a key focus of this study, gender differences in the correlations among these constructs were also examined. These gender differences in the bivariate correlations were examined using Fisher's *z*-transformations. Overall, boys demonstrated stronger associations within and across waves compared to girls. Boys demonstrated higher stability in anxiety symptoms (rs = .61 – 90, $p < .01$) and relational victimization (rs = .60 – 84, $p < .01$) relative to girls (anxiety rs = .46 – 85, $p < .01$; relational victimization rs = .09 – 74, $p < .01$). Unexpectedly, associations between anxiety symptoms and physical and relational victimization and self-blaming attributions

were also stronger for boys relative to girls (see Table 4).

Fluctuations in Anxiety Symptoms

To address the first study goal and examine adolescents' fluctuations in anxiety symptoms, within-person variability in the frequency of adolescents' anxiety symptoms across eight weeks and gender differences in this variability were examined. To calculate the within-person variability in anxiety symptoms, unconditional means models for anxiety symptoms were run for the whole sample and by gender (i.e., three models were run in total). The intra-class correlations for the clustering of waves within persons were computed to examine the proportion of variability attributable to within-person relative to between-person sources. Across the entire sample, 32% of the total variability in adolescents' anxiety symptoms was within-person and 68% was between-person. For girls, 37% of the total variability in anxiety symptoms was within-person and 63% was between-person. For boys, 23% of the total variability in anxiety symptoms was within-person and 77% was between-person.

To further examine within-person fluctuations in anxiety symptoms, a mean and individual standard deviation (ISD) across the five waves of data were calculated for each person. The ISD reflects adolescents' fluctuations, or variability, around their own mean of anxiety symptoms across eight weeks. As indicated by a one-sample *t*-test where the observed sample distribution of ISDs is compared to a theoretical distribution with a mean of zero, adolescents reported significant within-person fluctuations in their anxiety symptoms; $t\ (179) = 15.17$, $p < .01$. Figure 1 represents adolescents' individual observed frequencies of anxiety symptoms across eight weeks for the entire sample to illustrate the within-person variability in anxiety symptoms. Based on an independent samples *t*-test

and as expected, girls (*M* ISD = 0.44, *SD* = 0.38) reported greater fluctuations in anxiety symptoms relative to boys (*M* ISD = 0.32, *SD* = 0.27; *t* [178] = 2.24, $p < .05$). However, no gender differences were observed in the mean frequency of anxiety symptoms averaged across eight weeks (see Tables 5, 6 and 7, Model 3).

Co-variation with Peer Experiences

To address the second study goal, the co-variations of adolescents' anxiety symptoms with each of their peer experiences (physical victimization, relational victimization, and friendship closeness) were examined separately. Gender differences in these co-variations were also examined. On weeks when adolescents experienced more frequent physical ($\beta = 0.34$, $p < .01$, *SE* = .10; see Table 5, Model 2) and relational ($\beta = 0.59$, $p < .01$, *SE* = .10; see Table 6, Model 2) victimization, they also experienced more frequent anxiety symptoms. Closeness in adolescents' friendships did not co-vary with their anxiety symptoms (see Table 7, Model 2). Also, no gender differences were observed in the co-variations between adolescents' anxiety symptoms and their peer experiences (see Tables 5, 6, and 7, Model 5).

Because physical and relational victimization share conceptual similarities and are modestly correlated in this study, an additional model was specified that assessed the co-variation between adolescents' anxiety symptoms and both types of peer victimization simultaneously. This additional model examined the unique co-variation of each type of peer victimization with anxiety symptoms while controlling for the other type of peer victimization. The co-variations between each of physical and relational victimization and anxiety symptoms in this additional model were significant in the same direction as the models that examined these effects separately (Model 2 in each of Tables 5 and 6

described in the paragraph above). Therefore, the models that examined the co-variations between physical and relational victimization and anxiety symptoms separately were retained for subsequent analyses for parsimony. In the additional model, the amount of relative variance in anxiety symptoms explained by each type of peer victimization was examined by calculating the pseudo R^2 (Kreft & De Leeuw, 1998; Singer & Willett, 2003). Adding relational victimization to a model that first examined the co-variation of physical victimization and anxiety symptoms explained an additional 16% of the Level 1 (within-person) variance and 2% of the Level 2 (between-person) variance in anxiety symptoms. However, adding physical victimization to a model that first examined the co-variation of relational victimization and anxiety symptoms only explained an additional 3% of the Level 1 variance and less than 1% of the Level 2 variance in anxiety symptoms. These findings suggest that although both types of peer victimization uniquely co-varied with anxiety symptoms, the co-variance between relational victimization and anxiety symptoms were stronger than the co-variance between physical victimization and anxiety symptoms.

Main and Moderating Effects of Individual Characteristics

To address the third study goal, the contributions of adolescents' characterological self-blaming attributions and social competence to their anxiety symptoms and to the co-variation between their anxiety symptoms and physical and relational victimization and friendship closeness were examined next. Whether these associations varied by gender was also examined. Models were first tested with self-blaming attributions and social competence in separate models before these effects were tested simultaneously. Results from these sets of models were consistent. Thus, the findings from the models where self-

blaming attributions and social competence were modeled together are presented. Adolescents who endorsed more self-blaming attributions for negative peer experiences reported more frequent anxiety symptoms ($\beta = 0.43$, $p < .01$, $SE = .13$). Adolescents who perceived themselves to be more socially competent reported fewer anxiety symptoms ($\beta = -0.30$, $p < .01$, $SE = .10$; see Tables 5, 6, and 7, Model 4). Neither self-blaming attributions nor social competence moderated the associations between adolescents' peer experiences and their anxiety symptoms (Tables 5, 6, and 7, Model 4) and no gender differences were found in these associations (Tables 5, 6, and 7, Model 5).

CHAPTER VII

Discussion

Annual and semi-annual assessments of anxiety symptoms indicate that average rates of anxiety increase in early adolescence, but this average increase is not representative of most early adolescents' experiences (Graber & Sontag, 2009). This discrepancy between the average experience and the experience of individual adolescents suggests that more frequent assessments of anxiety are needed to understand how typically developing adolescents experience anxiety symptoms. The present study extends current understanding of anxiety symptoms by using an intensive longitudinal design to describe and explain person-level variability in anxiety symptoms in early adolescence with a sample of ethnically diverse youth. The findings confirm that frequent assessment schedules may be particularly necessary for understanding anxiety symptoms in early adolescence, a period when greater within- and between-person variability in developmental outcomes may be normative (Cicchetti & Rogosch, 2002; Masten, 2006).

This study was guided by four research goals. The first goal was to examine fluctuations in adolescents' anxiety symptoms bi-weekly over eight weeks during the spring term of grade 7. The second goal was to examine co-variation between fluctuations in the frequency of adolescents' anxiety symptoms and their peer experiences (relational and physical peer victimization, friendship closeness). The third goal was to examine whether adolescents' individual characteristics (self-blaming attributions, social competence) influenced their anxiety symptoms and moderated the co-variation between their anxiety symptoms and their peer experiences. The fourth goal was to examine gender differences in these associations.

Overall, the findings indicate that while both girls and boys experienced significant fluctuations in their anxiety symptoms across the eight weeks, girls experienced greater fluctuations relative to boys. Further, on weeks where adolescents experienced more frequent peer victimization, they also concurrently experienced more frequent anxiety symptoms. Adolescents who made more self-blaming attributions also experienced more frequent anxiety symptoms, whereas socially competent adolescents experienced less frequent anxiety symptoms. However, closeness in adolescents' friendships did not co-vary with their anxiety symptoms and no moderating effects were found for the individual characteristics including gender. The following discussion addresses implications of these findings for developmental psychopathology as well as limitations of this study and future directions for research.

Fluctuations in Anxiety Symptoms

On average, adolescents reported low frequencies of anxiety symptoms across eight weeks. This finding was not surprising given that the sample was drawn from a typically developing population of seventh graders among whom average frequencies of anxiety were expected to be lower relative to a clinical population (Beesdo et al., 2009). Because a strength of this study is the diversity of the sample, this finding suggests the frequencies of anxiety typically reported in epidemiological and community studies with Caucasian youth may transcend to ethnic minority adolescents, particularly those from South Asian communities.

At every wave, some adolescents reported very high frequencies of anxiety symptoms. Furthermore, the moderate to high stability in anxiety symptoms suggests that adolescents somewhat maintained their rank-order of anxiety symptoms. This moderate

rank-order stability in anxiety suggests that the same individuals reported the higher frequencies of anxiety symptoms at each wave. These finding suggests that in any given sample of typically developing early adolescents, some individuals may experience frequent enough symptoms of anxiety to require additional attention and assistance. This finding also supports the normative principle of developmental psychopathology that suggests that maladjustment should be examined as a continuum rather than as discontinuous classifications of individuals who meet clinical cut-offs versus those who do not. At least among early adolescents, anxiety symptoms seem to be experienced in varying degrees by all individuals.

The presence of adolescents' anxiety symptoms and the range of these symptoms across adolescents and across this short time frame further reinforce the need to examine how each adolescent may experience fluctuations in anxiety symptoms. The first goal of this study was to examine fluctuations in adolescents' symptoms of anxiety across eight weeks to describe how typically developing adolescents experienced anxiety symptoms within a short time frame. In line with expectations, on average adolescents experienced significant fluctuations in their anxiety symptoms across eight weeks. Indeed, about one third of the total variability in adolescent anxiety symptoms across the sample was attributable to within-person sources, namely the bi-weekly fluctuations. Similar to research from the limited number of other studies using intensive assessment schedules (i.e., Morrow et al., 2014; Nishina, 2012), this finding suggests that short-term fluctuations in anxiety symptoms are part of normative adolescent development. Unlike other studies that have used intensive assessment schedules, the present research was unique in its focus on bi-weekly rather than daily variability. While studies that focus on

daily variability typically find that about one tenth of the variability in adolescent anxiety symptoms can be attributed to within-person sources (e.g., Schneiders et al., 2007), the findings from this study suggest that on average about one-third can be attributed to within-person sources within short time frames. Given that anxiety symptoms typically increase in early adolescence (Beesdo et al., 2009; Merikangas et al., 2010), this finding underscores the need to describe short-term fluctuations in addition to describing annual trajectories of change of adolescent anxiety symptoms as has been the dominant focus of the literature.

In addition to significant fluctuations in anxiety symptoms across eight weeks, adolescents' also demonstrated significant between-person variability across individuals in their anxiety symptoms and in the within-person fluctuation in anxiety across the study. Indeed, the majority of the variability in anxiety symptoms (i.e., two-thirds) was between adolescents. Transition periods in general and school transition years in particular can be a stressful time for adolescents (Martínez, Aricak, Graves, Peters-Myszak, & Nellis, 2011; van Roekel et al., 2015) that result in greater anxiety symptoms for some adolescents (De Wit, Karioja, Rye, & Shain, 2011). However, other adolescents may thrive during this period and see it as an opportunity to reinvent or find themselves, particularly when they get to choose optional classes that are based on their personal interests, and actually experience fewer anxiety symptoms during the transition year (Grills-Taquechel, Norton, & Ollendick, 2010). Given that anxiety symptoms in early adolescence can have negative consequences for concurrent and later development across diverse developmental areas (e.g., academic, romantic relationships, physical health; Vasey & Ollendick, 2000), intensive short-term research is needed with this age group

and in non-clinically referred samples in particular to better understand the risks and protective factors that contribute to anxiety symptoms and to within-person variability in anxiety symptoms in early adolescence.

Co-variation with Peer Experiences

The systems principle of developmental psychopathology reinforces the need to understand how the contexts within which individual are embedded influence their development (Masten, 2006; Sameroff, 2000). Based on the idea that the peer context is a particularly salient component of early adolescent development and that manoeuvring competently within this context may be a key developmental task for early adolescents (Warren & Sroufe, 2004; Westenberg et al., 2001), this study also examined how peer experiences contributed to early adolescents' anxiety symptoms. In particular, the second goal of this study was to examine whether bi-weekly fluctuations in adolescents' anxiety symptoms co-varied with their peer experiences. It was hypothesized that peer victimization may be a peer risk factor that increases adolescents' risks for experiencing anxiety symptoms. It was also hypothesized that friendship closeness may be a peer protective factor that decreases their risks for experiencing anxiety symptoms.

In line with expectations based on the literature on peer victimization and anxiety symptoms (Cillessen & Lansu, 2015; Hoglund & Hosan, 2013; Stapinski et al., 2015), on weeks when boys and girls experienced greater peer victimization, they also concurrently experienced more anxiety symptoms. This finding was true of both relational and physical subtypes of peer victimization. Experiences of peer victimization may contribute to adolescents' feelings of distress and make them understandably worried about social situations both at school and outside of school, such as during extra-curricular activities.

Adolescents' worries may also extend outside of social situations to academic circumstances such as classroom discussions where they may be at risk for experiencing ostracizing by peers, particularly if they feel that the peer victimization is due to something that is internal to them that they cannot change (Graham & Juvonen, 1998). They may worry that looking a certain way or saying certain things may cause them to attract unwanted attention from peers. Conversely, it may be that anxious adolescents are more likely to be victimized by peers (Siegel et al., 2009). Anxious adolescents may freeze during confrontations with peers and be unable to defend themselves (Schmidt, Richey, Zvolensky, & Maner, 2008), making them easy targets for peer victimization (Mooren & Minnen, 2014). Anxious adolescents may also lack the social competence and social skills to successfully manage peer conflicts and navigate social situations (Kaeppler & Erath, 2016). This finding extends current understanding of how peer victimization may contribute to anxiety symptoms by suggesting that these associations unfold much quicker in time than would be indicated by the majority of the literature on the associations between peer victimization and anxiety that employs semi-annual or annual evaluations (Reijntjes, Kamphuis, Prinzie, & Telch, 2010). This finding also reinforces that fluctuations in adolescent anxiety symptoms are contingent on their everyday experiences that may also vary within a short period of time.

Although physical and relational victimization each uniquely co-varied with anxiety symptoms when both types of peer victimization were accounted for simultaneously, relational victimization explained a greater proportion of variance in anxiety symptoms relative to physical victimization. Likewise, the bivariate associations between anxiety symptoms and relational victimization were stronger both within and

across waves. These findings support the existence of some domain specificity in the associations between peer victimization and anxiety symptoms: relational victimization may be more harmful for early adolescents' anxiety symptoms relative to physical victimization (Hoglund, 2007). Because relational victimization threatens adolescents' social standing and relationships, experiencing relational victimization may limit adolescents' opportunities to discuss their experiences of victimization with peers. Additionally, relational victimization can be perpetrated without the victimized adolescents' presence (Crick & Grotpeter, 1996). If adolescents are unaware of who the perpetrator of the victimization is, adolescents may have fewer external recourses for dealing with the victimization (e.g., such as reporting the perpetrator to an adult or standing up to the perpetrator). Thus, adolescents faced with relational victimization may be more likely to they focus on their internal state and internalize their distress.

This study also examined friendship closeness as a contextual protective factor that may co-vary negatively with adolescents' anxiety symptoms. It was hypothesized that on weeks when adolescents experienced more friendship closeness, they would also report less frequent anxiety symptoms but this hypothesis was not supported. This finding is in contrast with literature that suggests that higher quality friendships and friendships that are characterized by elements of closeness, such as intimacy and support, are negatively associated concurrently (La Greca & Lopez, 1998) and prospectively (Waldrip et al., 2008) with anxiety symptoms. Examinations of the bivariate associations between anxiety symptoms and friendship closeness reveal that while anxiety symptoms at wave 1 were correlated with friendship closeness at all waves and friendship closeness at wave 1 was correlated with anxiety symptoms at waves 2 and 3, none of the other associations

between these two constructs was significant. And contrary to expectations, all significant bivariate associations between anxiety symptoms and friendship closeness were positive across the whole sample. Examining these associations by gender indicates that while these associations were often negative for girls, they were consistently positive for boys. Although unexpected, these findings are in line with research that suggests that higher emotional support from friends may be associated with more concurrent internalizing problems for early adolescent boys (Yeung Thompson & Leadbeater, 2013). It is possible that adolescents select friends based on similar levels of anxiety and overtime these friends socialize each other to become more anxious (Van Zalk,Van Zalk, Kerr, & Stattin, 2011). Furthermore, research on co-rumination suggests that closeness in these friendships between anxious adolescents is maintained via shared co-rumination about problems and anxious thoughts (Rose, Carlson, & Waller, 2007). Thus, it may be that the association between friendship closeness and anxiety symptoms is moderated by other variables not assessed in this study, such as co-rumination, and that for some adolescents closeness in their friendships is negatively related to their anxiety symptoms while for other adolescents closeness in their friendships is positively related to their anxiety symptoms. This interpretation would be an example of the developmental principle of developmental psychopathology and highlight the complexities involved in understanding factors that contribute to developmental outcomes.

Alternatively, friendship closeness may be a more stable aspect of adolescents' friendships quality (e.g., relative to friendship conflict or conflict resolution) that does not co-vary with anxiety symptoms as readily over shorter periods of time. In support of this idea, research that examined changes in friendship commitment, one aspect of friendship

closeness defined as attachment to the friendship and efforts to maintain the friendship over time, across ages 12 to 20 found that friendship commitment remained stable across adolescence for most adolescents (Selfhout, Branje, & Meeus, 2009). However, other dimensions of friendship quality such as friendship conflict and problem solving demonstrated change over the same period for most adolescents. Conversely, negative dimensions of adolescents' friendship quality, such as friendship conflict, may be more closely linked to their experiences of anxiety symptoms compared to more positive dimensions of friendship quality, such as friendship closeness. For example, as friendship conflict and closeness are considered to be two distinct and orthogonal dimensions of friendship quality (Berndt, 1996), although close friends may fight and the tension that results from that fight may contribute to concurrent anxiety for the friends, the overall level of closeness in that friendship may not be affected by the fight. Furthermore, close friends are often better than non-friends at resolving relationship conflict (Bagwell & Schmidt, 2013). Therefore, future studies that examine the associations between different aspects of adolescents' friendship qualities and their anxiety symptoms separately may find positive associations between anxiety and friendship conflict and negative associations between anxiety and friendship conflict resolution.

Main and Moderating Effects of Individual Characteristics

The systems principle of developmental psychopathology also reinforces the need to understand how interactions between individuals' characteristics and their contexts may influence their development (Masten, 2006; Sameroff, 2000). In line with this idea, the third goal of this study was to examine how adolescents' individual characteristics of self-blaming attributions and social competence may increase or decrease their risks for

anxiety symptoms, and whether these individual characteristics interacted with adolescents' peer experiences to influence their anxiety symptoms. It was hypothesized that adolescents who were more likely to endorse self-blaming attributions for their negative peer experiences would also be more likely to experience frequent anxiety symptoms. This was expected to be more likely if they also concurrently experienced more frequent peer victimization and less likely if they also concurrently experienced higher friendship closeness. These hypotheses were partially supported.

Making more self-blaming attributions increased adolescents' risks for experiencing more frequent anxiety symptoms such that adolescent boys and girls who made more self-blaming attributions reported more frequent anxiety symptoms. Adolescents who make more self-blaming attributions attribute negative experiences to internal, stable, and global causes and positive experiences to external, unstable, and specific causes (Chen & Graham, 2012). These adolescents may be at greater risk for anxiety symptoms because their attributions influence their beliefs about whether or not they can control their circumstances (Graham & Juvonen, 1998), their explanations for their circumstances (Schacter et al., 2015), and their behavioural and emotional their responses to these circumstances (Perren et al., 2013). Regularly dismissing their positive experiences as mere flukes or events of chance occurrence, and blaming themselves for their negative experiences may mean that these adolescents were more likely to have anticipated regular negative experiences. This anticipation of hypothetical negative scenarios that may or may not have manifested may have increased these adolescents' fears and worries regarding these scenarios.

Contrary to expectations, adolescents' self-blaming attributions did not interact with adolescents' peer victimization to influence their anxiety symptoms in this study. This finding is in contrast with other literature that indicates that peer victimization and self-blaming attributions should compound each other's negative effects (Gibb & Alloy, 2006; Graham & Juvonen, 1998; Prinstein et al., 2005). Perhaps the omission of depressive symptoms (Gibb & Alloy, 2006; Prinstein et al., 2005) or the assessment of general symptoms of anxiety instead of social symptoms of anxiety (Graham & Juvonen, 1998) dampened the interactive effects of peer victimization and self-blaming attributions in this study. Interestingly, the bivariate associations between self-blaming attributions, anxiety symptoms, and relational victimization, but not physical victimization, were all significant and positive for the first four waves of data collection. This finding suggests that the associations between self-blaming attributions and relational victimization at least may be more direct than moderational (e.g., adolescents who make more self-blaming attributions are more likely to experience relational victimization or vice versa), just like the association between self-blaming attributions and anxiety symptoms. This association was not examined as the focus here was on anxiety symptoms as an outcome, but may nevertheless be an interesting avenue for future research.

Adolescents' self-blaming attributions also did not interact with their friendship closeness to influence their anxiety symptoms. It was expected that adolescents with higher closeness friendships, a peer protective factor, would be buffered from the negative effects of self-blaming attributions. That is, adolescents who experienced friendships with higher levels of closeness and made more self-blaming attributions would experience fewer anxiety symptoms compared to adolescents who made more self-

blaming attributions but who did not experience friendships with higher levels of closeness. This hypothesis was also not supported. Future studies may benefit from examining alternative paths of influence between adolescents' individual characteristics, their peer experiences, and their anxiety symptoms. In addition to the direct paths mentioned in the above paragraph, it may be that self-blaming attributions mediate the association between peer experiences and anxiety (Schacter et al., 2015).

In addition to self-blaming attributions, social competence was also examined as an individual characteristic that may contribute to adolescents' anxiety symptoms. It was hypothesized that adolescents who were more socially competent would be less likely to experience anxiety symptoms in general, but especially compared to adolescents who were less socially competent and who experienced peer victimization. This hypothesis was also partially supported. There was a main effect of social competence on anxiety symptoms, so that relative to less socially competent adolescents, socially competent girls and boys reported fewer anxiety symptoms across the eight weeks. Given that social competence influences emotional self-regulation and social cognition (Bornstein et al., 2010), socially competent adolescents may be better able to regulate their negative feelings about their negative experiences and may make more adaptive attributions about these experiences (i.e., "Just because something bad happened to me today doesn't mean that it will always happen to me."). Further, competency-based models of internalizing suggest that feedback about social interactions from social partners influence adolescents' feelings about themselves following the social interaction (Cole, 1991). More socially competent adolescents may react more adaptively to negative situations (i.e., by communicating effectively about their feelings) and therefore receive more positive

feedback about these experiences relative to less socially competent adolescents, and in turn experience more positive emotions following the experience.

However, like self-blaming attributions, adolescents' social competence also did not interact with their peer victimization to moderate the associations between their anxiety symptoms and their peer experiences. It may be possible that social competence shapes adolescents' peer experiences in more direct ways. That is, more socially competent adolescents may not only experience fewer anxiety symptoms, but may also experience less peer victimization (Crawford & Manassis, 2011). This is partially supported in this study by the few negative bivariate associations between social competence and relational victimization.

Gender Differences

The fourth and final goal of this study was to examine the main effects of gender on fluctuations in anxiety symptoms, whether gender moderated the co-variation between anxiety symptoms and peer experiences, and whether gender moderated the associations between anxiety symptoms, peer experiences, and adolescents' individual characteristics. Consistent with findings from other studies with adolescents (Grills-Taquechel et al., 2010; Merikangas et al., 2010), girls reported a greater frequency of anxiety symptoms at the start of the study. However, girls did not continue to report more frequent anxiety symptoms at subsequent waves. Thus, no gender differences were found in the average frequency of anxiety symptoms across eight weeks. As the beginning of data collection coincided with the start of a new term and new optional classes with reconfigured peer settings for adolescents in this study, it may be that girls experience more stress and anxiety during times of transitions or social change than boys (Shih et al., 2006). Perhaps

as girls acclimatized to the optional classes and the reconfigured peer settings, they no longer reported more frequent anxiety symptoms. That girls reported more anxiety symptoms at the start of the study and the term but not throughout might also explain why more traditional studies that typically assess anxiety symptoms at key times throughout the year (e.g., at the start or very end of the school year; Carballo et al., 2009; Hale et al., 2008) find gender differences in anxiety symptoms while intensive longitudinal studies that seek to capture daily variability over typical days do not find such gender differences (e.g., Schneiders et al., 2007; Uink et al., 2017).

Also consistent with the literature (Duchesne & Ratelle, 2016; Sterba et al., 2007), girls demonstrated greater variability in anxiety symptoms. However, unlike other studies that have focused on gender differences in group-level variability in adolescent anxiety symptoms, the present study was unique in its examination of gender-differences in person-level variability in anxiety. Girls demonstrated both less rank-order stability and more within-person fluctuations in anxiety symptoms across eight weeks compared to boys. Research with adolescents suggests that girls may be more likely to react more strongly to both negative and positive events that happen to them (Charbonneau, Mezulis, & Hyde, 2009). This greater reactivity may contribute to the greater within-person fluctuations in anxiety symptoms for girls. Importantly, greater within-person fluctuations appear to be more common among groups that are at higher risk for continued and greater prospective maladjustment as it may suggest an inability to regulate emotions or thoughts (e.g. Ram & Gerstorf, 2009). While this has not been examined for adolescent anxiety, it may be a worthwhile avenue for future research as

girls' greater within-person fluctuations in anxiety in early adolescence may exacerbate their risks for more frequent prospective anxiety symptoms.

Girls also consistently reported higher mean-levels of friendship closeness at each bi-weekly assessment period throughout the study. This finding is consistent with research that examines gender differences at a single point in time or longitudinally over several months or years (Bagwell & Schmidt, 2013). However, gender did not moderate the association between friendship closeness and anxiety symptoms. This was consistent with expectations and may be because friendship closeness did not co-vary with anxiety symptoms in this study or because gender interacts with other constructs not measured here, such as co-rumination (Shwartz et al., 2015), to moderate the association between anxiety symptoms and friendship closeness.

The analyses revealed no other significant main or moderating effects of gender. Perhaps because there were no gender differences in the average frequency of adolescents' anxiety symptoms, gender also did not moderate the co-variation between anxiety symptoms and peer victimization or the associations between anxiety symptoms, peer experiences, and adolescents' individual characteristics. Based on the literature (Grills & Ollendick, 2002), no gender differences were expected between peer victimization and anxiety symptoms and so the lack of gender differences in this association is consistent with expectations. Last, gender did not moderate the associations of adolescents' anxiety symptoms, peer experiences and individual characteristics perhaps due to a masking of effects by the lack of other significant associations or because the sample size in this study was too small to detect these three-way interactions.

Limitations and Future Directions

This study addresses gaps in the literature on anxiety by examining short-term fluctuations in anxiety symptoms with a community-based, non-clinically referred, and ethnically diverse sample. Nevertheless, there are also some limitations to this study. First, because all measures were self-reported, co-variance between anxiety symptoms and peer victimization and the individual characteristics may have been overestimated due to shared method bias. However, for internalizing problems such as anxiety symptoms, self-reports are often the most valid indicator of adolescents' mental health as adolescents may mask their symptoms in front of parents, teachers and peers (Zahn-Waxler Klimes-Dougan, & Slattery, 2000). Further, adolescents are also not likely to explicitly vocalize their self-blaming attributions to others in everyday situations. Last, as this study was focused mainly on adolescents' perceptions of closeness in their friendships and on their experiences of peer victimization, their self-reports of these constructs was deemed to be the best indicator. In particular, adolescents' experiences of peer victimization may be underestimated by adults who are not always present during or aware of incidents of peer victimization, particularly relational victimization (Bradshaw, Sawyer, & O'Brennan, 2007). On the other hand, as adolescents are more likely to underestimate social skills such as social competence (Cartwright-Hatton et al., 2015; Miers et al., 2011), future studies could use teacher- or peer-ratings that might present a more objective assessment of adolescents' social competence (Renk & Phares, 2004). However, adolescents' perception of their own social competence may be more meaningful for their mental health.

Friendship closeness within reciprocated friendships was also not examined and this may have influenced the findings. Reciprocated friendships may be characterized by higher levels of friendship closeness relative to non-reciprocated friendships (Bagwell & Schmidt, 2013; Berndt & McCandless, 2009). Thus, friendship reciprocity may moderate the association between friendship closeness and anxiety symptoms (i.e., the association between friendship closeness and anxiety symptoms may only be present within reciprocated friendships). However, the primary focus of this study was on adolescents' own perceptions of their friendship closeness as this was expected to be most related to their anxiety symptoms. Furthermore, given the modest consent rates in this study, it was not possible to determine whether or not friendship nominations with non-participating students were reciprocated. Future studies on short-term fluctuations in anxiety symptoms may benefit from examining whether the association between friendship closeness, or other dimensions of friendship quality, and anxiety symptoms vary based on whether or not only reciprocated friendships are included in the study.

Future studies may also benefit from examining other dimensions of friendship quality, including friendship conflict and friendship companionship. Friendship conflict, in particular, may be particularly associated with fluctuations in anxiety symptoms and may represent a dyadic peer risk factor. On the other hand, friendship companionship is another positive aspect of friendship quality that may be a dyadic peer protective factor.

Last, some of the measures used in this study did not reach full scalar invariance across gender. This is a limitation of this study as full scalar group invariance is best suited for examining mean-level differences across groups in the criterion constructs (Widaman et al., 2010). Additionally, the internal consistencies for some of the constructs

were lower than .70, which may have implications for the ability to reliably detect effects in this study (Nunnally & Bernstein, 1994). However, these low alpha values represented 7.8% (4 of 51) of all the alphas across gender and waves. Nevertheless, these limitations in combination with the modest consent rate of this study means that findings from this study should be generalized with some caution. Future studies may wish to use different measures to improve their ability to reliability detect effects or to detect smaller effects that may still be practically meaningful. Alternatively, future studies may wish to adopt a passive consent procedure if so permitted by their local research ethics board to improve the consent rates. Passive consent procedures have been used to improve consent rates when working with adolescent populations where obtaining active consent can be more difficult (Pokorny, Jason, Schoeny, Townsend, & Curie, 2001), such as populations where English is a second or third language for much of the adolescent population as in this study. Furthermore, a barrier to higher consent rates in this study was that adolescents simply did not bring consent forms back regardless of consent status. Therefore, a strategy that could be used to improve consent rates in future studies is to be able to give consent forms directly to the parents of the adolescents, such as during parent-teacher interviews.

Anxiety symptoms are some of the most commonplace experiences for many adolescents and increase in early adolescence on average (Merikangas et al., 2010). However, while much research exists on adolescents' experiences of internalizing symptoms, depressive symptoms, or specific anxiety disorders, which are less common, few studies have focused specifically on anxiety symptoms in typically developing adolescents (Rapee, Schniering, & Hudson, 2009). Further, despite evidence that anxiety

symptoms can fluctuate daily or weekly (Schneiders et al., 2007, Uink et al., 2017), even fewer studies have described or explained fluctuations in these symptoms. Lastly, understanding of adolescent anxiety symptoms is limited by the lack of studies that represent ethnically diverse adolescents. The current study is unique in its examination of short-term fluctuations and the risk and protective factors that may contribute to such fluctuations in adolescent anxiety symptoms. This study is also unique in its use of an ethnically diverse sample; studies with ethnically diverse adolescents are critical for informing clinical practice with ethnically diverse youth. Findings from this study suggest that while fluctuations in anxiety symptoms may be a normative experience for early adolescents, adolescents vary greatly in their experiences of fluctuations in anxiety symptoms. In particular, girls experience substantially more fluctuations in anxiety symptoms in early adolescence. Given that girls are at greater risk for experiencing more frequent anxiety symptoms starting in adolescence and beyond, future studies may wish to explore the association between within-person variability in anxiety symptoms in early adolescence and later anxiety symptoms.

This study also adds to knowledge about anxiety symptoms by combining two separate bodies of research on cognitive and peer risk factors. The findings from this study support the developmental psychopathology notion of equifinality that different risk factors, such as self-blaming attributions and peer victimization, may lead to anxiety symptoms. Further, in an area that focuses primarily on risk factors, this study finds that positive individual characteristics, such as adolescents' social competence may alleviate adolescents' risk for experiencing anxiety symptoms for both adolescent boys and girls. While this study focused on describing and explaining short-term fluctuations in

adolescent anxiety symptoms, a key focus of the developmental psychopathology approach used in this study is translating descriptions and explanations of maladjustment into interventions that can optimize development. Findings from this study confirm that anxiety prevention and intervention efforts should focus not only on reducing risk factors, but also on promoting protective factors. For example, promoting social competence, particularly the ability to make and keep friends, may be helpful in reducing adolescents' risks for elevated anxiety symptoms. Findings from this study also suggest that greater emphasis on understanding individual experiences of anxiety symptoms, particularly during developmental periods of rapid change, may shed additional light on how to mitigate risks for frequent and excessive anxiety symptoms. With a better understanding of within-person fluctuations in anxiety symptoms, frequent and excessive anxiety symptoms may no longer be such a commonplace experience.

Table 1

Measurement Invariance Across Gender for Anxiety Symptoms, Peer Experiences, and Individual Characteristics at Wave 1

	Model Fit Indicators						
Variables	**χ^2(*df*)**	**BIC**	**CFI**	**RMSEA (90% CI)**	**SRMR**	**Loadings**	**$\chi^2\Delta$(df_{diff})**
Anxiety Symptoms							
CFA	5.83 (2), $p = .05$	2065.63	.99	.10 (.00 - .21)	.02	.61 - .84	
Configural	5.96 (4), $p = .20$	2085.10	.99	.07 (.00 - .19)	.02	.33 - .88	
Metric	11.18 (7), $p = .13$	2074.73	.98	.08 (.00 - .17)	.05	.42 - .89	5.22 (3), $p = .16$
Partial Scalar[b]	**17.76 (10), $p = .06$**	**2065.74**	**.97**	**.09 (.00 - .16)**	**.09**	**.43 - .90**	**6.58 (3), $p = .09$**
Physical Victimization							
CFA	12.42 (5), $p = .03$	1834.74	.95	.09 (.03 - .16)	.04	.36 - .76	
Configural	20.15 (10), $p = .03$	1778.44	.94	.11 (.03 - .17)	.05	.21 - .97	
Metric	28.10 (14), $p = .01$	1765.62	.92	.11 (.05 - .16)	.09	.19 - .98	7.95 (4), $p = .09$
Scalar	**37.25 (19), $p < .01$**	**1748.81**	**.90**	**.10 (.05 - .15)**	**.11**	**.20 - .98**	**9.15 (5), $p = .10$**
Relational Victimization							
CFA	47.28 (5), $p < .01$	1738.97	.89	.22 (.16 - .28)	.07	.40 - .87	
Configural	**55.50 (10), $p < .01$**	**1787.03**	**.89**	**.23 (.17 - .28)**	**.08**	**.31 - .89**	
Metric	72.50 (14), $p < .01$	1783.27	.86	.22 (.17 - .27)	.12	.41 - .88	17.00 (4), $p < .01$
Scalar	74.99 (19), $p < .01$	1759.79	.86	.18 (.14 - .23)	.12	.41 - .88	2.49 (5), $p = .77$
Friendship Closeness							
CFA	16.64 (5), $p = .01$	2268.55	.96	.11 (.06 - .18)	.04	.55 - .84	
Configural	14.63 (10), $p = .15$	2212.52	.98	.07 (.00 - .15)	.04	.31 - .82	
Metric	**23.95 (14), $p = .05$**	**2201.06**	**.95**	**.08 (.01 - .15)**	**.10**	**.27 - .79**	**9.32 (4), $p = .05$**
Scalar	74.72 (19), $p < .01$	2225.87	.73	.18 (.14 - .22)	.74	.41 - .86	50.77 (5), $p < .01$
Self-Blaming Attributions							
CFA[a]		477.87				.75 - .92	
Configural[a]		500.14				.71 - .96	
Metric	0.01 (1), $p = .92$	494.96	1.00	.00 (.00 - .11)	.01	.70 - .96	
Scalar	**0.77 (3), $p = .86$**	**485.33**	**1.00**	**.00 (.00 - .10)**	**.04**	**.70 - .96**	**0.76 (2), $p = .68$**

(Table 1 continued on next page.)

(Table 1 continued.)

Variables	Model Fit Indicators						
	χ^2(*df*)	**BIC**	**CFI**	**RMSEA (90% CI)**	**SRMR**	**Loadings**	**$\chi^2\Delta$(df_{diff})**
Social Competence							
CFA	0.37 (2), $p = .83$	1933.66	1.00	.00 (.00 - .09)	.01	.40 - .67	
Configural	3.87 (4), $p = .42$	1987.56	1.00	.00 (.00 - .16)	.03	.36 - .70	
Metric	**5.96 (7), $p = .54$**	**1974.09**	**1.00**	**.00 (.00 - .12)**	**.04**	**.38 - .67**	**2.09 (3), $p = .55$**
Scalar	38.84 (11), $p < .01$	1986.22	.68	.17 (.11 - .23)	.18	.38 - .75	32.88 (4), $p < .01$

Note. Model in boldface represents the highest level of invariance achieved. [a] Model was just identified; only BICs and standardized loadings are reported. [b] Partial scalar invariance was achieved by removing equality constraints for one of four intercepts.

Table 2

Descriptive Statistics of Anxiety Symptoms, Peer Experiences, and Individual Characteristics Overall and by Gender

	Overall					Girls				Boys				
Variables	**α**	***N***	**Mean**	***SD***	**Range**	**α**	***n***	**Mean**	***SD***	**α**	***n***	**Mean**	***SD***	***t (df)***
Anxiety Symptoms														
Wave 1	.83	180	0.92	0.95	0.00-4.00	.87	109	1.08[a]	1.06	.65	71	0.67	0.70	2.93 (178)
Wave 2	.84	172	0.83	0.92	0.00-4.00	.83	105	0.90	0.94	.87	67	0.73	0.87	1.25 (170)
Wave 3	.87	167	0.72	0.90	0.00-4.00	.86	102	0.79	0.93	.88	65	0.61	0.86	1.25 (165)
Wave 4	.89	166	0.66	0.90	0.00-4.00	.89	102	0.68	0.87	.89	64	0.64	0.95	0.30 (164)
Wave 5	.93	165	0.60	0.95	0.00-4.00	.92	99	0.68	0.97	.94	66	0.48	0.91	1.28 (163)
Peer Experiences														
Physical Victimization														
Wave 1	.70	180	0.32	0.52	0.00-2.75	.67	109	0.26	0.46	.72	71	0.40	0.58	-1.88 (178)
Wave 2	.68	172	0.22	0.44	0.00-2.50	.70	105	0.20	0.45	.64	67	0.24	0.43	-0.58 (170)
Wave 3	.69	167	0.22	0.44	0.00-2.75	.68	102	0.18	0.41	.68	65	0.28	0.48	-1.41 (165)
Wave 4	.75	166	0.22	0.48	0.00-3.00	.68	102	0.17	0.38	.77	64	0.31	0.60	-1.92 (164)
Wave 5	.75	165	0.21	0.44	0.00-2.25	.76	99	0.15	0.36	.74	66	0.30	0.52	-1.47 (163)
Relational Victimization														
Wave 1	.84	179	0.34	0.61	0.00-3.80	.86	109	0.31	0.62	.79	70	0.39	0.61	-0.81 (178)
Wave 2	.89	171	0.30	0.64	0.00-3.40	.88	104	0.24	0.62	.88	67	0.38	0.67	-1.42 (170)
Wave 3	.86	167	0.23	0.56	0.00-3.80	.84	102	0.17	0.47	.87	65	0.32	0.67	-1.67 (165)
Wave 4	.82	166	0.18	0.45	0.00-2.60	.70	102	0.11[a]	0.31	.87	64	0.30	0.60	-2.69 (164)
Wave 5	.95	165	0.19	0.63	0.00-4.00	.95	99	0.17	0.59	.95	66	0.22	0.69	-0.45 (163)
Friendship Closeness														
Wave 1	.81	179	3.14	0.76	0.00-4.00	.74	109	3.43[a]	0.57	.78	70	2.69	0.81	7.13 (178)
Wave 2	.85	172	3.08	0.83	0.00-4.00	.77	105	3.39[a]	0.60	.84	67	2.59	0.90	7.01 (170)
Wave 3	.87	167	3.04	0.90	0.00-4.00	.82	102	3.39[a]	0.65	.85	65	2.48	0.95	7.37 (165)
Wave 4	.88	165	2.97	0.93	0.00-4.00	.88	102	3.26[a]	0.84	.83	63	2.49	0.88	5.64 (163)
Wave 5	.87	164	2.99	0.87	0.60-4.00	.84	98	3.39[a]	0.64	.80	66	2.41	0.84	8.42 (162)
Individual Characteristics														
Self-Blaming Attributions	.88	179	0.45	0.49	0.00-2.19	.88	109	0.47	0.49	.89	70	0.42	0.51	0.71 (178)
Social Competence	.66	178	1.77	0.68	0.00-3.00	.65	109	1.70	0.68	.65	69	1.89	0.66	-1.87 (178)

Note. [a]Means differ significantly ($p < .05$) between girls and boys.

Table 3

Bivariate Correlations between Anxiety Symptoms, Peer Experiences and Individual Characteristics at Waves 1 to 5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Anxiety																					
1. Wave 1																					
2. Wave 2	**.72***																				
3. Wave 3	**.70***	**.73***																			
4. Wave 4	**.56***	**.73***	**.74***																		
5. Wave 5	**.51***	**.65***	**.68***	**.86***																	
Peer Experiences																					
Physical Victimization																					
6. Wave 1	.30*	.26*	.34*	.36*	.31*																
7. Wave 2	.10	.15*	.14	.17*	.11	**.50***															
8. Wave 3	.20*	.21*	.32*	.30*	.26*	**.70***	**.53***														
9. Wave 4	.16*	.22*	.19*	.30*	.15	**.62***	**.61***	**.72***													
10. Wave 5	.07	.18*	.19*	.28*	.28*	**.53***	**.50***	**.56***	**.67***												
Relational Victimization																					
11. Wave 1	.49*	.46*	.39*	.34*	.32*	.42*	.09	.34*	.24*	.29*											
12. Wave 2	.41*	.51*	.38*	.40*	.34*	.33*	.24*	.30*	.32*	.33*	**.67***										
13. Wave 3	.39*	.40*	.45*	.38*	.33*	.32*	.10	.37*	.23*	.27*	**.66***	**.73***									
14. Wave 4	.28*	.35*	.35*	.40*	.30*	.53*	.24*	.46*	.54*	.43*	**.52***	**.68***	**.77***								
15. Wave 5	.20*	.24*	.35*	.43*	.44*	.29*	.08	.30*	.20*	.53*	**.42***	**.43***	**.59***	**.53***							
Friendship Closeness																					
16. Wave 1	.23*	.18*	.18*	.10	.12	-.15	-.07	-.14	-.16*	-.12	-.04	.02	-.10	-.16*	-.04						
17. Wave 2	.16*	.06	.09	.01	.10	-.13	-.17*	-.18*	-.14	-.19*	-.09	-.04	-.05	-.10	-.09	**.75***					
18. Wave 3	.19*	.11	.13	.07	.08	-.14	-.09	-.17*	-.14	-.19*	-.04	-.05	-.15	-.12	-.14	**.70***	**.75***				
19. Wave 4	.18*	.05	.03	-.02	.06	-.10	-.12	-.16*	-.20*	-.31*	.03	-.12	-.06	-.16*	-.12	**.65***	**.74***	**.70***			
20. Wave 5	.20*	.10	.11	-.04	.02	-.16*	-.14	-.19*	-.23*	-.30*	-.03	-.09	-.07	-.18*	-.18*	**.70***	**.71***	**.79***	**.83***		

(Table 3 continued on next page.)

(Table 3 continued.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Individual Characteristics																					
21. Attributions	.40*	.34*	.23*	.20*	.11	.11	-.02	.08	.14	.07	.36*	.36*	.31*	.27*	.06	.12	.14	.17*	.11	.13	
22. Competence	-.27*	-.28*	-.67*	-.12	-.09	-.05	.06	.02	.08	.04	-.27*	-.10	-.21*	-.04	-.07	-.05	.01	-.02	-.05	-.01	-.19*

Note. $N = 180$. Stability coefficients are in boldface. Individual characteristics were only assessed at wave 1.

*$p < .05$.

Table 4

Bivariate Correlations of Anxiety Symptoms at Waves 1 to 5 with Peer Experiences and Individual Characteristics by Gender

	Anxiety Symptoms Girls					**Anxiety Symptoms** Boys				
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Peer Experiences										
Physical Victimization										
Wave 1	.36*	.27*	.41*	.31*	.35*	.35*	.29*	.28*	.44*	.32*
Wave 2	.09	.11	.05a	.17	.08	.18	.24*	.30*a	.17	.17
Wave 3	.22*	.14a	.34*	.26*	.23*	.27*	.33*a	.33*	.36*	.33*
Wave 4	.16	.21*	.16	.26*	.20*	.31*	.27*	.26*	.36*	.15
Wave 5	.05	.09	.12	.21*	.26*	.22	.32*	.31*	.37*	.36*
Relational Victimization										
Wave 1	.51*	.48*	.37*	.22*	.24*	.57*	.44*	.46*	.52*	.48*
Wave 2	.42*	.49*	.26*a	.20a	.12a	.52*	.58*	.61*a	.67*a	.63*a
Wave 3	.36*	.36*	.43*	.17a	.18a	.59*	.48*	.55*	.62*a	.54*a
Wave 4	.21*	.33*	.28*	.17a	.15a	.57*	.45*	.50*	.63*a	.52*a
Wave 5	.11a	.12a	.32*	.32*	.32*	.43*a	.40*a	.42*	.56*	.61*
Friendship Closeness										
Wave 1	.23*	.08	.14	.16	.11	.02	.25*	.18	.04	.05
Wave 2	.11	-.02	.07	.00	-.08	.01	.07	.02	-.02	.00
Wave 3	.04	-.12a	-.07a	-.04	-.09	.23	.33*a	.28*a	.17	.20
Wave 4	.09	-.11a	-.08	-.09	-.04	.16	.22a	.13	.05	.14
Wave 5	.05	-.12a	-.07	-.24*a	-.21*a	.19	.28*a	.24	.11a	.16a
Individual Characteristics										
Wave 1 Attributions	.41*	.30*	.12	.07a	.01	.41*	.42*	.39*	.39*a	.25*
Wave 1 Competence	-.25*	-.25*	-.11	-.05	-.04	-.26*	-.30*	-.23	-.20	-.15

Note. N: Girls =109; Boys =70. [a]Correlations differ significantly ($p < .05$) between girls and boys.

*$p < .05$.

Table 5

Co-variation between Anxiety Symptoms and Physical Victimization Moderated by Individual Characteristics

	Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*
Intercept	.75*	.06	.75*	.06	.62*	.09	.66*	.08	.66*	.09
Gender					.23	.12	.16	.11	.09	.42
Attributions							.43*	.13	.47*	.19
Competence							-.30*	.10	-.34*	.14
Gender x Attributions									-.08	.25
Gender x Competence									.06	.20
Physical Victimization			.34*	.10	.22*	.11	.21	.11	.22*	.11
Gender					.24	.18	.23	.18	.51	.58
Attributions							.06	.22	-.04	.13
Competence							-.18	.15	-.05	.21
Gender x Attributions									.18	.42
Gender x Competence									-.22	.30
Variance (SD)										
L1, σ^2	.28	.53	.25	.50	.25	.49	.24	.49	.24	.49
L2 Intercept, r_{00j}	.60*	.77	.61*	.78	.60*	.78	.51*	.71	.52*	.72
Physical Victimization			.32*	.56	.32*	.57	.34*	.58	.35*	.59

Note. N: Girls = 87-88; Boys = 53-56. Unstandardized estimates and standard errors presented.

*$p < .05$.

Table 6

Co-variation between Anxiety Symptoms and Relational Victimization Moderated by Individual Characteristics

	Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*
Intercept	.75*	.06	.76*	.06	.62*	.09	.66*	.08	.66*	.09
Gender					.23	.12	.16	.11	.09	.42
Attributions							.43*	.13	.47*	.19
Competence							-.30*	.10	-.34*	.14
Gender x Attributions									-.07	.25
Gender x Competence									.06	.20
Relational Victimization			.59*	.10	.57*	.12	.56*	.12	.58*	.13
Gender					.04	.20	.05	.19	.01	.65
Attributions							.07	.11	-.09	.17
Competence							-.12	.16	-.07	.18
Gender x Attributions									.29	.23
Gender x Competence									-.08	.32
Variance (SD)										
L1, σ^2	.28	.53	.21	.46	.21	.46	.21	.46	.21	.46
L2 Intercept, r_{00j}	.60*	.77	.62*	.79	.61*	.78	.52*	.72	.53*	.72
Relational Victimization			.35*	.59	.37*	.61	.36*	.60	.40*	.63

Note. N: Girls = 87-88; Boys = 53-56. Unstandardized estimates and standard errors presented.

*$p < .05$.

Table 7

Co-variation between Anxiety Symptoms and Friendship Closeness Moderated by Individual Characteristics

	Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*	Est.	*SE*
Intercept	.75*	.06	.75*	.06	.62*	.09	.66*	.08	.66*	.09
Gender					.23	.12	.16	.11	.09	.42
Attributions							.43*	.13	.48*	.19
Competence							-.30*	.10	-.34*	.14
Gender x Attributions									-.08	.25
Gender x Competence									.06	.20
Friendship Closeness			-.05	.05	.01	.05	.00	.05	.01	.05
Gender					-.13	.10	-.13	.10	.05	.34
Attributions							-.19	.17	-.05	.10
Competence							-.02	.08	-.00	.11
Gender x Attributions									-.33	.35
Gender x Competence									.02	.15
Variance (SD)										
L1, σ^2	.28	.53	.27	.52	.27	.52	.27	.52	.27	.52
L2 Intercept, r_{00j}	.60*	.77	.60*	.77	.59*	.77	.49*	.70	.49*	.70
Friendship Closeness			.04	.20	.04	.21	.04	.21	.05	.22

Note. ***N***: Girls = 87-88; Boys = 53-56. Unstandardized estimates and standard errors presented.

*$p < .05$

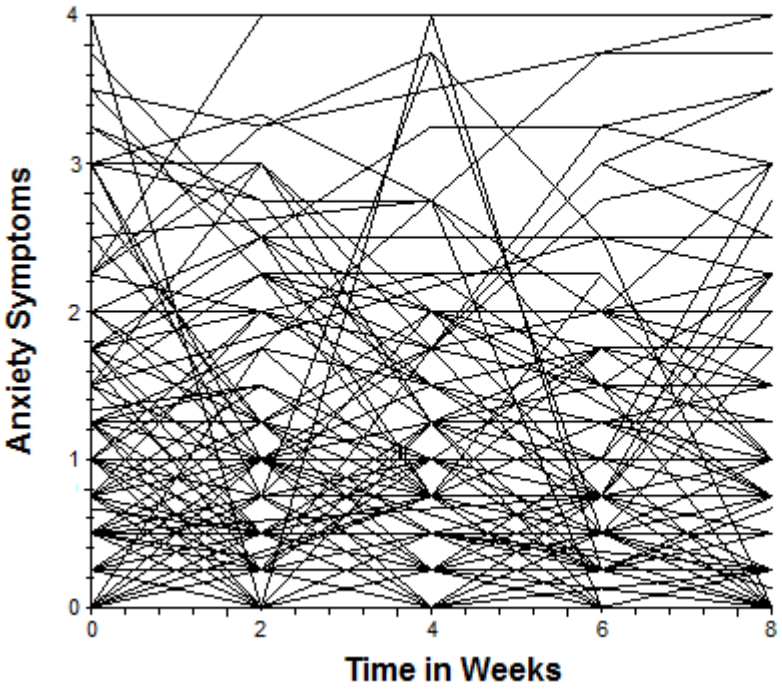

Figure 1. Within-Person Fluctuations in Anxiety Symptoms Across 8 Weeks.

Note. Each line represents a single adolescent's anxiety symptoms at each wave for the entire sample of adolescents (n = 180).

REFERENCES

Aikins, J. W., Bierman, K. L., & Parker, J. G. (2005). Navigating the transition to junior high school: The influence of pre-transition friendship and self-system characteristics. *Social Development*, *14*(1), 42-60.

Alloy, L. B., & Abramson, L. Y. (2007). The adolescent surge in depression and emergence of gender differences: A biocognitive vulnerability-stress model in developmental context. In D. Romer & E. F. Walker (Eds.), *Adolescent psychopathology and the developing brain: Integrating brain and prevention science* (pp. 284-312). Oxford: Oxford University Press.

Ansari, T. L., & Derakshan, N. (2011). The neural correlates of impaired inhibitory control in anxiety. *Neuropsychologia, 49*, 1146-1153.

Asher, S. R., & McDonald, K. L. (2009). The behavioral basis of acceptance, rejection, and perceived popularity. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 232-248). New York, NY: The Guildford Press.

Avila, C., & Parcet, M. A. (2002). The role of attentional anterior network on threat-related attentional biases in anxiety. *Personality & Individual Differences, 32*(4), 715-728.

Bagwell, C. L., & Schmidt, M. E. (2013). *Friendships in childhood and adolescence*. New York, NY: The Guilford Press.

Baker, J. R., & Hudson, J. L. (2013). Friendship quality predicts treatment outcome in children with anxiety disorders. *Behaviour Research and Therapy*, *51*, 31-36.

Baraldi, A. N., & Enders, C. K. (2010). An introduction to modern missing data analyses. *Journal of School Psychology*, *48*(1), 5-37.

Baxter, A. J., Scott, K. M., Vos, T., & Whiteford, H. A. (2013). Global prevalence of anxiety disorders: A systematic review and meta-regression. *Psychological Medicine, 43*, 897-910.

Beck, A. T., Brown, G. K., & Steer, R. A. (1997). Psychometric characteristics of the Scale for Suicide Ideation with psychiatric outpatients. *Behaviour Research and Therapy, 35*, 1039-1046.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II*. San Antonio: The Psychological Corporation.

Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and anxiety disorders in children and adolescents: Developmental issues and implications for DSM-V. *Psychiatric Clinics of North America, 32*, 483–524.

Bell-Dolan, D. J. (1995). Social cue interpretation of anxious children. *Journal of Clinical Child Psychology, 24*, 2–10.

Berndt, T. J. (1996). Exploring the effects of friendship quality on social development. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 346-365). New York: Cambridge University Press.

Berndt, T. J. (2004). Children's friendships: Shifts over a half-century in perspectives on their development and their effects. *Merrill-Palmer Quarterly, 50*(3), 206-223.

Berndt, T. J., & McCandless, M. A. (2009). Methods for investigating children's relationships with friends. In K. H. Rubin, W. M. Bukowski, & B. Laursen

(Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 63-81). New York, NY: The Guildford Press.

Berndt, T. J., Hawkins, J. A., & Jiao, Z. (1999). Influences of friends and friendships on adjustment to junior high school. *Merrill-Palmer Quarterly, 45* (1-), 13-41.

Bevans, K. B., Diamond, G., & Levy, S. (2012). Screening for adolescents' internalizing symptoms in primary care: Item response theory analysis of the Behaviour Health Screen Depression, Anxiety, and Suicidal Risk scales. *Journal of Developmental and Behavioral Pediatrics, 33*, 283-290.

Boker, S. M., Molenaar, P., & Nesselroade, J. R. (2009). Issues in intraindividual variability: individual differences in equilibria and dynamics over multiple time scales. *Psychology and aging*, *24*(4), 858.

Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods*. New York, NY: Guilford Press.

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology, 54*(1), 579-616.

Bollmer, J. M., Milich, R., Harris, M. J., & Maras, M. A. (2005). A friend in need: The role of friendship quality as a protective factor in peer victimization and bullying. *Journal Of Interpersonal Violence, 20*(6), 701-712.

Bongers, I. L., Koot, H. M., Van der Ende, J., & Verhulst, F. C. (2003). The normative development of child and adolescent problem behavior. *Journal of Abnormal Psychology, 112*(2), 179-192.

Bornstein, M. H., Hahn, C. S., & Haynes, O. M. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood

through early adolescence: Developmental cascades. *Development and Psychopathology*, *22*(04), 717-735.

Bowes, L., Joinson, C., Wolke, D., & Lewis, G. (2015). Peer victimisation during adolescence and its impact on depression in early adulthood: Prospective cohort study in the United Kingdom. *BMJ, 350*, 1-9.

Bradshaw, C. P., Sawyer, A. L., & O'Brennan, L.,M. (2007). Bullying and peer victimization at school: Perceptual differences between students and school staff. *School Psychology Review, 36*(3), 361-382.

Brendgen, M., Vitaro, F., Doyle, A. B., Markiewicz, D., & Bukowski, W. M. (2002). Same-sex peer relations and romantic relationships during early adolescence: Interactive links to emotional, behavioral, and academic adjustment. *Merrill-Palmer Quarterly, 48*(1), 77-103.

Briere, J. (1996). *Trauma symptom checklist for children*. Odessa, FL: Psychological Assessment Resources, 00253-8.

Brooks-Gunn, J. (1991). How stressful is the transition to adolescence for girls. In Colten, M. E., & Gore, S. (Eds.). *Adolescent Stress: Causes and Consequences* (pp. 131-149). Transaction Publishers.

Brown, B. B., & Larson, J. (2009). Peer relationships in adolescence. In Lerner, R. M., & Steinberg, L. (Eds). *Handbook of Adolescent Psychology*. John Wiley & Sons.

Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Development*, *61*(4), 1101-1111.

Bukowski, W. M., Buhrmester, D., & Underwood, M. K. (2011). Peer relations as a developmental context. In M. K. Underwood & L. H. Rosen (Eds.) *Social*

development: Relationships in infancy, childhood, and adolescence (pp. 153-179). Guilford Press.

Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships, 11*, 471-484.

Cairns, R. B., Leung, M. C., Buchanan, L., & Cairns, B. D. (1995). Friendships and social networks in childhood and adolescence: Fluidity, reliability, and interrelations. *Child Development, 66*(5), 1330-1345.

Camacho, K., Ehrensaft, M. K., & Cohen, P. (2012). Exposure to intimate partner violence, peer relations, and risk for internalizing behaviors: A prospective longitudinal study. *Journal of Interpersonal Violence, 27*, 125-141.

Cannon, M. F., & Weems, C. F. (2010). Cognitive biases in childhood anxiety disorders: Do interpretive and judgment biases distinguish anxious youth from their non-anxious peers? *Journal of Anxiety Disorders, 24*(7), 751–758.

Carballo, J. J., Baca-Garcia, E., Blanco, C., Perez-Rodriguez, M. M., Arriero, M. A. J., Artes-Rodriguez, A., ... Oquendo, M. A.. (2009). Stability of childhood anxiety disorder diagnoses: A follow-up naturalistic study in psychiatric care. *European Child & Adolescent Psychiatry, 19*(4), 395-403.

Carlyle, K. E., & Steinman, K. J. (2007). Demographic differences in the prevalence, co-occurrence, and correlates of adolescent bullying at school. *Journal of School Health, 77*(9), 623-629.

Cartwright-Hatton,S., McNicol, K., & Doubleday, E. (2006). Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical Psychology Review, 26*(7), 817–833.

Charbonneau, A. M., Mezulis, A. H., & Hyde, J. S. (2009). Stress and emotional reactivity as explanations for gender differences in adolescents' depressive symptoms. *Journal of Youth and Adolescence, 38*(8), 1050-1058.

Chen, X., & Graham, S. (2012). Close relationships and attributions for peer victimization among late adolescents. *Journal of Adolescence, 35*, 1547-1556.

Chen, X., Chang, L., & He, Y. (2003). The peer group as a context: Mediating and moderating effects on relations between academic achievement and social functioning in Chinese children. *Child Development*, *74*(3), 710-727.

Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., & Saxena, S. (2016). Scaling-up treatment of depression and anxiety: A global return on investment analysis. *The Lancet Psychiatry, 3*(5), 415-424.

Choukas-Bradley, S., & Prinstein, M. J. (2014). Peer relationships and the development of psychopathology. In M. Lewis and K. D. Rudolph (Eds.), *Handbook of Developmental Psychopathology* (pp.185-204). Springer Science & Business Media.

Cicchetti, D. (2010). Developmental psychopathology. In R.M. Lerner, W.F. Overton, A.M. Freund, and M.E. Lamb (Eds.), *The Handbook of Lifespan Development* (pp. 511-587).

Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology, 8*, 597-600.

Cicchetti, D., & Rogosch, F. A. (2002). A developmental psychopathology perspective on adolescence. *Journal of Consulting and Clinical psychology*, *70*(1), 6.

Cicchetti, D., & Toth, S. L. (2009). The past achievements and future promises of developmental psychopathology: The coming of age of a discipline. *Journal of Child Psychology and Psychiatry, 50*(1‐2), 16-25.

Cillessen, A. H., & Lansu, T. A. (2015). Stability, correlates, and time-covarying associations of peer victimization from grade 4 to 12. *Journal of Clinical Child & Adolescent Psychology*, *44*(3), 456-470.

Cillessen, A. H., Jiang, X. L., West, T. V., & Laszkowski, D. K. (2005). Predictors of dyadic friendship quality in adolescence. *International Journal of Behavioral Development*, *29*(2), 165-172.

Clark, M. L., & Ayers, M. (1993). Friendship expectations and friendship evaluations: Reciprocity and gender effects. *Youth & Society, 24*(3), 299-313.

Cohen, J. R., Sheshko, D. M., Ames, A. M., Young, J. F., Hansford, A. P., Zhu, X., & Abela, J. R. (2015). Self-perceived competence in mainland China: A multiwave longitudinal examination of internalizing symptoms in Chinese adolescents. *Journal of Research on Adolescence*, *25*(3), 564-579.

Cole, D. A. (1991). Preliminary support for a competency-based model of depression in children. *Journal of Abnormal Psychology*, *100*(2), 181.

Cole, D. A., Ciesla, J. A., Dallaire, D. H., Jacquez, F. M., Pineda, A. Q., LaGrange, B., ... Felton, J. W. (2008). Emergence of attributional style and its relation to depressive symptoms. *Journal of Abnormal Psychology, 117*(1), 16.

Copeland, W. E., Angold, A., Shanahan, L., & Costello, E. J. (2014). Longitudinal patterns of anxiety from childhood to adulthood: The Great Smoky Mountains Study. *Journal of The American Academy of Child & Adolescent Psychiatry, 53*(1), 21-33.

Corrieri, S., Heider, D., Conrad, I., Blume, A., König, H. H., & Riedel-Heller, S. G. (2013). School-based prevention programs for depression and anxiety in adolescence: A systematic review. *Health Promotion International, 29*(3), 427-441.

Coyne, S. M., Archer, J., & Eslea, M. (2006). "We're not friends anymore! Unless . . .": The frequency and harmfulness of indirect, relational, and social aggression. *Aggressive Behavior, 32*, 294–307.

Craske, M. G. (1999). *Anxiety disorders: Psychological approaches to theory and treatment*. Boulder, CO: Basic Books.

Craske, M. G. (2003). *Origins of phobias and anxiety disorders: Why more women than men?* New-York, NY: Elsevier.

Crawford, A. M., & Manassis, K. (2011). Anxiety, social skills, friendship quality, and peer victimization: An integrated model. *Journal Of Anxiety Disorders, 25*(7), 924-931.

Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology, 8*, 367-380.

Csikszentmihalyi, M., Larson, R., & Prescott, S. (1977). The ecology of adolescent activity and experience. *Journal of Youth and Adolescence, 6*(3), 281-294.

Curran, P. J., & Bauer, D. J. (2011). The disaggregation of within-person and between-person effects in longitudinal models of change. *Annual review of psychology*, *62*, 583-619.

Daleiden, E. L., & Vasey, M. W. (1997). An information-processing perspective on childhood anxiety. *Clinical Psychology Review, 17*(4), 407–429.

De Wit, D. J. D., Karioja, K., Rye, B. J., & Shain, M. (2011). Perceptions of declining classmate and teacher support following the transition to high school: Potential correlates of increasing student mental health difficulties. *Psychology in the Schools, 48*(6), 556-572.

Dekker, M. C., Ferdinand, R. F., Van Lang, N. D., Bongers, I. L., Van Der Ende, J., & Verhulst, F. C. (2007). Developmental trajectories of depressive symptoms from early childhood to late adolescence: gender differences and adult outcome. *Journal of Child Psychology and Psychiatry, 48*(7), 657-666.

Derdikman-Eiron, R. U. T. H., Indredavik, M. S., Bratberg, G. H., Taraldsen, G., Bakken, I. J., & Colton, M. (2011). Gender differences in subjective well-being, self-esteem and psychosocial functioning in adolescents with symptoms of anxiety and depression: Findings from the Nord‐Trøndelag health study. *Scandinavian Journal of Psychology, 52*(3), 261-267.

Diamond, G., Levy, S., Bevans, K. B., Fein, J. A., Wintersteen, M. B., Tien, A., & Creed, T. (2010). Development, validation, and utility of internet-based, behavioral health screen for adolescents. *Pediatrics, 126*(1), e163-e170.

Dirks, M. A., Treat, T. A, & Weersing, V. R. (2014). Youth's responses to peer provocation: Links to symptoms of anxiety and depression. *Journal of Psychopathology and Behavioral Assessment*, 36, 339-349.

Duchesne, S., & Ratelle, C. F. (2016). Patterns of anxiety symptoms during adolescence: Gender differences and sociomotivational factors. *Journal of Applied Developmental Psychology, 46*, 41-50.

Eid, M., & Diener, E. (1999). Intraindividual variability in affect: Reliability, validity, and personality correlates. *Journal of Personality and Social Psychology, 76*(4), 662.

Erath, S. A., Flanagan, K. S., & Bierman, K. L. (2007). Social anxiety and peer relations in early adolescence: Behavioral and cognitive factors. *Journal of Abnormal Child Psychology, 35*(3), 405–416.

Espelage, D. L. (2002). *Bullying in early adolescence: The role of the peer group*. (Report No. EDO-PS-02-16). Champaign, IL: Clearinghouse on Elementary and Early Childhood Education (ERIC Document Reproduction Service No. ED-99-CO-0020).

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What we have learned and where do we go from here? *School Psychology Review, 32*, 365-383.

Ezpeleta, L., Kessler, G., Erkanli, A., Costello, E. J., & Angold, A. (2001). Epidemiology of psychiatric disability in childhood and adolescence. *Journal of Child Psychology and Psychiatry, 42*, 901–914.

Fanti, K. A., & Henrich, C. C. (2010). Trajectories of pure and co-occurring internalizing and externalizing problems from age 2 to age 12: Findings from the National Institute of Child Health and Human Development Study of Early Child Care. *Developmental Psychology*, *46*, 1159-1175.

Fisher, P. H., Masia-Warner, C., & Klein, R. G. (2004). Skills for social and academic success: A school-based intervention for social anxiety disorder in adolescents. *Clinical Child and Family Psychology Review, 7*(4), 241-249.

Gibb, B.E., & Alloy, L.B. (2006). A prospective test of the hopelessness theory of depression in children. *Journal of Clinical Child and Adolescent Psychology, 35*, 264–274.

Graber, J. A., & Sontag, L. M. (2009). Internalizing problems during adolescence. In R. M. Lerner & L. Steinberg (Eds.). *Handbook of Adolescent Psychology* (pp. 642-682). John Wiley & Sons, Inc.

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology, 34*, 587-599.

Grills-Taquechel, A. E., Norton, P., & Ollendick, T. H. (2010). A longitudinal examination of factors predicting anxiety during the transition to middle school. *Anxiety, Stress, & Coping, 23*(5), 493-513.

Grills, A. E., & Ollendick, T. H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical Child and Adolescent Psychology, 31*(1), 59-68.

Hadwin, J., Frost, S., French, C. C., & Richards, A. (1997). Cognitive processing and trait anxiety in typically developing children: Evidence for an interpretation bias. *Journal of Abnormal Psychology, 106*(3), 486–490.

Hale III, W. W., Raaijmakers, Q. A., Muris, P., Van Hoof, A., & Meeus, W. H. (2009). One factor or two parallel processes? Comorbidity and development of adolescent anxiety and depressive disorder symptoms. *Journal of Child Psychology and Psychiatry, 50*(10), 1218-1226.Hall, 1904

Haller, S. P., Kadosh, K. C., Scerif, G., & Lau, J. Y. (2015). Social anxiety disorder in adolescence: How developmental cognitive neuroscience findings may shape understanding and interventions for psychopathology. *Developmental Cognitive Neuroscience, 13*, 11-20.

Hankin, B. L., & Abramson, L. Y. (2002). Measuring cognitive vulnerability to depression in adolescence: Reliability, validity, and gender differences. *Journal of Clinical Child and Adolescent Psychology, 31*(4), 491-504.

Harter, S. (1988, 2012). *Manual for the Self-Perception Profile for Adolescents*. Denver, CO: University of Denver.

Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, *41*, 441–455.

Higa-McMillan, C. K., Francis, S. E., Rith-Najarian, L., & Chorpita, B. F. (2016). Evidence base update: 50 years of research on treatment for child and adolescent anxiety. *Journal of Clinical Child & Adolescent Psychology*, *45*(2), 91-113.

Hinshaw, S. P. (2017). Developmental psychopathology as a scientific discipline: A 21st-century perspective. In T.P. Beauchaine, & S.P Hinshaw (Eds.), *Child and Adolescent Psychopathology* (pp. 3-32). John Wiley & Sons.

Hodges, E. V. E., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: Protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*, 94-101.

Hoglund, W. L. (2007). School functioning in early adolescence: Gender-linked responses to peer victimization. *Journal of Educational Psychology, 99*(4), 683.

Hoglund, W. L., & Hosan, N. E. (2013). The context of ethnicity: Peer victimization and adjustment problems in early adolescence. *The Journal of Early Adolescence, 33*, 585-609.

Iyer-Eimerbrink, P. A., Scielzo, S. A., & Jensen-Campbell, L. A. (2015). The impact of peer victimization. *Journal of Bullying & Social Aggression, 1*, 1-22.

Juvonen, J., & Graham, S. (Eds.). (2001). *Peer harassment in school: The plight of the vulnerable and victimized*. Guilford Press.

Kaeppler, A. K., & Erath, S. A. (2016). Linking social anxiety with social competence in early adolescence: Physiological and coping moderators. *Journal of Abnormal Child Psychology*, 1-14.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives Of General Psychiatry, 62*, 593.

Kindermann, T. A. (2007). Effects of naturally existing peer groups on changes in academic engagement in a cohort of sixth graders. *Child Development, 78*(4), 1186-1203.

Kingery, J. N., Erdley, C. A., & Marshall, K. C. (2011). Peer acceptance and friendship as predictors of early adolescents' adjustment across the middle school transition. *Merrill-Palmer Quarterly*, *57*(3), 215-243.

Kistner, J.A. (2009). Sex differences and child psychopathology: Introduction to special section. *Journal of Clinical Child and Adolescent Psychology, 38*, 453–459.

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: Guilford Press.

Kreft, I. & De Leeuw, J. (1998). *Introducing Multilevel Modeling*. London: Sage Publications.

La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology, 34*, 49-61.

La Greca, A. M., & Landoll, R. R. (2011). Peer influences. *Anxiety disorders in children and adolescents* (pp. 323-346).

La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal Of Abnormal Child Psychology, 26*(2), 83-94.

Lam, C. B., McHale, S. M., & Crouter, A. C. (2014). Time with peers from middle childhood to late adolescence: Developmental course and adjustment correlates. *Child Development*, *85*(4), 1677-1693.

Larson, R. W., Moneta, G., Richards, M. H., & Wilson, S. (2002). Continuity, stability, and change in daily emotional experience across adolescence. *Child Development, 73*(4), 1151-1165.

Larson, R., & Richards, M. H. (1991). Daily companionship in late childhood and early adolescence: Changing developmental contexts. *Child Development, 62*(2), 284-300.

Larson, R., Csikszentmihalyi, M., & Graef, R. (1980). Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence, 9*(6), 469-490.

Leadbeater, B. J., Kuperminc, G. P., Blatt, S. J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology, 35*(5), 1268.

Letcher, P., Sanson, A., Smart, D., & Toumbourou, J. W. (2012). Precursors and correlates of anxiety trajectories from late childhood to late adolescence. *Journal of Clinical Child & Adolescent Psychology, 41*(4), 417-432.

Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data*. Hoboken: John Wiley & Sons.

Little, T. D., Preacher, K. J., Selig, J. P., & Card, N. A. (2007). New developments in latent variable panel analyses of longitudinal data. *International Journal of Behavioral Development, 31*(4), 357-365.

Martínez, R. S., Aricak, O. T., Graves, M. N., Peters-Myszak, J., & Nellis, L. (2011). Changes in perceived social support and socioemotional adjustment across the

elementary to junior high school transition. *Journal of youth and adolescence*, *40*(5), 519-530.

Masten, A. S. (2006). Developmental psychopathology: Pathways to the future. *International Journal of Behavioral Development, 30*(1), 47-54.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist, 53*(2), 205.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*(04), 425-444.

McLaughlin, K. A., & King, K. (2015). Developmental trajectories of anxiety and depression in early adolescence. *Journal of Abnormal Child Psychology, 43*(2), 311-323.

McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal Of Psychiatric Research, 45*(8), 1027-1035.

Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., et al. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Study Replication—Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 49*, 980–989.

Miers, A. C., Blöte, A. W., & Westenberg, P. M. (2011). Negative social cognitions in socially anxious youth: distorted reality or a kernel of truth?. *Journal of Child and Family Studies*, *20*(2), 214-223.

Miers, A. C., Blöte, A. W., De Rooij, M., Bokhorst, C. L., & Westenberg, P. M. (2013). Trajectories of social anxiety during adolescence and relations with cognition, social competence, and temperament. *Journal of abnormal child psychology*, *41*(1), 97-110.

Mooren, N., & Van Minnen, A. (2014). Feeling psychologically restrained: The effect of social exclusion on tonic immobility. *European Journal of Psychotraumatology, 5*, 1-7.

Morrow, M. T., Hubbard, J. A., Barhight, L. J., & Thomson, A. K. (2014). Fifth-grade children's daily experiences of peer victimization and negative emotions: Moderating effects of sex and peer rejection. *Journal of Abnormal Child Psychology, 42*(7), 1089-1102.

Motoca, L. M., Williams, S., & Silverman, W. K. (2012). Social skills as a mediator between anxiety symptoms and peer interactions among children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, *41*(3), 329-336.

Muthén, L. K., & Muthén, B. O. (1998–2015). Mplus User's Guide: Statistical Analysis with Latent Variables: User's Guide.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of American Medical Association, 285*(16), 2094-2100.

Nishina, A. (2012). Microcontextual characteristics of peer victimization experiences and adolescents' daily well-being. *Journal of Youth and Adolescence, 41*(2), 191-201.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory (3rd ed.).* New York: McGraw-Hill.

Nylund, K., Bellmore, A., Nishina, A., & Graham, S. (2007). Subtypes, severity, and structural stability of peer victimization: What does latent class analysis say? *Child Development, 78*(6), 1706-1722.

Ohannessian, C. M., Milan, S., & Vannucci, A. (2016). Gender differences in anxiety trajectories from middle to late adolescence. *Journal of Youth and Adolescence*, *46*, 1-14.

Owens, L., Shute, R., & Slee, P. (2000). ''Guess what I just heard!": Indirect aggression among teenage girls in Australia. *Aggressive Behavior*, *26*, 67–83.

Paquette, J. A., & Underwood, M. K. (1999). Gender differences in young adolescents' experiences of peer victimization: Social and physical aggression. *Merrill–Palmer Quarterly, 45*, 242–266.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle school: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29,* 611-621.

Perren, S., Ettekal, I., & Ladd, G. (2013). The impact of peer victimization on later maladjustment: Mediating and moderating effects of hostile and self-blaming attributions. *Journal of Child Psychology and Psychiatry, 54*(1), 46-55.

Pokorny, S. B., Jason, L. A., Schoeny, M. E., Townsend, S. M., & Curie, C. J. (2001). Do participation rates change when active consent procedures replace passive consent? *Evaluation Review, 25*(5), 567-580.

Prinstein, M. J., Cheah, C. S., & Guyer, A. E. (2005). Peer victimization, cue interpretation, and internalizing symptoms: Preliminary concurrent and longitudinal findings for children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, *34*(1), 11-24.

Ram, N., & Gerstorf, D. (2009). Time-structured and net intraindividual variability: Tools for examining the development of dynamic characteristics and processes. *Psychology and Aging, 24*(4), 778-791.

Ramsawh, H. J., Weisberg, R. B., Dyck, I., Stout, R., & Keller, M. B. (2011). Age of onset, clinical characteristics, and 15- year course of anxiety disorders in a prospective, longitudinal, observational study. *Journal of Affective Disorders, 132*(1), 260–264.

Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology, 5*, 311-341.

Raudenbush, S., Bryk, A., & Congdon, R. (2013). *HLM 7.01 for Windows [Hierarchical linear and nonlinear modeling software]*. Multivariate Software, Inc.

Reardon, L. E., Leen-Feldner, E. W., & Hayward, C. (2009). A critical review of the empirical literature on the relation between anxiety and puberty. *Clinical Psychology Review, 29*(1), 1-23.

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and

internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse and Neglect, 34*(4), 244-252.

Renk, K., & Phares, V. (2004). Cross-informant ratings of social competence in children and adolescents. *Clinical Psychology Review, 24*(2), 239-254.

Richards, M. H., Crowe, P. A., Larson, R., & Swarr, A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development, 69*(1), 154-163.

Roberts, G. & Grimes, K. (2011). Return on investment: Mental health promotion and mental illness prevention. *Canadian Policy Network Brief*.

Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development, 73,* 1830–1843.

Rose, A. J., & Smith, R. L., (2009). Sex differences in peer relationships. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 379-393). New York, NY: The Guildford Press.

Rose, A. J., Carlson, W., & Waller, E. M. (2007). Prospective associations of co-rumination with friendship and emotional adjustment: Considering the socioemotional trade-offs of co-rumination. *Developmental Psychology, 43*(4), 1019-1031.

Rose, A., J. & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin, 132,* 98–131.

Rose, E., Hands, B., & Larkin, D. (2012). Reliability and validity of the Self-Perception Profile for Adolescents: An Australian sample. *Australian Journal of Psychology,*

64(2), 92-99.

Rubin, K.H., Cheah, C.S.L. & Menzer, M. (2009). Peer relationships. In M. Bornstein (Ed.). *Handbook of Cross-Cultural Developmental Science*. (pp. 223-238). New York: Psychology Press.

Rudolph, K. D. (2002). Gender differences in emotional responses to interpersonal stress during adolescence. *Journal of Adolescent Health, 30,* 3–13.

Rudolph, K. D., Ladd, G., & Dinella, L. (2007). Gender differences in the interpersonal consequences of early-onset depressive symptoms. *Merrill-Palmer Quarterly*, 461-488.

Rutter, M. (1994). Continuities, transitions and turning points in development. In M. Rutter & D. F. Hay (Eds.), Development through life: A handbook for clinicians (pp. 1-25). London: Blackwell Scientific Publications.

Sameroff, A. (2000). Developmental systems and psychopathology. *Development and Psychopathology*, *12*, 297-312.

Schacter, H. L., & Juvonen, J. (2015). The effects of school-level victimization on self-blame: Evidence for contextualized social cognitions. *Developmental Psychology, 51*(6), 841.

Schacter, H. L., White, S. J., Chang, V. Y., & Juvonen J. (2015). "Why Me?": Characterological self-blame and continued victimization in the first year of middle school. *Journal of Clinical Child and Adolescent Psychology, 44,* 446-455.

Schmidt, N. B., Richey, J. A., Zvolensky, M. J., & Maner, J. K. (2008). Exploring human freeze responses to a threat stressor. *Journal of Behavior Therapy and Experimental Psychiatry, 39*(3), 292-304.

Schneiders, J., Nicolson, N. A., Berkhof, J., Feron, F. J., DeVries, M. W., & Van Os, J. (2007). Mood in daily contexts: Relationship with risk in early adolescence. *Journal of Research on Adolescence, 17*(4), 697-722.

Schneiders, J., Nicolson, N. A., Berkhof, J., Feron, F. J., van Os, J., & deVries, M. W. (2006). Mood reactivity to daily negative events in early adolescence: Relationship to risk for psychopathology. *Developmental Psychology, 42*(3), 543.

Schwartz, D., Lansford, J. E., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2015). Peer victimization during middle childhood as a lead indicator of internalizing problems and diagnostic outcomes in late adolescence. *Journal of Clinical Child & Adolescent Psychology, 44*(3), 393-404.

Selfhout, M. H. W., Branje, S. J. T., & Meeus, W. H. J. (2009). Developmental trajectories of perceived friendship intimacy, constructive problem solving, and depression from early to late adolescence. *Journal of Abnormal Child Psychology, 37*(2), 251-264.

Selman, R. L. (1980). *The Growth of Interpersonal Understanding*. New York: Academic Press.

Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology, 35*(1), 103-115.

Siegel, R. S., La Greca, A. M., & Harrison, H. M. (2009). Peer victimization and social anxiety in adolescents: Prospective and reciprocal relationships. *Journal of Youth and Adolescence*, *38*(8), 1096-1109.

Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford University Press.

Sroufe, L. A. (2013). The promise of developmental psychopathology: Past and present. *Development and Psychopathology*, *25*(42), 1215-1224.

Sroufe, L. A., & Rutter, M. (1984). The domain of developmental psychopathology. *Child development*, *55*, 17-29.

Stapinski, L. A., Araya, R., Heron, J., Montgomery, A. A., & Stallard, P. (2015). Peer victimization during adolescence: Concurrent and prospective impact on symptoms of depression and anxiety. *Anxiety, Stress, & Coping, 28*(1), 105-120.

Starr, L. R., & Davila, J. (2008). Differentiating interpersonal correlates of depressive symptoms and social anxiety in adolescence: Implications for models of comorbidity. *Journal of Clinical Child & Adolescent Psychology*, *37*(2), 337-349.

Sterba, S. K., Prinstein, M. J., & Cox, M. J. (2007). Trajectories of internalizing problems across childhood: Heterogeneity, external validity, and gender differences. *Development and Psychopathology, 19*(2), 345-366.

Storch, E. A., & Masia-Warner, C. (2004). The relationship of peer victimization to social anxiety and loneliness in adolescent females. *Journal of Adolescence*, *27*(3), 351-362.

Sullivan, H. S. (1953). *The Interpersonal Theory of Psychiatry*. WW Norton.

The Conference Board of Canada (2016). Healthy brains at work: Estimating the impact of workplace mental health benefits and programs. *Policy Brief.*

Thomson, N. R. & Zand, D. H. (2002). The Harter Self-Perception Profile for Adolescents: Psychometrics for an early adolescent, African American sample. *International Journal of Testing, 2*, 297-310.

Twenge, J. M., & Nolen-Hoeksema, S. (2002). Age, gender, race, socioeconomic status, and birth cohort difference on the children's depression inventory: A meta-analysis. *Journal of Abnormal Psychology, 111*(4), 578-588.

Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical Psychology Review, 30*(2), 145-154.

Uink, B. N., Modecki, K. L., & Barber, B. L. (2017). Disadvantaged youth report less negative emotion to minor stressors when with peers: An experience sampling study. *International Journal of Behavioral Development, 41*(1), 41-51.

Van Oort, F. V. A., Greaves‐Lord, K., Ormel, J., Verhulst, F. C., & Huizink, A. C. (2011). Risk indicators of anxiety throughout adolescence: the TRAILS study. *Depression and anxiety*, *28*(6), 485-494.

van Roekel, E., Ha, T., Verhagen, M., Kuntsche, E., Scholte, R. H., & Engels, R. C. (2015). Social stress in early adolescents' daily lives: Associations with affect and loneliness. *Journal of Adolescence, 45*, 274-283.

Van Zalk, N., Van Zalk, M., Kerr, M., & Stattin, H. (2011). Social anxiety as a basis for friendship selection and socialization in adolescents' social networks. *Journal of*

Personality, 79(3), 499-526.

Vasey, M. W., & Dadds, M. R. (Eds.). (2001). *The Developmental Psychopathology of Anxiety*. Oxford University Press.

Vasey, M. W., & Ollendick, T. H. (2000). Anxiety. In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (pp. 511-529). New York: Plenum Press.

Vasey, M. W., Bosmans, G., & Ollendick, T. H. (2014). The developmental psychopathology of anxiety. In *Handbook of developmental psychopathology* (pp. 543-560). Springer US.

Waddell, C., Hua, J. M., Garland, O. M., DeV. Peters, R., & McEwan, K. (2007). Preventing mental disorders in children: A systematic review to inform policy-making. *Canadian Journal of Public Health/Revue Canadienne de Sante'e Publiqu*e, *98*(3), 166-173.

Waldrip, A. M., Malcolm, K. T., & Jensen-Campbell, L. A. (2008). With a little help from your friends: The importance of high-quality friendships on early adolescent adjustment. *Social Development, 17*(4), 832-852.

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal Of Adolescent Health, 45*(4), 368-375.

Wang, J., Iannotti, R. J., Luk, J. W., & Nansel, T. R. (2010). Co-occurrence of victimization from five subtypes of bullying: Physical, verbal, social exclusion, spreading rumors, and cyber. *Journal of Pediatric Psychology, 35*(10), 1103-1112.

Warren, S. L., & Sroufe, L. A. (2004). Developmental issues. In T. H. Ollendick & J. S. March (Eds.), *Phobic and anxiety disorders in children and adolescents: A clinician's guide to effective psychosocial and pharmacological interventions* (pp. 92-115). Oxford: Oxford University Press.

Way, N., & Greene, M. L. (2006). Trajectories of perceived friendship quality during adolescence: The patterns and contextual predictors. *Journal of Research on Adolescence, 16*(2), 293-320.

Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct.* Guilford Press.

Werner, E. E. (1995). Resilience in development. *Current Directions in Psychological Science, 4*(3), 81-84.

Westenberg, P. M., Siebelink, B. M., & Treffers, P. D. (2001). Psychosocial developmental theory in relation to anxiety and its disorders. In W.K. Silverman & P.D.A. Treffers (Eds.), *Anxiety disorders in children and adolescents: Research, assessment and intervention* (pp. 72-89). Cambridge: Cambridge University Press

Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives, 4*(1), 10-18.

Yeung Thompson, R. S., & Leadbeater, B. J. (2013). Peer victimization and internalizing symptoms from adolescence into young adulthood: Building strength through emotional support. *Journal of Research on Adolescence, 23*(2), 290-303.

Zahn-Waxler, C., Klimes-Dougan, B., & Slattery, M. (2000). Internalizing problems of

childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development and Psychopathology, 12,* 443–466.

Zahn-Waxler, C., Shirtcliff, E. A., & Marceau, K. (2008). Disorders of childhood and adolescence: Gender and psychopathology. *Annual Review of Clinical Psychology*, *4*, 275-303.