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Links between peer relationships and social anxiety across adolescence: The moderating effects of interpersonal competence, self-worth, and gender

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Links Between Peer Relationships and Social Anxiety Across Adolescence: The Moderating Effects of Interpersonal Competence, Self-Worth, and Gender

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Abstract

Links between interpersonal relationships and psychological functioning have been well established in the literature. Specifically, during adolescence, success or distress in peer relationships may have distinct effects on psychological functioning, especially with regard to the development of later social anxiety. The present study aims to examine the ways in which different adolescent peer relationships (i.e., close friendship quality and social acceptance) can predict later social anxiety development. Further, the study considers how different developmental stages of adolescence may impact these relationships, in addition to considering possible conditional effects of interpersonal competence, self-worth, and gender. Early adolescents (age 14) and late adolescents (age 17) and their closest friend were asked to report on their perceived close friendship quality and social acceptance. Participants were assessed again at age 19 for interpersonal competence, self-worth, and social anxiety. Results of several hierarchical regression analyses revealed several direct effects and an interaction effect that provided both supporting and conflicting evidence for the proposed hypotheses. The current findings suggest the importance of self-perception of social acceptance and self-worth when predicting social anxiety, and also revealed distinct gender differences when examining the relationship between friendship quality in early adolescence and the development of later social anxiety.

Links Between Peer Relationships and Social Anxiety Across Adolescence: The Moderating Effects of Interpersonal Competence, Self-Worth, and Gender

Most individuals inherently desire successful interpersonal relationships throughout their lifetime. During adolescence, feelings of success in interpersonal relationships may result from having an intimate, high-quality friendship with a peer, or from a broader feeling of social acceptance within a peer group. Regardless of how such feelings of success are achieved, the development of successful interpersonal relationships plays an instrumental role in a person's long-term positive social and emotional functioning (Wills, 1985; Siedlecki et al., 2014). Conversely, individuals who lack these types of relationships – or individuals who have had unsuccessful relationships– may be more likely to avoid social situations and have anxiety about being in them later on (Whisman & Beach, 2010; Davila & Beck, 2002).

There are several factors that may help determine whether or not youth begin to experience success in interpersonal relationships. One such factor is interpersonal competence (also referred to as social competence), which is defined as an individual's skillful ability to interact with other people (Bochner & Kelly, 1974; Clark & Arkowitz, 1975). In addition to being associated with friendship quality and social acceptance, interpersonal competence has also been linked to outcomes such as loneliness, psychosocial adjustment, and the development of various mental disorders (Spitzberg & Cupach, 2012). Another factor that may change the relationship between friendship quality, social acceptance, and social anxiety is an individual's perceived self-worth (Ghoul et al., 2013). Though self-worth has been directly linked to relationship success, it is both shaped by and contributes to a multitude of other factors in a person's life (e.g.,

family relationships, social media presence, stressful life events, or a predisposition to a mental disorder like anxiety or depression) that may lead them to feel more or less confident in finding relationship success (Crocker & Sommers, 2004). Lastly, gender may also alter the relationship between friendship quality, social acceptance, and social anxiety. Research has found that females are more likely than males to desire close, intimate relationships with peers, which suggests that the relative importance of close friendships may be stronger for females than for males (Youniss & Haynie, 1992).

Although there is evidence that friendship quality and social acceptance, along with interpersonal competence, self-worth, and gender, are all related to social anxiety independently of one another, research has yet to examine how these factors may interact to predict the development of social anxiety. Furthermore, much of the research that has been conducted on these relationships has been focused on early life experiences in childhood and early adolescence, despite the fact that peer relationships become increasingly important throughout adolescence with regards to an individual's social-emotional functioning. Substantially less research has been conducted to understand outcomes related to high-quality friendships and social acceptance during late adolescence compared to early adolescence. Perhaps one reason for this is a shift in focus of understanding interpersonal relationships in the context of close friendships in early adolescence to understanding interpersonal relationships in the context of romantic relationships during late adolescence. Late adolescents tend to seek out increasingly intimate relationships as a result of undergoing various social and physical changes throughout adolescence, and may be more likely to seek out more romantic relationships during this time period (Paul and White, 1990; Neemann et al., 1995). As a result of this,

researchers may be more interested in outcomes pertaining to qualities of romantic relationships during the late adolescent time period rather than outcomes of close friendships or social acceptance. However, given the influence of peer relationships in the development of social anxiety, it is important to consider the impact that the both the early and late adolescent developmental time periods have on individuals. Moreover, late adolescents typically have more experience in social situations, which not only allows for more thorough development of interpersonal competence and self-worth, but also allows for individuals to experience more aversive social experiences.

However, there are some studies that explore possibilities for these associations in late adolescence that may inform future research. In a study conducted to understand the predictive effects of friendship quality, peer acceptance, and romantic relationship quality on social anxiety, researchers found that romantic relationship quality was unrelated to social anxiety, but that high quality friendships and peer acceptance protected individuals from developing social anxiety (La Greca & Harrison, 2010). In contrast, another study found that although social anxiety was related to peer acceptance in early- and mid-adolescence, it was not related to peer acceptance in late adolescence (Peleg, 2012). Other research aimed to understand the importance of peer relationships in late adolescence through an attachment lens. For example, Laible (2007) found that links between peer attachment and social competence were mediated by emotional awareness, which provides a framework for understanding the complexities of interpersonal relationships in late adolescence. Another study found that, for females, links between peer attachment and self-esteem were mediated by empathy and prosocial behavior, further indicating the complexities of peer relationships during this time period (Laible et

al., 2004). Thus, more research is needed to better understand which aspects of late adolescent peer relationships might predict social anxiety (and under what circumstances), or whether predictions to future social anxiety are more dependent on earlier social experiences.

The current study thus aims to investigate the effects of close dyadic friendship quality and broader social acceptance in both early and late adolescence on the development of social anxiety in emerging adulthood. Moreover, it seeks to examine whether or not these relationships are dependent on teen's interpersonal competence, self-worth, and gender at either time point.

Distinctions Between Close Dyadic Friendship and Broader Peer Social Acceptance

Although friendship and social acceptance both fall under the umbrella of peer relationships and can be used to gain a better sense of an individual's adjustment in the peer context, both constructs are conceptually different in the ways that they are defined and studied (Asher et al., 1996). According to Asher and colleagues, the biggest difference between friendship and social acceptance is the nature of the peer relationships (1996). The construct of friendship is considered to be dyadic in nature, because of the inherent reciprocity of the relationship between two friends. Higher quality friendships contain more positive features such as intimacy and companionship, which are achieved through the initiative of both individuals within the friendship (Berndt, 1998).

In contrast, social acceptance can be defined as the tendency for an individual's peers to regard him/her with warmth and positivity. Further, the concept of social acceptance does not consider the individual's feelings and opinions about their peers, which is why social acceptance is often described as a unilateral construct, rather than

dyadic (Asher et al., 1996; Bukowski & Hoza, 1989). Moreover, these two constructs have been found to fulfill distinct interpersonal needs throughout development with regard to an individual's overall sense of belonging and their desire to form a close, high-quality bond with a likeminded peer (Asher et al., 1996). As such, there may also be certain periods of adolescence in which specific types of peer relationships are considered to be more crucial to the individual's adjustment and overall well-being. Specifically, broader peer acceptance may be more important during the early adolescent time period, whereas developing high-quality close friendships might be more important for late adolescents. The transition from middle childhood to early adolescence is marked by an emerging emphasis on the importance of peer influence in relation to an individual's understanding of their sense of self and their identity (Brinthaupt & Lipka, 2002). Learned associations between social status/popularity and social success in early adolescence may lead individuals who are more positively regarded by their peers to become better adjusted and to feel a stronger sense of self. Thus, overall acceptance from a larger peer group may be more important in early adolescence relative to dyadic friendship quality. For example, research has found peer acceptance to be the most important predictor of early adolescent adjustment; however, friendship quality was also found to be important, but only when peer acceptance was low (Waldrip, 2008). This suggests the overall importance of peer relationships to early adolescent development, with specific consideration for the distinct effects that broader peer acceptance may have on individuals entering this developmental time period.

Conversely, the late adolescent time period is often characterized by the development of intimacy. Specifically, Erikson's psychosocial theory of development

posits that the transition from late adolescence to early adulthood is marked by the conflict of intimacy vs. isolation, which is subsequent to the late adolescent crisis of identity vs. confusion (Erikson, 1968). Consequentially, late adolescents might be more likely to seek to develop more intimate relationships throughout their identity and intimacy exploration than early adolescents. A review of the literature on intimacy in adolescent relationships provides evidence for intimacy as a developmental process that becomes a focal point of late adolescence once the individual has a better understanding of their identity (Paul & White, 1990). Researchers have found that identity formation and intimacy development are related constructs, and that the exploration and achievement of each construct often happen concurrently (Hodgson & Fischer, 1978). For example, late adolescents who had high quality intimate friendships (specifically late adolescents who had close friends who were strong listeners) had a stronger sense of identity, and were able to more meaningfully interpret everyday experiences (Pasupathi & Hoyt, 2009). Thus, friendship and social acceptance are two major interpersonal relationship contexts throughout development, and their relative importance to well-being may differ based off of the particular developmental period of adolescence in which they are being studied.

Links Between Peer Relationships, Interpersonal Competence, Self-Worth, and Social Anxiety

Interpersonal relationships during early adolescence have been widely studied in relation to social and emotional development. High-quality close friendships and broader forms of social acceptance have been regarded as crucial aspects of emotional well-being, identity development, and the learning of social skills both in theory and evidenced

through research (Parker et al., 2006; Oberle, 2012; Pugh & Hart, 1999; Vitaro et al., 2009; Wentzel, 2014). Peer relationships are especially relevant during the early adolescent time period when friendships and overall peer acceptance become more salient and complex (Brown & Larson, 2009). Moreover, success in peer relationships becomes a marker of psychosocial adjustment during the early adolescent time period, and individuals who are socially accepted, have close friends, utilize good social skills, and regard themselves with high self-worth are better adjusted overall (Hussong, 2010). However, individuals who perceive themselves to be adept in one or more of these domains may still be lacking in others. For example, although an individual might perceive themselves to have high quality friendships and to be accepted by their peers, they may still lack certain interpersonal skills that are used to develop more fulfilling interpersonal relations with peers, or they may have low self-worth. These early adolescent peer relationships have been extensively studied in relation to various outcomes related to health and well-being, and previous research has been able to establish links between early adolescent friendship quality and social acceptance, social competence, self-worth, gender, and social anxiety, which are all discussed below.

Early adolescent peer relationships and interpersonal competence

Investigation into the conceptual framework of interpersonal competence was piloted by researchers Bochner and Kelly in 1974. Bochner and Kelly's proposed conceptual framework for interpersonal competence was in response to early theories on the objectives of interpersonal communication, which were to: express feelings, confirm social realities, change and influence, and work and create (Bennis, 1968). In order to succeed in these objectives, various skills must be taught to promote interpersonal

competence, which Bochener and Kelly define as an individual's ability to interact effectively with other people. They believe that interpersonal competence is achieved when one can demonstrate each of these key components: 1) the ability to formulate and achieve objectives; 2) the ability to collaborate effectively with others; and 3) the ability to appropriately adapt to social situations. Furthermore, they theorize that although humans possess an innate drive to interact effectively with others, the skills that are needed to interact effectively are not present at birth, rather, they have to be learned over time.

Importantly, later research aimed to distinguish specific domains of interpersonal competence (initiating relationships, self-disclosure, asserting displeasure with others' actions, providing emotional support, and managing interpersonal conflicts), and investigate the specific interpersonal experiences and relationships related to each of the domains (Buhrmester et al., 1988). The findings of Buhrmester and colleagues indicated that different domains of interpersonal competence were distinctly related to different aspects of successful peer relationships. For example, they found relations with new acquaintances were most successful when an individual was highest in initiation competence, and that relations with close peers were most successful when an individual was highest in emotional support competence. The utilization of these distinct domains could provide more comprehensive insight into the achievement of interpersonal competence as described by Bochner and Kelly (1974). In order to get a full understanding of the links between interpersonal competence and early adolescent friendship quality, it is also important to note that there has been literature conducted to investigate the construct of "social competence." A review of the literature suggests that

there are no distinguishable differences between interpersonal competence and social competence. In fact, one study even defines social competence in the same manner as interpersonal competence was defined by Bochner and Kelly, as being the "effectiveness of social interactions" (Rose-Krasnor, 1997). As such, literature on social competence will also be reviewed to gain a more comprehensive understanding of the constructs related to the scope of the present thesis.

Interpersonal competence has been studied tangentially with friendship quality and social acceptance during the early adolescent time period to better understand adolescent adjustment, social-emotional functioning, and attachment in interpersonal relationships. One study aimed at understanding the factors that make up higher quality friendships examined the mediating role of interpersonal competence on the relationship between empathy and friendship quality (Chow et al., 2013). The researchers found that interpersonal competence did mediate the effect of empathy on friendship quality, such that individuals with more empathy demonstrated more interpersonal competence, which, in turn, led to closer friendships as reported by both individuals in the friendship dyad. Furthermore, the researchers found no relationship between empathy and friendship quality after controlling for interpersonal competence, which suggests that interpersonal competence could be the underlying mechanism of the association between empathy and friendship quality. The researchers did not also consider possible moderating effects of interpersonal competence on the relationship between empathy and friendship quality, so it would also be important to consider how this effect might change if only one member of the friendship dyad reported on their friendship quality, especially if an individual with low levels of interpersonal competence reported a high-quality perceived friendship

quality. This study also examined the possible conditional effects of gender on these relationships; however, findings were not significantly different across gender, so males and females were studied together.

Other studies provide evidence to corroborate the findings of Chow and colleagues, specifically with regard to the associations between interpersonal competence and friendship quality when examining interpersonal competence as an outcome. For example, one study found that early adolescents who reported high social support in a close friendship had higher interpersonal competence than individuals who reported lower social support, and also found no gender differences moderating these relationships (Laursen et al., 2006). Another study found that higher friendship quality predicted higher levels of social competence across all genders, but that support in other interpersonal relationships (e.g., maternal support) protected only males from the negative effects of low friendship-quality on perceived social competence (Rubin et. al, 2004). Social competence has also been found to mediate the relationship between parent attachment and friendship quality, which explains how parent attachment relationships can predict early adolescent friendship quality, and provides support that the skills learned from different interpersonal relationships are integrated in the development of interpersonal competence.

Importantly, some researchers have also taken into consideration differences in the interpersonal competence skills that are used to promote the skills that are needed for high-quality friendships and peer acceptance. For example, it has been found that individuals lacking in peer acceptance were still able to have one or two close friendships, and that individuals lacking in close friendships were still well regarded by

their peers (Parker and Asher, 1993; Vandell and Hembree, 1994). This shows that different skills related to interpersonal competence are used to develop different types of peer relationships, and that some skills might lead individuals to have high quality friendships, but low social acceptance or vice versa. Moreover, social skills training related to the interpersonal competence domains of initiating relationships, managing interpersonal conflicts, and emotional disclosure (e.g., teaching skills regarding encouragement of participation, cooperation, communication, and validation) were found to improve overall peer acceptance, but not friendship, which further supports a multi-faceted approach to understanding interpersonal competence within the context of interpersonal relations (Oden and Asher, 1977). Lastly, few studies have taken into account the importance of developmental timing when analyzing links between interpersonal competence, friendship quality, and social acceptance. In a study looking at links between perceived social competence, interpersonal understanding (measured by coded responses to questions about a boy's interpersonal dilemma that pertained to subjectivity, self-awareness, personality, and personality change), and peer acceptance in pre-adolescence and early adolescence, researchers found that interpersonal understanding was a stronger predictor of peer acceptance during early adolescence compared to pre-adolescence (Kurdek & Krile, 1982). Of note, it is likely that social competence and interpersonal understanding are highly colinear constructs, which can explain why Kurdek and Krile (1982) found no direct effects between social competence and peer acceptance when all three constructs were examined in the same statistical model. Similar effects were seen in a study conducted to understand the relationship between friendship intimacy, interpersonal competence, and adjustment during the same

pre-adolescent and early adolescent time periods (Buhrmester, 1990). Buhrmester found that interpersonal competence was consistently related to friendship intimacy in early adolescence, but not pre-adolescence. Taken together, these studies provide further support for the inclusion of interpersonal competence in analyses that aim to understand the predictive effects of friendship quality and social acceptance throughout adolescence, because of the multi-faceted nature of the construct and its increased importance as adolescence progresses.

Early adolescent peer relationships and self-worth

An individual's self-evaluative reactions to positive or negative events defines their self-worth (James, 1890). These self-evaluations are thought to contribute to an individual's overall self-esteem, which is a broader construct that can be defined as the way that people generally feel about themselves (e.g., someone who regards themselves more positively in situations, will have a higher self-worth that can subsequently lead to higher self-esteem) (Brown and Marshall, 2006). Whereas self-esteem is a term used to refer explicitly to what a person thinks about themselves, self-worth refers to how the individual evaluates their value/worth across settings. Self-worth is thought to have both global elements (perceptions of self-worth endure over time and context) and situational elements (perceptions of self-worth change according to the context). Specifically, there is evidence that suggests that individuals evaluate their self-worth differently depending on the relational context (Harter et al., 1998). The study also found that an individual's relational perception of self-worth (referring to an individual's evaluation of their worth in interpersonal contexts) is related to their global self-worth, which refers to an individual's overall perception of their worth across any time and context. Given the

importance of interpersonal relationships as they pertain to an individual's assessment of self-worth, it is important to consider the implications of individuals' appraisals of their self-worth when investigating outcomes related to interpersonal peer relationships. Considerations of self-worth are especially important when aiming to compare outcomes of different peer relationships such as intimate close friendships or broader acceptance from peers. Specifically, the contextual nature of an individual's appraisal of self-worth suggests that people who have a high-quality close friendship, but are not accepted by their peers (or vice versa), may have negative perceptions of their self-worth related to certain social contexts, which can contribute to their overall, global self-worth. Thus, lower self-worth should be investigated as a factor that, when taken into consideration with interpersonal relationships, can lead to negative social-emotional outcomes.

One study that took these contextual relationships into account was conducted by Fordham and Sevenson-Hinde (1999) to understand the relationship between aspects of peer relationships (e.g., friendship quality, peer acceptance, and classmate support) and global self-worth in shy children (ages 8-10). They found that as the age of the child increased, the relationship between global self-worth, friendship quality, and social acceptance increased, and that these constructs became more correlated with internalizing problems (loneliness and anxiety) among shy children. This suggests that more positive peer-relations may increase self-worth, and buffer against the effects of shyness on psychological adjustment. Although this study was not conducted with an adolescent population, it does follow a similar pattern seen in the literature on interpersonal competence, in that the importance of self-worth (like interpersonal competence)

increases with age, which further emphasizes the importance of investigating these constructs across the adolescent developmental time frame.

With regard to research conducted during the early adolescent period, studies have shown that self-worth (and constructs closely related to it, like self-esteem) is related to more successful peer relationships in addition to other psychosocial outcomes. Laursen and colleagues (2006) found that early adolescents who reported higher-quality interpersonal relations (with a close friend, romantic partner, and parent) had a higher global self-worth, which corroborates evidence that high-quality friendships may predict increased global self-worth (Rubin et al., 2004). Another study provided evidence for the importance of the cohesion of familial interpersonal relations and peer interpersonal relations when predicting self-worth in early adolescents, further emphasizing the contextual nature of one's perceived self-worth (Gauze et al., 1996). The stability of the quality of a close friendship has also been studied in relation to an individual's self-esteem, such that more stable, high-quality friendships were predictive of higher self-esteem (Keefe & Berndt, 1996). Not only has it been suggested that self-esteem is related to better quality peer relationships, but there is also evidence to suggest that the relationship between successful peer relationships and self-esteem can protect against the effects of low-quality parental relations during early adolescence (Birkeland et al., 2013). Lastly, Berndt (1990) found that early adolescents who had perceived high-quality close friendships were more likely to have higher perceptions of both self-worth and social acceptance than individuals who had perceived low-quality friendships. Taken together, these findings emphasize the importance of including self-worth in statistical models that

aim to examine the predictive effects of peer relationships on various outcomes throughout adolescence.

Development of social anxiety through the lens of adolescent peer relationships and other related constructs

The aforementioned constructs have all been studied in relation to the development of internalizing problems; however, there are no studies that account for the interrelatedness of the constructs with regard to their ability to predict social anxiety among individuals. Social anxiety, or anxiety resulting from the possibility or presence of personal evaluation in social situations, has been studied over time in both clinical and non-clinical samples (Schlenker & Leary, 1982). The development of social anxiety is theorized to be a complex process by which individual and environmental psychosocial (e.g., aversive social experiences, negative life events, culture), cognitive (e.g., cognitive processing and emotion regulation), behavioral (e.g., poor social skills, poor social performance, safety behaviors), and biological factors (e.g., genetics, biological processes, temperament) interact to develop an aversion for social situations (Spence & Rapee, 2016). Given that a prominent feature of social anxiety is avoidance of social situations, outcomes such as decreased performance in school or work environment, decreased interpersonal functioning, loneliness, and internalization are common in individuals who are socially anxious (Weeks et al., 2009; Heerey & Kring, 2007). Furthermore, socially anxious individuals are at higher risk for becoming dependent on the use of alcohol or other substances to cope during social situations, which can lead to impairments in other aspects of functioning in daily life (Blumenthal et al., 2010; Blumenthal et al., 2014; Ham, 2007). Thus, research aimed at better understanding the

risk and protective factors for social anxiety across different developmental time periods and etiological perspectives is important in preventing its course of development and mitigating negative outcomes.

One such etiological perspective that has been studied in accordance with social anxiety, is the psychosocial perspective, which aims to conceptualize the ways that individual and environmental social experiences can influence behavior. Specifically, research has been conducted on the ways in which early adolescent peer relationships can predict the development of social anxiety. Previous literature has established links between close friendship quality and social anxiety. Clear gender differences have been observed across research aimed at studying these variables, which are likely due to distinctions between males and females with regard to their ability (and desire) to form close, intimate friendships (females are more likely to form intimate relationships than males) (Youniss & Haynie, 1992). For example, one study found that in general, adolescent girls were more likely to report higher levels of social anxiety than boys. Though lower levels of social acceptance were related to higher levels of social anxiety for both genders, only females with lower close friendship quality reported higher levels of social anxiety (La Greca & Lopez, 1997). A systematic literature review conducted by Pickerling and colleagues (2019) yielded similar findings. In this review low peer acceptance was associated with increased social anxiety across gender, whereas close friendship quality was only a predictor of social anxiety for adolescent females between the ages of 13 to 17.

Several studies have also identified peer acceptance as a predictor for the development of social anxiety. For example, one study found that adolescents with

elevated levels of social anxiety were less accepted by their peers, which was in part due to mediating effects of social disengagement (though the researchers also found direct links between social anxiety and peer acceptance) (Erath et al., 2007). Although the researchers found no gender differences between boys and girls regarding the relationship between peer acceptance and social anxiety, they did find evidence for gender differences in the relationship between peer victimization and social anxiety, such that socially anxious boys were more likely to be victimized by their peers. Because peer acceptance and peer victimization are closely related, possible gender effects of links between social anxiety and peer acceptance continue to deserve further attention in research. In fact, another study found that boys with lower levels of anxiety were more likely to be accepted by their peers, whereas low levels of anxiety in females did not predict peer acceptance (Oberle et al., 2010). However, other studies have found evidence for stronger links between social anxiety and social acceptance for females. Henricks and colleagues (2021) investigated longitudinal links between social status and social anxiety in early adolescence, and found that decreased popularity was predictive of social anxiety and avoidance only for girls. Overall, existing literature provides evidence that peer acceptance is related to social anxiety; however, the directionality of these links and possible gender effects are still less clear.

Moreover, some studies have investigated the relationship between friendship quality/social acceptance and social anxiety in tandem with other related factors to provide a more comprehensive perspective of social anxiety development in adolescence. Researchers who were interested in the predictive effects of social competence on social anxiety across preadolescence and early adolescence found that friendship quality was

not able to buffer against the negative effects of social and communication difficulties, despite evidence that friendship quality can be used to predict social anxiety development (Pickard et al., 2018). Another study conducted with preadolescents revealed that the relationship between social anxiety and peer acceptance was mediated in part by deficits in social competence, and that friendship quality moderated the relationship, but only for girls (Greco & Morris, 2005). Though this study was not conducted during the adolescent time period, it could be expected that investigation of these relationships during adolescence could warrant stronger results given the importance of social competence in navigating more complicated peer relationships throughout adolescence. In contrast, another study found that friendship quality was, in fact, able to buffer against the development of social anxiety when adolescents reported loneliness, peer victimization, and low social self-efficacy (Erath et al., 2009). These findings suggest that friendship quality may be more important in some situations rather than others when examining social anxiety development. A study conducted with preadolescents examined the relationships between various social and emotional factors and social anxiety among anxious children. Researchers found that children who were more socially anxious reported lower levels of peer acceptance and self-esteem, and that girls who were more socially anxious were reported to have deficits in social skills (Ginsburg et al., 1998). Importantly, no studies have been conducted to investigate self-worth in relation to links between friendship quality/peer acceptance and social anxiety; however, there have been studies conducted that take into account other aspects of peer relationships (e.g., peer victimization) to further understand the relationship between self-worth and social anxiety. These studies revealed interesting gender effects, such that self-worth was a

better predictor of social anxiety development for adolescent boys than adolescent girls (Ghoul et al., 2013; Grills & Ollendick, 2002).

Although links among all of these social and emotional constructs have been established through previous research on the early adolescent time period, the literature is lacking in specific areas. First, only a few of the reviewed studies were conducted longitudinally, which means that directionality of the established links cannot be inferred. Moreover, there have been no established studies that have looked at each of these constructs within the same statistical model across different points of adolescence to understand the relative importance of the constructs in predicting later on social anxiety or how the relationship between peer relationships and social anxiety development changes depending upon interpersonal competence and self-worth. Second, when gender was examined as a potential moderator for these relationships, the results across studies were sometimes conflicting. Finally, much of the established literature looks at direct links between peer relationships and social anxiety; however, it doesn't take into account specific factors (i.e., interpersonal competence and self-worth) that may change the nature of the existing relationships. Taken together, it is important for future research to aim to fill these gaps in the literature by taking a longitudinal approach and by investigating moderating effects of related variables and gender.

The Present Study

Research has established the importance of successful interpersonal relationships in childhood and early adolescence; thus, the present study seeks to build upon prior literature by seeking to understand the conditions under which friendship quality and social acceptance during both early and late adolescence can predict the development of

social anxiety in emerging adulthood. In order to gain a comprehensive understanding of this relationship, friendship quality and social acceptance will be examined at both early and late adolescence to determine whether or not developmental timing can provide an explanation for the relative importance of these interpersonal relationships in relation to social anxiety development. Additionally, interpersonal competence and self-worth will be examined as moderators of these relationships to investigate whether the effects of either friendship quality or social acceptance on social anxiety are dependent upon the individual's level of interpersonal competence or self-worth. Possible conditional effects of gender will also be explored in the present study. The following is hypothesized:

Hypothesis 1a: Low levels of broader social acceptance at age 14, as compared to low levels of close friendship quality at age 14, will account for more unique variance in social anxiety at age 19.

Hypothesis 1b. Low levels of close friendship quality at age 17, as compared to low levels broader social acceptance at age 17, will account for more unique variance in social anxiety at age 19.

Hypothesis 1c. Having a higher quality close friendship at age 17 will buffer against having had lower broad social acceptance at age 14 for predicting social anxiety at age 19.

Hypothesis 2: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on individuals' level of interpersonal competence measured concurrently with social anxiety. Individuals who have strong broad social acceptance and friendship quality will be more susceptible to social anxiety when they have lower levels of interpersonal competence.

Hypothesis 3: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on the individuals' self-worth. Individuals who have strong broad social acceptance and friendship quality will be more susceptible to social anxiety when they have lower self-worth.

Hypothesis 4: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on gender, such that females with lower friendship quality will be at higher risk for developing social anxiety compared to males.

Methods

Participants and Procedure

The sample for this study includes 184 participants (86 male, 98 female) who were part of a larger longitudinal study of adolescent/young adult social and emotional development. This sample was racially, ethnically, and socioeconomically diverse (107 Caucasian, 53 African American, 2 Hispanic/Latino, 2 Asian American, 1 American Indian, 15 mixed ethnicities, and 4 "other"). The median socioeconomic annual income for the families of the participants was between $40,000 and $59,000. Participants were recruited though an initial mailing to all parents of students in the 7th and 8th grades who attended a public middle school in the Southeastern United States. Through this mailing, parents were given the opportunity to opt out of any further participation in the study (N = 298). Only 2% of parents opted out of participation. Of the remaining families that were then contacted by phone, 63% were both eligible and willing to participate in the study. The sample used in the study appeared to reflect the overall population of the school in terms of racial and ethnic makeup (42% non-white in sample and 40% non-white in school) and socio-economic status (mean household income of $43,618 in sample compared to $48,000 in the school community). The adolescent participants and

their peers were interviewed on an annual basis throughout the adolescent developmental time period. The current study will use several waves of measurement, interviewing participants and their peers about friendship quality and social acceptance at ages 14 and 17, and interpersonal competence and self-worth at age 19 to predict outcomes of social anxiety at age 19. Moreover, the current study will control for gender, household income, and baseline anxiety measured at age 15.

Measures

Gender. Participants were asked to report on their gender (male or female) at the beginning of the study. Gender was coded as a binary variable (1 = Males, 2 = Females).

Baseline Anxiety (age 15). The Beck Anxiety Inventory (BAI) is a 21-item self-report questionnaire that asks participants to rate their experiences with different anxiety symptoms (e.g.., "numbness or tingling," "unable to relax," "nervous," and "fear of losing control") (Beck et al., 1998). Items were scored on a four-point scale (0 = not at all, 1 = mildly, 2 = moderately, 3 = severely) and summed together to create a total anxiety score where higher scores are indicative of higher levels of anxiety. Total anxiety scores on the BAI can range from 0 to 63, and total anxiety scores on the BAI for the present sample range from 0 to 41. The BAI has strong reliability and validity for both clinical and non-clinical samples (Creamer et al., 1995; Fydrich et al., 1992), and Cronbach's α for the present sample was .90.

Dyadic Friendship Quality (Age 14 and 17). The Friendship Quality Questionnaire (FQQ) is a 40-item self-report questionnaire that quantifies the teen's perception of their friendship quality with a close peer (Parker and Asher, 1993). The FQQ measures friendship quality in six different domains: validation and caring (e.g.,

"We make each other feel important and special"), conflict resolution (e.g., "We talk about how to get over being mad at each other"), conflict and betrayal (e.g., "She sometimes says mean things about me to other kids"), help and guidance (e.g., "We share things with each other"), companionship and recreation (e.g., "We always play together or hang out together"), and intimate exchange (e.g., "We talk about how to make ourselves feel better if we are mad at each other"). The FQQ was given to teens and their closest friend during early and late adolescence. Items were scored on a five-point Likert scale (1 = not at all true; 5 = really true), where higher scores indicated stronger friendship quality. Scores on the FQQ can range from 40 to 200. The scores from each subscale were summed together to create a total score of overall friendship quality. Only the total friendship quality score was used to measure close friendship quality, and reports from the teen and their close peer were averaged together to create a new variable to represent dyadic close friendship quality. After the teen and close peer reports of overall friendship quality were averaged together, scores on the FQQ for the present sample ranged from 70.5 to 194 when teens were assessed at age 14, and from 80 to 196 when teens were assessed at age 17. The FQQ was found to be a reliable and valid measure of friendship quality (Parker & Asher, 1993). At ages 14 and 17, respectively, Cronbach's αs were .95 and .96 for self-report and .95 and .97 for peer report in the present sample.

Social Acceptance (Age 14 and 17). Social acceptance was also measured during early and late adolescence with the social acceptance subscale of the Self-Perception Profile for Adolescents. Teens and their closest friend were asked during early and late adolescence to choose between two contrasting stem items related to social acceptance

and then rate that item as either “sort of true” or “really true” about themselves or their friend (e.g., “some teens do have a lot of friends, but some teens don’t have a lot of friends”; “some teens are popular with other kids their age, but some teens are not popular with kids their age”; “some teens feel that they are accepted by other kids their age, but some teens feel that they are not accepted by other kids their age”) . This rating process resulted in a four-point scale for each item (1 = really true for me/my friend; 2 = sort of true for me/my friend; 3 = sort of true of me/my friend; 4 = really true for me/my friend), where higher scores on any item is indicative more social acceptance. On the self-report version of this scale, higher scores are indicative of the teen’s perception of their social acceptance, while on the peer-report version, higher scores are indicative of the close-peer’s perception of the teen’s social acceptance. Scores on the social acceptance subscale of the Self-Perception Profile for Adolescents can range from 4 to 16. For the present sample, when the teen’s social acceptance was assessed using self-report, scores for the present sample ranged from 5 to 16 when teens were assessed at both ages 14 and 17. When the teen’s social acceptance was assessed using peer-report, scores for the present sample ranged from 4 to 16 when assessed at age 14, and from 6 to 16 when assessed at age 17. At ages 14 and 17, respectively, Cronbach’s αs were .78 and .77 for self-report and .79 and .75 for peer-report in the present sample.

Interpersonal Competence (Age 19). The Interpersonal Competence Questionnaire (ICQ) is a 40-item peer-report measure that is used to quantify the teen’s interpersonal competence as perceived by their closest friend during the emerging adulthood period (Buhrmester, 1990). All items of the ICQ were scored on a 5-point Likert scale (1 = poor at this, 2 = fair at this, 3 = ok at this, 4 = good at this, 5 = extremely

good at this), where higher scores are indicative of better interpersonal competence. Overall interpersonal competence scores on the ICQ can range from 40 to 200. The ICQ measures interpersonal competence across five different domains: relationship initiation (e.g., "Making good first impressions when getting to know people"), asserting displeasure with others (e.g., "Voicing his/her desires and opinions"), disclosing personal information (e.g., "Sharing personal thoughts and feelings"), providing emotional support and advice (e.g., "Showing that he/she really cares when someone talks about problems"), and managing interpersonal conflicts (e.g., "Dealing with disagreements in ways that don't lead to big arguments"). For the present study, scores from each domain were summed together to create an overall interpersonal competence score, which ranged from 68 to 198 for the present sample. The ICQ has good internal and is related to adjustment, sociability, low hostility, and low levels of anxiety and depression (Buhrmester, 1990). For the present sample, Cronbach's α was .97.

Self-worth (Age 19). The global self-worth subscale of the Self-Perception Profile for Adolescents to measure teens' perceptions of their global self-worth during the emerging adulthood time period (Harter, 1998). Teens were asked to choose between two contrasting stem items related to global self-worth and then rate that item as either "sort of true" or "really true" about themselves (e.g., "some teens are often disappointed with themselves, but some teens are pretty pleased with themselves"; "some teens are happy with themselves most of the time, but some teens are often not happy with themselves"; "some teens do like the kind of person that they are, but some teens often wish that they were someone else") . This rating process resulted in a four-point scale for each item (1 = really true for me; 2 = sort of true for me; 3 = sort of true of me; 4 = really true for me),

where higher scores on any item is indicative of greater global self-worth across various time and contexts. Scores on the global self-worth subscale of the Self-Perception Profile for Adolescents can range from 4 to 20. For the present sample, scores on the global self-worth subscale of the Self-Perception Profile for Adolescents ranged from 8 to 20. The Self-Perception Profile for Adolescents has good internal consistency, and Cronbach's α for the self-worth scale was .85 for the present sample.

Social Anxiety (Age 19). The Social Anxiety Scale for Adolescents (SAS-A) is a 22-item scale that is used to measure teens' perceptions of social anxiety during emerging adulthood (LaGreca, 1998). Teens were asked to rate each item on a 5-point scale according to how much the item "is true for you" (1 = not at all true, 2 = hardly ever true, 3 = sometimes true, 4 = true most of the time, 5 = always true). The SAS-A contains several subscales that assess different dimensions of social anxiety, including: fear of negative evaluation (e.g., "I worry about being teased"; "I feel that peers talk about me behind my back"; "I feel that others are making fun of me"), social avoidance and distress in new situations (e.g., "I worry about doing something new in front of others"; "I only talk to people I know really well"; "I get nervous when I talk to peers I don't know very well"), and general social avoidance and distress (e.g., "I'm quiet when I'm with a group of people"; "I'm afraid to invite others to do things with me because they might say no"), and an overall scale of social anxiety. Higher scores on each of the scales are indicative of higher levels of perceived social anxiety. Overall social anxiety scores on the SAS-A can range from 22 to 110. For the present study, scores from each subscale were summed together to create an overall social anxiety score, which ranged from 18 to 78 in the present sample. Many studies seeking to validate the SAS-A have

done so using a non-clinical sample and participants have been studied across the entirety of the adolescent developmental period (12 years old-17 years old) (La Greca & Lopez, 1998; Inderbitzen-Nolan & Walters, 2000; Storch et al., 2003). These studies have found the SAS-A to be a reliable and valid measure of adolescent social anxiety, specifically with regard to its internal consistency of its subscales, test-retest reliability, and overall construct validity. Internal consistency for the present sample was .94. Moreover, the SAS-A has been found to be positively correlated with other measure items related to trait anxiety, depression, and social phobia lending discriminant and concurrent validity for the use of the SAS-A with a non-clinical, adolescent population (Inderbitzen-Nolan & Walters, 2000; Storch et al., 2003).

Data Analysis and Interpretation

Data analysis was assisted through computer software (SAS 9.4). All analyses were controlled for participant gender, household family income, and anxiety at age 15. For descriptive purposes, simple univariate correlations were initially conducted to examine relationships between all variables of interest. Hierarchical regression analyses were used to test the hypotheses of the study. For hypothesis 1, models were constructed to examine the relative importance of friendship quality and social acceptance during early and late adolescence in predicting social anxiety during emerging adulthood. Next, interactions were added to the models between friendship quality in late adolescence and social acceptance in early adolescence to examine their combined effects on social anxiety.

For hypotheses 2, 3, and 4, initial models were constructed to examine the direct effect of friendship quality and social acceptance in early and late adolescence on social

anxiety during emerging adulthood. Interactions between interpersonal competence and friendship quality, between interpersonal competence and social acceptance, between self-worth and friendship quality, between self-worth and social acceptance, between gender and friendship quality, and between gender and social acceptance were then added to the models to further investigate the moderating effects of interpersonal competence, self-worth, and gender on the relationship between peer relationships and social anxiety across different periods of adolescence.

Results

Preliminary Analyses

Univariate and correlational analyses. Means, standard deviations, and correlations for all primary variables are presented in Tables 1-3. These analyses revealed significant associations between gender and baseline anxiety ($r = .32$, $p < .001$), gender and dyadic close friendship quality at age 14 ($r = .33$, $p < .001$), and gender and dyadic close friendship quality at age 17 ($r = .48$, $p < .001$), such that being female was associated with having higher levels of anxiety, and having higher quality close friendship. Income was only positively associated with social anxiety at age 19 ($r = .18$, $p = .03$), and baseline anxiety was associated with both social anxiety at age 19 ($r = .26$, $p = .002$), and self-worth at age 19 ($r = -.30$, $p = .0004$). Both demographic variables and baseline anxiety were included as control variables in all regression analyses to account for any effects that may not have reached conventional levels of statistical significance in correlational analyses. Further results yielded several negative associations between self-reported social acceptance at age 14 ($r = -.44$, $p < .001$) and age 17 ($r = -.41$, $p < .001$) and social anxiety, and self-worth at age 19 and social anxiety at age 19 ($r = -.46$, $p < .001$).

Among predictor and moderator variables, correlational analyses revealed several significant associations. Dyadic close friendship quality at age 14 was relate to dyadic close friendship quality at age 17 (r = .46, p < .001), self-reported social acceptance at age 14 (r = .18, p = .03), peer reported social acceptance at ages 14 (r = .29, p = .0002) and 17 (r = .26 , p = .003), and interpersonal competence at age 19 (r = .20, p = .03). Dyadic close friendship quality at age 17 was also related to self-reported social acceptance at age 17 (r = .18, p = .03), peer reported social acceptance at ages 14 (r = .21, p = .01) and 17 (r = .25, p = .003), and self-worth at age 19 (r = .27, p = .002). In addition, self-reported social acceptance at age 14 was related to self-reported social acceptance at age 17 (r = .48, p < .001), peer reported social acceptance at age 14 (r = .38, p < .001), and self-worth at age 19 (r = .29, p = .001). Self-reported social acceptance at age 17 was related to peer reported social acceptance at age 14 (r = .27, p = .002) and 17 (r = .19, p = .04). Peer-reported social acceptance at age 14 was also related to peer reported social acceptance at age 17 (r = .39, p < .001) and self-worth at age 19 (r = .22, p = .01). Peer reported social acceptance at age 17 was also related to self-worth at age 19 (r = .25, p = .01).

Primary Analyses

Hypothesis 1: a) Low levels of broader social acceptance at age 14, as compared to low levels of close friendship quality at age 14, will account for more unique variance in social anxiety at age 19. b) Low levels of close friendship quality at age 17, as compared to low levels broader social acceptance at age 17, will account for more unique variance in social anxiety at age 19. c) Having a higher quality close friendship at

age 17 will buffer against having had lower broad social acceptance at age 14 for predicting social anxiety at age 19.

Regression results revealed significant direct effects between lower levels of self-reported social acceptance at age 14 and higher levels of social anxiety at age 19, such that social acceptance was able to explain 14% of the variance in social anxiety over and above what was explained by friendship quality and control variables alone (β = -.43, p < .001; see Table 4). When testing the direct effects of self-reported social acceptance and friendship quality at age 17, results revealed no significant direct effects between friendship quality and social anxiety at age 19. However, lower levels of self-reported social acceptance at age 17 was a significant predictor for higher levels of social anxiety at age 19, and explained 13% of the variance in social anxiety beyond what was explained by friendship quality and control variables alone (β = -.43, p < .001; see Table 5). Lastly, results did not yield a significant interaction effect between self-reported social acceptance at age 14 and friendship quality at age 17 when predicting social anxiety at age 19, and social acceptance remained the strongest and only significant predictor of social anxiety (β = -.43, p < .001; see Table 6). Analyses were also conducted using peer reported social acceptance at ages 14 and 17; however, results yielded no significant findings.

Hypothesis 2: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on individuals' level of interpersonal competence measured concurrently with social anxiety. Individuals who have strong broad social acceptance and friendship quality will be more susceptible to social anxiety when they have lower levels of interpersonal competence.

Results from hierarchical regression analyses revealed no significant interaction effects between friendship quality at age 14 and interpersonal competence at age 19 when predicting social anxiety or between self-reported social acceptance at age 14 and interpersonal competence at age 19 when predicting social anxiety. In final models, self-reported social acceptance at age 14 remained the strongest predictor of social anxiety at age 19, explaining 16% of the variance in social anxiety above and beyond what was explained by any of the other variables in the model (β = -.41, p < .001; see Table 7).

Further analyses yielded no significant interaction effects between friendship quality at age 17 and interpersonal competence at age 19 when predicting social anxiety or between self-reported social acceptance at age 17 and interpersonal competence at age 19 when predicting social anxiety. In final models, self-reported social acceptance at age 17 remained the strongest predictor of social anxiety at age 19, explaining 19% of the variance in social anxiety above and beyond what was explained by any of the other variables in the model (β = -.34, p < .001; see Table 8). Analyses were also conducted using peer reported social acceptance at ages 14 and 17; however, results yielded no significant findings.

Hypothesis 3: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on the individuals' self-worth. Individuals who have strong broad social acceptance and friendship quality will be more susceptible to social anxiety when they have lower self-worth.

Results from hierarchical regression analyses revealed no significant interaction effects between friendship quality at age 14 and self-worth at age 19 when predicting social anxiety or between self-reported social acceptance at age 14 and self-worth at age

19 when predicting social anxiety. Results did however yield significant direct effects between self-reported social acceptance at age 14 and social anxiety at age 19 (β = -.37, p < .001; see Table 9) and between self-worth at age 19 and social anxiety at age 19 (β = -.37, p < .001; see Table 9). Social acceptance and self-worth each explained 15% of the variance in social anxiety over and above what was explained by any of the other variables in the model.

Further analyses yielded no significant interaction effects between friendship quality at age 17 and self-worth at age 19 when predicting social anxiety or between self-reported social acceptance at age 17 and self-worth at age 19 when predicting social anxiety. Results did however yield significant direct effects between self-reported social acceptance at age 17 and social anxiety at age 19 (β = -.29, p < .001; see Table 10) and between self-worth at age 19 and social anxiety at age 19 (β = -.33, p < .001; see Table 10. Social acceptance explained 14% of the variance in social anxiety and self-worth explained 10% the variance in social anxiety over and above what was explained by any of the other variables in the model. Analyses were also conducted using peer reported social acceptance at ages 14 and 17; however, results yielded no significant findings.

Hypothesis 4: Predictions from broad social acceptance and close friendship quality to future social anxiety will depend on gender, such that females with lower friendship quality will be at higher risk for developing social anxiety compared to males.

Results from hierarchical regression analyses revealed a significant interaction effect between friendship quality at age 14 and gender when predicting social anxiety at age 19, such that females with high friendship quality reported higher levels of social anxiety, and males with low friendship quality reported higher levels of social anxiety

than females (β = -.18, p = .03; see Table 11 and Figure 1). However, interaction effects did not hold when friendship quality was measured at age 17, and social acceptance at age 17 remained the strongest predictor of social anxiety at age 19, explaining 13% of the variance in social anxiety over and above what was explained by any of the other variables in the model (β = -.35, p < .001; see Table 12). Analyses were also conducted using peer reported social acceptance at ages 14 and 17; however, results yielded no significant findings.

Discussion

The present study hypothesized long-term associations between adolescent peer relationships, such as dyadic close friendship quality and social acceptance, and social anxiety. Specifically, the study aimed to examine the relative importance of close friendship quality and social acceptance at different stages of adolescence when predicting social anxiety in addition to the possible conditional effects of interpersonal competence, self-worth, and gender. Hypotheses were based on previous research and theory suggesting that the developmental characteristics of early and late adolescence may be implicated in the links between adolescent peer relationships and future social anxiety (Brinthaupt & Lipka, 2002; Erikson, 1968). Further, when social anxiety development is viewed through a psychosocial lens, it is possible that aversive experiences in peer relationships may predict future social anxiety. However, it is also possible that other factors that are related to the quality of interpersonal relationships may change the course of social anxiety development, which subsequently leads to the inclusion of interpersonal competence, self-worth, and gender as moderators of the direct links between adolescent peer relationships and future social anxiety. Results from this

study provide a mix of conflicting and supporting evidence for the proposed hypotheses, which are described in turn below.

The development of social anxiety is considered to be a complex and integrative process resulting from a combination of psychosocial, cognitive, behavioral, and biological factors (Spence & Rapee, 2016). Specifically, social anxiety may develop as a result of aversive social experiences; however, it is important to consider the types of interpersonal relationships that are implicated in this etiological perspective. Theories of human development suggest that peer relationships are of heightened importance during the adolescent time period when individuals first begin to explore identity and intimacy (Erikson, 1968). Specifically, being highly regarded by one's peers might be more important during early adolescence when individuals are working through the developmental task of forming an identity, whereas having a more intimate, high-quality friendship might be more important during late adolescence when individuals are starting to seek out more intimate friendships (Brinthaupt & Lipka, 2002; Erikson, 1968). However, findings from the present study only provide partial support for the hypotheses that a)) Low levels of broader social acceptance at age 14, as compared to low levels of close friendship quality at age 14, will account for more unique variance in social anxiety at age 19, while b) Low levels of close friendship quality at age 17, as compared to low levels broader social acceptance at age 17, will account for more unique variance in social anxiety at age 19, and that c) having a higher quality close friendship at age 17 will buffer against having had lower broad social acceptance at age 14 for predicting social anxiety at age 19. As predicted, social acceptance explained more unique variance in social anxiety when measured at age 14; however, in contrast to hypotheses, it also

explained more unique variance in social anxiety when measured again at age 17. Moreover, having a higher quality close friendship at age 17 did not buffer against social anxiety for individuals who had low social acceptance at age 14, which provides further support for the relative importance of social acceptance across adolescence as a predictor of social anxiety.

One possible explanation for this finding is the importance of an individual's own perception of their success in social situations. Notably, direct links between social acceptance at ages 14 and 17 and social anxiety were only found when social acceptance was measured using self-report (alternatively to peer report). This is an important consideration for conceptualizing social anxiety, because it supports theory and research that suggests that social anxiety develops largely as a result of negative self-perception. Specifically, individuals with social anxiety are more likely to view themselves negatively and believe that others view them negatively (Kenny, 1994; Christensen et al., 2003). As such, it is possible that self-perceived social acceptance is a more important predictor of social anxiety because individuals with predisposed cognitive biases towards a negative self-perception are more likely to look for acceptance/confirmation from a broader group of individuals than just one close friend. Another possible explanation could be the directionality of the links between these peer relationships and social anxiety. Specifically, while social acceptance may be an important predictor of social anxiety, it is also possible that low friendship quality may still also be a relevant and important outcome of developing social anxiety. For example, it is possible that adolescents who perceive themselves to be less accepted by their peers begin to develop social anxiety and subsequently avoid forming intimate friendships. This possibility is

supported by previous findings that have identified social withdrawal as a mediator of the predictive relationship between social anxiety and friendship quality (where social anxiety predicts friendship quality) (Biggs, 2011). Importantly, however, there have been other studies that have instead found that social anxiety does not predict friendship quality for individuals between the ages of 17-22, but that friendship quality can predict social anxiety (Rodebaugh et al., 2015). Thus, future research is warranted to further investigate the directionality of the relationship between friendship quality and social anxiety.

One cognitive/behavioral factor that was considered as a moderator in the present study was interpersonal competence, which is a person's ability to interact effectively with others. Interpersonal competence has been studied in tandem with close friendship quality and social acceptance, as it is possible that some interpersonal competence skills may lend themselves to more success in close friendships, while others may lend themselves to more success within a broader social group (Parker & Asher, 1993). The hypothesis that individuals who have strong broad social acceptance and friendship quality will be more susceptible to social anxiety when they have lower levels of interpersonal competence was not supported by findings from the present study. Results suggest that, when predicting social anxiety from adolescent peer relationships, individuals who have lower levels of interpersonal competence report no higher levels of social anxiety than individuals who have high levels of interpersonal competence. Moreover, results revealed no direct links between interpersonal competence and social anxiety, and social acceptance explained the most unique variance in social anxiety when measured at both age 14 and age 17 when interpersonal competence was also included in

the model. Though social acceptance may actually exist as a strong and important predictor of social anxiety, it is important to note these findings are in contrast with the extant literature. Although interpersonal competence has yet to be examined as a moderator of associations between peer relationships and social anxiety, direct links between interpersonal competence and social anxiety have been previously established (Spitzberg & Cupach, 2012). Although it is possible that interpersonal competence does not play an important role in future social anxiety development, the contrasting results from this study may also be due to factors such as the age at which interpersonal competence was studied and the measure used to examine the construct. Interpersonal competence was measured at the same time as social anxiety to gain insight into how an individual's accumulation of interpersonal skills might play a role in how they act socially at the time at which they report on feelings of social anxiety. However, it might also be that the skills related to interpersonal competence are more important to consider at the time that aversive experiences with peers are more likely to occur and more meaningfully shape development (e.g., in adolescence). Moreover, interpersonal competence was measured using peer-report; however, given that social anxiety is regarded as being heavily related to self-perception, it may be more appropriate to measure interpersonal competence using a self-report measure to gain insight about how the teen regards their own social skill and behavior.

Another cognitive factor that was considered as a moderator in the present study was self-worth, which is a person's appraisal of their own value/worth across settings. The hypothesis that individuals who have strong broad social acceptance and friendship quality would be more susceptible to social anxiety when they have lower self-worth was

based on previous research that has found that individuals evaluate their self-worth differently depending on context, which suggests the possibility that individuals who regard themselves highly when in a larger peer group, may not regard themselves highly when they are with one close friend (and vice versa) (Harter et al., 1998). This suggests the possibility that an individual may have a high-quality close friendship or be highly regarded by their peers, but still feel low self-worth in a more global context, which may lend to future social anxiety. Though findings did not support self-worth as a moderator of the relationship between adolescent friendship quality or social acceptance and later social anxiety, direct effects between self-worth and social anxiety were revealed. In addition to social acceptance at age 14 and 17 remaining an important predictor of social anxiety, low levels self-worth at age 19 also uniquely contributed to predicting social anxiety. One possible explanation for this finding is similar to understanding the importance of self-perceived social acceptance as a predictor of social anxiety. While social acceptance is more relevant to the ways in which individuals perceive how *others* view them, self-worth is more relevant to the ways in which individuals view *themselves,* which is another essential component to social anxiety development (Kenny, 1994; Christensen et al., 2003). Individuals who are cognitively predisposed to negative biases about themselves may be more likely to perceive their value and worth across settings as more negative. Further, it is possible that the negative effects of self-perceived social acceptance and self-worth compound to heighten the risk for future social anxiety development. This is supported by previous findings that high self-criticism and low self-esteem (which are both highly related to self-worth) are both meaningful predictors of social anxiety (Shahar & Gilboa-Schectman, 2007; Ginsburg et al.,1998). It is important

to note that most of the studies aimed at investigating the role of self-worth (and its related constructs) in social anxiety development examine these constructs in childhood or early adolescence, and results from the present study provide preliminary evidence for the generalization of previous findings to a late adolescent/emerging adult population. However, though self-worth was measured at age 19 in this study, future research should also consider measuring self-worth concurrently with social acceptance and friendship quality to examine whether or not self-worth is a unique predictor of social anxiety when measured during adolescence.

Lastly, extant literature has highlighted the role of gender in understanding the link between adolescent peer relationships and outcomes related to psychological functioning and adjustment. Previous work has established clear gender differences related to friendship quality, social acceptance, and social anxiety. Specifically, low levels of social acceptance have been linked to social anxiety for both males and females while low levels of friendship quality have been linked to social anxiety for only females (La Greca & Lopez, 1997; Pickerling et al., 2019). These findings are supported by the theory that females have a stronger ability and desire to form close, intimate friendships than males (Youniss & Haynie, 1992). However, findings from the present study are in contrast with its proposed hypothesis that predictions from broad social acceptance and close friendship quality to future social anxiety will depend on gender, such that females with lower friendship quality will be at higher risk for developing social anxiety compared to males. Notably, results revealed an interaction effect between gender and friendship quality that suggests that males with lower friendship quality at age 14 are more likely to report higher levels social anxiety, while females with higher quality

friendships at age 14 are more likely to report higher levels of later social anxiety. However, when close friendship quality is measured at age 17, results revealed that gender is no longer a moderator of the relationship between close friendship quality and social anxiety. These findings provide interesting insight into the unique role of friendships during adolescence, specifically with regard to differences between adolescent males and females. During early adolescence, peers become a central focus to individuals as they begin to become more heavily influenced by their peers than their parents. For males, competition is a unique characteristic of friendships; however, it can subsequently lead to more conflict within friendships (Schneider, 2005; Berndt, 1982). It is possible that males are more likely to experience adverse experiences within their friendships, leading to higher levels of later social anxiety later on. For females, it is possible that there are higher stakes involved in forming a close, intimate friendship with another peer at the beginning of the transition to adolescence. Thus, when there is a negative event within the friendship, the experience might be perceived as more aversive, which then leads to higher levels of social anxiety. This is supported by previous findings that suggest that not only do adolescent females desire more intimate friendships, but they also regard their friendships as being more important and intense than males (Richey & Richey, 1980; Clark & Ayers, 1993; Youniss & Haynie, 1992). As individuals become more comfortable with forming friendships throughout adolescence, the friendship (and any aversive events stemming from that friendship) may be regarded as “less important,” and subsequently contributes less to predicting social anxiety.

Strengths and Limitations

This study included several strengths, most importantly its multi-method and longitudinal design, which provided the opportunity to examine the effects of high-quality adolescent peer relationships at different stages of adolescence to investigate developmental precursors of social anxiety. Importantly, the present study also used data from a non-clinical population, which allows for the conclusions drawn from results to be generalized to all individuals, regardless of whether or not they meet diagnostic criteria for a social anxiety disorder. Lastly, to account for the dyadic nature of close friendship and the unilateral nature of social acceptance, variables in the present study were chosen on the basis of this characterization (Asher et al., 1996). As such, scores from peer-report and self-report of close friendship quality were combined to create a new variable to represent dyadic close friendship quality, and social acceptance was measured using scores from separate self-report and peer-report assessments. Notably, findings from this study only support the importance of *self-reported* social acceptance, which provides interesting evidence for the implication of an individual's own perception in future social anxiety development. This also may help to explain why this study, in contrast to the extant literature, did not find close friendship quality to be an important predictor of social anxiety, as most of the existing research only used self-report to measure close friendship quality (as opposed to measuring perceptions from both sides of the friendship). Lastly, though this study primarily aimed to investigate psychosocial correlates of social anxiety, moderating variables were selected to account for possible cognitive/behavioral (i.e., self-worth and interpersonal competence) and biological (i.e.,

gender) factors that may contribute to heightened social anxiety with the intent of gaining a more comprehensive understanding of social anxiety development.

In addition to its strengths, this study also had several limitations that are important to consider. Though longitudinal in nature, the present study is nonetheless correlational, preventing researchers from drawing causal conclusions from the data. In addition, conclusions drawn from this study are limited to self- and peer- report of all study variables. Given the lack of findings linking interpersonal competence to social anxiety, future research may consider using an observational or self-report measure of interpersonal competence to get a more thorough sense of how well-prepared individuals are to engage in interpersonal situations. Another limitation of the present study is the ages at which study variables were measured. Close friendship quality and social acceptance were measured at ages 14 and 17 to investigate links with future and social anxiety. Though one of the aims of this study is to generalize findings to larger early adolescent and late adolescent time frames, it is important to take caution when doing so until findings have been replicated with other ages represented in each developmental stage. Lastly, although findings from this study have important implications for understanding long-term effects of interpersonal experiences, data from the present study were collected prior to when interpersonal stressors were heightened by the COVID-19 pandemic. Thus, caution is warranted when interpreting results, given that the long-term effects of these globally experienced and situational interpersonal stressors are still unknown and findings from the current study may or may not generalize to individuals who have been impacted by the pandemic.

Implications and Future Directions

The results from the present study have important implications for understanding factors that may contribute to social anxiety development. Findings suggest that social acceptance and self-worth may be important predictors of social anxiety and provide evidence for possible gender differences when using close friendship quality to predict later social anxiety. Taken together, these findings provide support for conceptualizing social anxiety through an integrative model that considers psychosocial, cognitive, and biological factors. Much of the extant literature is aimed at identifying predictors of social anxiety through the lens of just one etiological perspective (e.g., cognitive, biological, psychosocial); however, future research should aim to develop a more comprehensive and eclectic model of social anxiety to identify individuals who are most at risk for its development and provide them with necessary support to promote psychological functioning. For example, future research might also consider factors such as temperament, parent or romantic partner relationship quality, and emotion regulation as predictors of social anxiety. Future research should also consider other factors that might act as mediators or moderators that could play a role in predicting social anxiety (e.g., other mental health symptoms, adverse childhood experiences, coping mechanisms).

Results from the current study also extend to practical application in the areas of parenting, schooling, and psychological practice. Individuals who work with adolescents should consider the importance of adolescents being able to both acquire and maintain a sense of belonging among peers. For example, parents of adolescents may consider providing their children with ample opportunity to engage with same-aged peers through

extracurricular activities, teachers may consider designing lessons that allow students to work together in small groups or pairs or teaching students who to engage respectfully and confidently in class discussions, and psychological professionals may consider integrating social skills lessons into therapeutic practice. Findings from the present study also provide evidence for the possibility that individuals who regard themselves highly tend to have lower levels of social anxiety. Thus, parents, teachers, and psychological professionals may aim to create an environment for children and adolescents in which they are able to develop a strong sense of self-worth. Lastly, results from the current study suggest gender difference related to links between early adolescent friendship quality and later social anxiety development. As such, it may be important for parents, teachers, and psychological professionals to model setting appropriate expectations for friendships during the early adolescent time period when individuals are just beginning to navigate building more intimate close friendships with peers.

Conclusions

The quality of a person's interpersonal relationships is implicated in their overall well-being, adjustment, and psychological functioning. Developmental theory suggests that the quality of peer relationships specifically can have distinct effects on functioning when examined during adolescence. Subsequently, links between peer relationships, such as close friendship and social acceptance, and future social anxiety have been studied extensively in the literature. Through this lens, it is important to consider other factors related to interpersonal functioning that may buffer against the effects that aversive peer experiences may have on future heightened social anxiety. Thus, the present study was aimed at examining the relative importance of close friendship and social acceptance at

different stages of adolescence when predicting later social anxiety. Moreover, the study sought to examine the moderating effects of interpersonal competence, self-worth, and gender on the direct links between adolescent peer relationships and social anxiety. Findings from this study highlight the importance of social acceptance and self-worth as predictors of social anxiety, relative to the importance of other factors such as dyadic close friendship quality and interpersonal competence. Also, the study highlights interesting gender differences that might moderate the direct relationship between friendship quality in early adolescence and social anxiety. Findings from the current study are representative of the complexity of social anxiety development, and they also provide important implications for understanding the potential risk and protective factors for social anxiety, which can be used to promote healthy psychological functioning.

Table 1. *Descriptive statistics for study variables.*

Variable	***N***	**Mean**	***SD***	**Min**	**Max**
Gender (86 male, 98 female)	184	-	-	-	-
Income	184	40-60K/year	-	<$5K/yr	>$60K/yr
Baseline Anxiety (15)	170	6.63	8.03	0	41
Close Friendship Quality (14)	166	153.78	21.72	70.50	194
Close Friendship Quality (17)	168	154.78	23.91	80	196
Social Acceptance Self-Report (14)	159	13.38	2.62	5	16
Social Acceptance Self-Report (17)	150	12.89	2.44	5	16
Social Acceptance Peer-Report (14)	154	13.38	2.52	4	15
Social Acceptance Peer-Report (17)	133	13.07	2.51	6	16
Interpersonal Competence (19)	125	138.75	27.57	68	198
Self-Worth (19)	146	16.65	2.99	8	20
Social Anxiety (19)	153	32.47	12.39	18	78

Table 2. *Correlations between predictors and outcome variable.*

	Social Anxiety (19)
Gender (86 male, 98 female)	.03
Income	.18*
Baseline Anxiety (15)	.26**
Close Friendship Quality (14)	.02
Close Friendship Quality (17)	-.04
Social Acceptance Self-Report (14)	-.44***
Social Acceptance Self-Report (17)	-.41***
Social Acceptance Peer-Report (14)	-.10
Social Acceptance Peer-Report (17)	-.08
Interpersonal Competence (19)	-.08
Self-Worth (19)	-.46***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Correlations among predictor variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Gender (1 = Male, 2 = Female)	-										
2. Income	-.12	-									
3. Baseline Anxiety (15)	.32***	-.10	-								
4. Close Friendship Quality (14)	.33***	-.08	.03	-							
5. Close Friendship Quality (17)	.48***	-.02	.10	.46***	-						
6. Social Acceptance Self-Report (14)	-.10	.001	-.14	.18*	.06	-					
7. Social Acceptance Self-Report (17)	.08	-.17	-.11	.08	.18*	.48***	-				
8. Social Acceptance Peer-Report (14)	.01	-.12	-.07	.29**	.21*	.38***	.27**	-			
9. Social Acceptance Peer-Report (17)	.06	-.04	.06	.26**	.25**	.17	.19*	.39***	-		
10. Interpersonal Competence (19)	.15	.17	.02	.20*	.10	-.05	-.02	-.05	.02	-	
11. Self-Worth (19)	.10	-.08	-.30**	.13	.27**	.29**	.39***	.22*	.25**	.11	-

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4. *The relative importance of early adolescent close friendship quality and social acceptance as predictors of social anxiety in emerging adulthood.*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	-.09	.001	-.25, .07	
Income	.19*	.13	.04	-.01, .28	
Step 2					.10
Baseline Anxiety (15)	.28**	.21*	.05*	.05, .37	
Step 3					
Friendship Quality (14)	.13	.13	.01	-.03, .30	
Social Acceptance (14)	-.43***	-.43***	.14***	-.57, -.29	.25

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5. *The relative importance of late adolescent close friendship quality and social acceptance as predictors of social anxiety in emerging adulthood*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	-.01	.002	-.17, .16	
Income	.19*	.14	.03	-.001, .29	
Step 2					.10
Baseline Anxiety (15)	.29**	.23**	.05**	.07, .39	
Step 3					.22
Friendship Quality (17)	.02	.02	.001	-.15, .20	
Social Acceptance (17)	-.36***	-.36***	.13***	-.51, -.22	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 6. *The conditional effect of early adolescent social acceptance on the relationship between late adolescent close friendship quality and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	.05	.0001	-.21, .11	
Income	.19*	.15*	.05*	.01, .29	
Step 2					.10
Baseline Anxiety (15)	.29**	.22**	.05*	.06, .38	
Step 3					.25
Friendship Quality (17)	.05	.02	.004	-.15, .19	
Social Acceptance (14)	-.41***	-.43***	.14***	-.57, -.29	
Step 4					.27
Friendship Quality (17) * Social Acceptance (14)	-.14	-.14	.01	-.30,. 03	

Note.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 7. *The conditional effects of interpersonal competence on the relationship between early adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	.06	.003	-.22, .10	
Income	.19*	.18*	.05*	.03, .32	
Step 2					.10
Baseline Anxiety (15)	.29**	.21*	.04*	.06, .37	
Step 3					.25
Friendship Quality (14)	.13	.11	.001	-.06, .28	
Social Acceptance (14)	-.43***	-.41***	.16***	-.55, -.26	
Step 4					.27
Interpersonal Competence (19)	-.14	-.17	.01	-.33,. 002	
Step 5					.29
Friendship Quality (14) * Interpersonal Competence (19)	-.14	-.14	.01	-.32, .04	
Social Acceptance (14) * Interpersonal Competence (19)	.05	.05	.003	-.13, .22	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8. *The conditional effects of interpersonal competence on the relationship between late adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	.02	.004	-.16, .19	
Income	.19*	.19*	.05*	.05, .34	
Step 2					.10
Baseline Anxiety (15)	.29**	.21**	.03*	.06, .37	
Step 3					.22
Friendship Quality (17)	.02	.01	.006	-.16, .19	
Social Acceptance (17)	-.37***	-.34***	.19***	-.49, -.19	
Step 4					.24
Interpersonal Competence (19)	-.14	-.16	.01	-.34, .02	
Step 5					.26
Friendship Quality (17) * Interpersonal Competence (19)	-.14	-.14	.02	-.30, .05	
Social Acceptance (17) * Interpersonal Competence (19)	-.003	-.003	.001	-.19, .18	

Note. * $p < .05$, ** $p < .01$, *** $p < .00$

Table 9. *The conditional effects of self-worth on the relationship between early adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	.001	.003	-.15, .15	
Income	.19*	.12	.05	-.02, .25	
Step 2					.10
Baseline Anxiety (15)	.29**	.09	.05	-.07, .25	
Step 3					.25
Friendship Quality (14)	.13	.15	.003	-.01, .30	
Social Acceptance (14)	-.43***	-.37***	.15***	-.52, -.23	
Step 4					.37
Self-Worth (19)	-.38***	-.37***	.15***	-.52, -.23	
Step 5					.38
Friendship Quality (14) * Self-Worth (19)	-.05	-.05	.01	-.21, .11	
Social Acceptance (14) * Self-Worth (19)	-.06	-.06	.003	-.22, .11	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 10. *The conditional effects of self-worth on the relationship between late adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	.06	.01	-.10, .22	
Income	.19*	.14	.04	.001, .27	
Step 2					.10
Baseline Anxiety (15)	.29**	.10	.05	-.06, .27	
Step 3					.22
Friendship Quality (17)	.02	.07	.001	-.10, .24	
Social Acceptance (17)	-.37***	-.29***	.14***	-.44, -.13	
Step 4					.31
Self-Worth (19)	-.36***	-.33***	.10***	-.50, -.16	
Step 5					.22
Friendship Quality (17) * Self-Worth (19)	-.11	-.11	.01	-.26, .05	
Social Acceptance (17) * Self-Worth (19)	-.01	-.01	.00003	-.18, .16	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11. *The conditional effects of gender on the relationship between early adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	-.09	.001	-.24, .07	
Income	.19*	.12	.05	-.03, .26	
Step 2					.10
Baseline Anxiety (15)	.29**	.22*	.05*	.06, .37	
Step 3					.25
Friendship Quality (14)	.13	.14	.01	-.03, .30	
Social Acceptance (14)	-.43***	-.43***	.14***	-.58, -.28	
Step 4					.28
Friendship Quality (14) * Gender (19)	-.18*	-.18*	.02*	.02, .33	
Social Acceptance (14) * Gender(19)	-.09	-.09	.01	-.25, .17	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

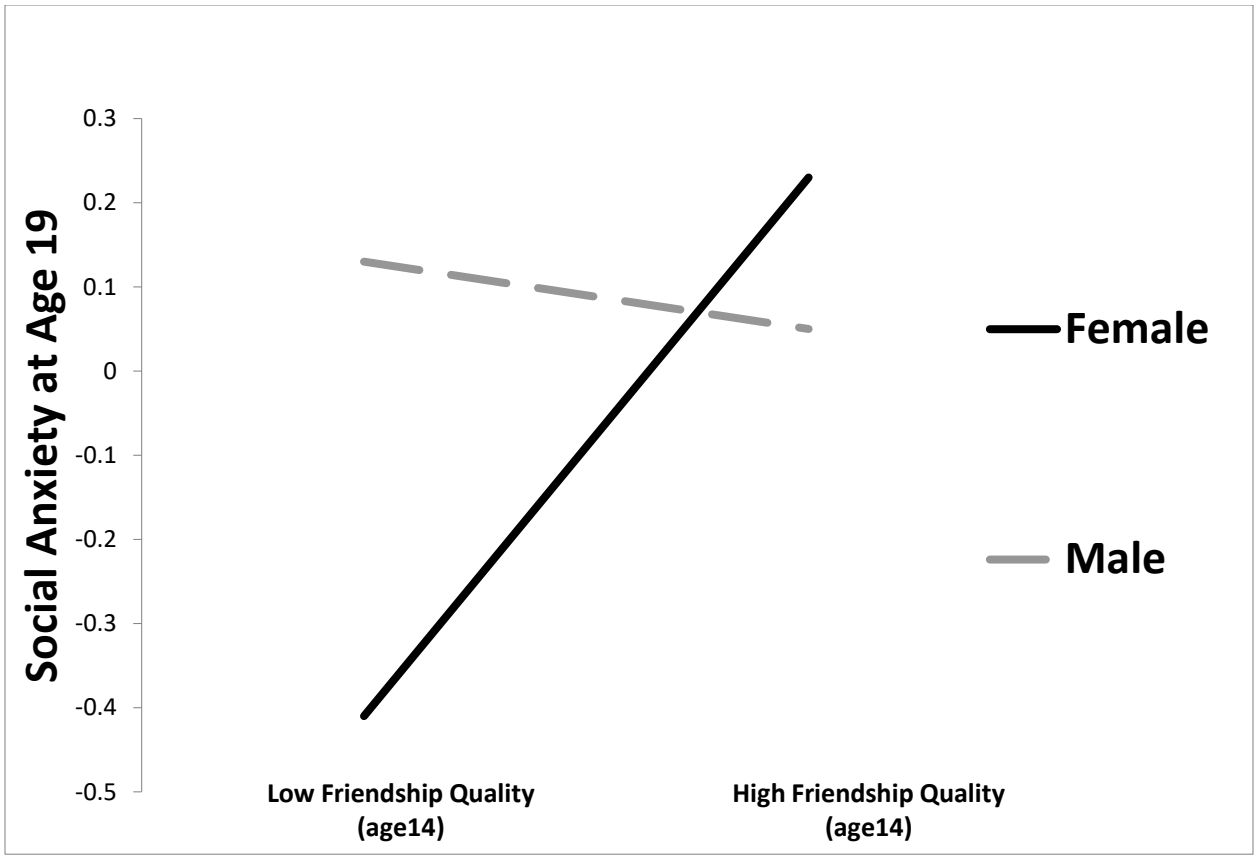

Figure 1. *Interaction between gender and early adolescent close friendship quality. High and low represent one standard deviation above and below the mean. Scores for social anxiety were standardized during data analysis using sample means to create interaction variables, and zero represents the mean social anxiety score.*

Table 12. *The conditional effects of gender on the relationship between late adolescent close friendship quality and social acceptance and emerging adulthood social anxiety*

	Social Anxiety (19)				
	β entry	β final	sr^2	95% CI	R^2
Step 1					.03
Gender (1 = Male, 2 = Female)	.04	-.001	.002	-.17, .16	
Income	.19*	.16*	.03*	.01, .30	
Step 2					.10
Baseline Anxiety (15)	.29**	.22*	.05*	-.06, .38	
Step 3					.22
Friendship Quality (17)	.02	.01	.003	-.16, .19	.
Social Acceptance (17)	-.37***	-.35***	.13***	-.50, -.20	
Step 4					.23
Friendship Quality (17) * Self-Worth (19)	-.15	-.15	.01	-.21, .11	
Social Acceptance (17) * Self-Worth (19)	-.09	-.09	.01	-.24, .07	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

References

Allen, J. P., Moore, C., Kuperminc, G., & Bell, K. (1998). Attachment and adolescent psychosocial functioning. *Child development, 69*(5), 1406-1419.

Asher, S. R., Parker, J. G., & Walker, D. L. (1996). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 366–405). Cambridge University Press.

Beck, A. T.; Epstein, N.; Brown, G.; Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. Journal of Consulting and Clinical Psychology. 56(6), 893-897.

Bennis, W. G. (1968). Interpersonal Dynamics; Essays and Readings on Human Interaction.

Berndt, T. J. (1982). The features and effects of friendship in early adolescence. *Child development*, 1447-1460.

Berndt, T. J. (1998) 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). Cambridge University Press.

Biggs, B. K., Vernberg, E. M., & Wu, Y. P. (2012). Social anxiety and adolescents' friendships: The role of social withdrawal. *The Journal of Early Adolescence*, *32*(6), 802-823.

Bishop, J. A., & Inderbitzen, H. M. (1995). Peer acceptance and friendship: An investigation of their relation to self-esteem. *The Journal of Early Adolescence, 15*(4), 476-489.

Blumenthal, H., Ham, L. S., Cloutier, R. M., Bacon, A. K., & Douglas, M. E. (2016). Social anxiety, disengagement coping, and alcohol-use behaviors among adolescents. *Anxiety, Stress, & Coping*, *29*(4), 432-446.

Blumenthal, H., Leen-Feldner, E. W., Frala, J. L., Badour, C. L., & Ham, L. S. (2010). Social anxiety and motives for alcohol use among adolescents. *Psychology of Addictive Behaviors*, *24*(3), 529–534.

Bochner, A. P., & Kelly, C. W. (1974). Interpersonal competence: Rationale, philosophy, and implementation of a conceptual framework.

Brinthaupt, T. M., & Lipka, R. P. (2002). Understanding early adolescent self and identity: An introduction. *Understanding early adolescent self and identity: Applications and interventions*, 1-21.

Brown, B. B., & Larson, J. (2009). Peer relationshipships in adolescence. In R. M. Lerner & L. Steinberg (Eds.), Handbook of adolescent psychology: Contextual influences on adolescent development (pp. 74–103). John Wiley & Sons, Inc.

Brown, J. D., & Marshall, M. A. (2006). The three faces of self-esteem. *Self-esteem: Issues and answers*, 4-9.

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

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationshipships. *Journal of Personality and Social psychology*, *55*(6), 991.

Bukowski, W. M., & Hoza, B. (1989). Popularity and friendship: Issues in theory, measurement, and outcome. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationshipships in child development* (pp. 15–45). John Wiley & Sons.

Chow, C. M., Ruhl, H., & Buhrmester, D. (2013). The mediating role of interpersonal competence between adolescents' empathy and friendship quality: A dyadic approach. *Journal of adolescence*, *36*(1), 191-200.

Christensen, P. N., Stein, M. B., & Means-Christensen, A. (2003). Social anxiety and interpersonal perception: A social relations model analysis. *Behaviour Research and Therapy*, *41*(11), 1355-1371.

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

Creamer, M., Foran, J., & Bell, R. (1995). The Beck Anxiety Inventory in a non-clinical sample. *Behaviour research and Therapy*, *33*(4), 477-485.

Crocker, J., Luhtanen, R. K., & Sommers, S. R. (2004). Contingencies of self-worth: Progress and prospects. *European review of social psychology, 15*(1), 133-181.

Davila, J., & Beck, J. G. (2002). Is social anxiety associated with impairment in close relationships? A preliminary investigation. *Behavior Therapy, 33*(3), 427-446.

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.

Erath, S. A., Flanagan, K. S., Bierman, K. L., & Tu, K. M. (2010). Friendships moderate psychosocial maladjustment in socially anxious early adolescents. *Journal of Applied Developmental Psychology*, *31*(1), 15-26.

Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). WW Norton & company.

Fordham, K., & Stevenson-Hinde, J. (1999). Shyness, friendship quality, and adjustment during middle childhood. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *40*(5), 757-768.

Fydrich, T., Dowdall, D., & Chambless, D. L. (1992). Reliability and validity of the Beck Anxiety Inventory. *Journal of anxiety disorders*, *6*(1), 55-61.

Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during early adolescence. *Child development*, *67*(5), 2201-2216.

Ghoul, A., Niwa, E. Y., & Boxer, P. (2013). The role of contingent self-worth in the relation between victimization and internalizing problems in adolescents. *Journal of Adolescence*, *36*(3), 457-464.

Ginsburg, G. S., La Greca, A. M., & Silverman, W. K. (1998). Social anxiety in children with anxiety disorders: Relation with social and emotional functioning. *Journal of abnormal child psychology*, *26*(3), 175-185.

Greco, L. A., & Morris, T. L. (2005). Factors influencing the link between social anxiety and peer acceptance: Contributions of social skills and close friendships during middle childhood. *Behavior Therapy*, *36*(2), 197-205.

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.

Ham, L. S., Bonin, M., & Hope, D. A. (2007). The role of drinking motives in social anxiety and alcohol use. *Journal of Anxiety Disorders, 21*(8), 991-1003.

Harter, S. (1998). Manual for the self-perception profile for adolescents. Unpublished manuscript. University of Denver, CO.

Harter, S. (1995). Manual for the self-perception profile for adults. Unpublished manuscript. University of Denver, CO.

Harter, S., Waters, P., & Whitesell, N. R. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child development, 69*(3), 756-766.

Heerey, E. A., & Kring, A. M. (2007). Interpersonal consequences of social anxiety. *Journal of abnormal psychology*, *116*(1), 125.

Henricks, L. A., Pouwels, J. L., Lansu, T. A., Lange, W. G., Becker, E. S., & Klein, A. M. (2021). Prospective associations between social status and social anxiety in early adolescence. British Journal of Developmental Psychology.

Hussong, A. M. (2000). Perceived peer context and adolescent adjustment. *Journal of Research on Adolescence*, *10*(4), 391-415.

Inderbitzen-Nolan, H. M., & Walters, K. S. (2000). Social Anxiety Scale for Adolescents: Normative data and further evidence of construct validity. *Journal of clinical child psychology*, *29*(3), 360-371.

James, W. (1890). The principles of psychology (Vol. 1). New York: Holt.

Keefe, K., & Berndt, T. J. (1996). Relations of friendship quality to self-esteem in early adolescence. *The Journal of Early Adolescence, 16*(1), 110-129.

Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. Guilford Press.

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* (1982-), 215-243.

Kurdek, L. A., & Krile, D. (1982). A developmental analysis of the relation between peer acceptance and both interpersonal understanding and perceived social self-competence. *Child Development*, 1485-1491.

La Greca, A. (1998). *Manual for the Social Anxiety Scales for Children and Adolescents*. Miami, FL: University of Miami.

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*(1), 49-61.

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.

LaGreca, A.M., & Stone, W. L. (1993). Social anxiety scale for children-revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology, 22,* 17-27.

Laible, D. (2007). Attachment with parents and peers in late adolescence: Links with emotional competence and social behavior. *Personality and individual differences, 43*(5), 1185-1197.

Laible, D. J., Carlo, G., & Roesch, S. C. (2004). Pathways to self-esteem in late adolescence: The role of parent and peer attachment, empathy, and social behaviours. *Journal of adolescence*, *27*(6), 703-716.

Laursen, B., Furman, W., & Mooney, K. S. (2006). Predicting interpersonal competence and self-worth from adolescent relationships and relationship networks: Variable-centered and person-centered perspectives. *Merrill-Palmer Quarterly (1982-),* 572-600.

Neemann, J., Hubbard, J., & Masten, A. S. (1995). The changing importance of romantic relationship involvement to competence from late childhood to late adolescence. *Development and psychopathology*, *7*(4), 727-750.

Oberle, E., Schonert-Reichl, K. A., & Thomson, K. C. (2010). Understanding the link between social and emotional well-being and peer relations in early adolescence: Gender-specific predictors of peer acceptance. *Journal of Youth and Adolescence, 39*(11), 1330-1342.

Oden, S., & Asher, S. R. (1977). Coaching children in social skills for friendship making. *Child Development, 48,* 495–506.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology, 29*(4), 611–621.

Parker, J. G., Rubin, K. H., Erath, S. A., Wojslawowicz, J. C., & Buskirk, A. A. (2006). Peer relationshipships, child development, and adjustment: A developmental psychopathology perspective. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Theory and method* (pp. 419–493). John Wiley & Sons, Inc.

Pasupathi, M., & Hoyt, T. (2009). The development of narrative identity in late adolescence and emergent adulthood: The continued importance of listeners. *Developmental Psychology*, *45*(2), 558–574.

Paul, E. L., & White, K. M. (1990). The development of intimate relationships in late adolescence. Adolescence, 25(98), 375.

Peleg, O. (2012). Social anxiety and social adaptation among adolescents at three age levels. *Social Psychology of Education*, *15*(2), 207-218.

Pickard, H., Happé, F., & Mandy, W. (2018). Navigating the social world: The role of social competence, peer victimisation and friendship quality in the development of social anxiety in childhood. *Journal of anxiety disorders*, *60*, 1-10.

Pickerling, L., Hadwin, J. A., & Kovshoff, H. (2020). The role of peers in the development of social anxiety in adolescent girls: A systematic review. *Adolescent Research Review, 5(*4), 341-362.

Richey, M. H., & Richey, H. W. (1980). The significance of best-friend relationships in adolescence. Psychology in the Schools, 17(4), 536-540.

Rodebaugh, T. L., Lim, M. H., Shumaker, E. A., Levinson, C. A., & Thompson, T. (2015). Social anxiety and friendship quality over time. *Cognitive Behaviour Therapy*, *44*(6), 502-511.

Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social development*, *6*(1), 111-135.

Rubin, K. H., Dwyer, K. M., Booth-LaForce, C., Kim, A. H., Burgess, K. B., & Rose-Krasnor, L. (2004). Attachment, friendship, and psychosocial functioning in early adolescence. *The Journal of early adolescence*, *24*(4), 326-356.

Siedlecki, K. L., Salthouse, T. A., Oishi, S., & Jeswani, S. (2014). The relationship between social support and subjective well-being across age. *Social indicators research*, *117*(2), 561-576.

Schlenker, B. R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization model. *Psychological bulletin*, *92*(3), 641.

Schonert-Reichl, K. A. (1999). Relations of peer acceptance, friendship adjustment, and social behavior to moral reasoning during early adolescence. *The Journal of Early Adolescence*, *19*(2), 249-279.

Schneider, B. H., Woodburn, S., del Toro, M. D. P. S., & Udvari, S. J. (2005). Cultural and gender differences in the implications of competition for early adolescent friendship. *Merrill-Palmer Quarterly (1982-)*, 163-191.

Shahar, G., & Gilboa-Shechtman, E. (2007). Depressive personality styles and social anxiety in young adults. *Journal of Cognitive Psychotherapy*, *21*(4), 275-284.

Spence, S. H., & Rapee, R. M. (2016). The etiology of social anxiety disorder: An evidence-based model. *Behaviour Research and Therapy*, *86*, 50-67.

Spitzberg, B. H., & Cupach, W. R. (2012). Handbook of interpersonal competence research. Springer Science & Business Media.

Storch, E. A., Masia-Warner, C., Dent, H. C., Roberti, J. W., & Fisher, P. H. (2004). Psychometric evaluation of the Social Anxiety Scale for Adolescents and the Social Phobia and Anxiety Inventory for Children: Construct validity and normative data. *Journal of Anxiety disorders, 18*(5), 665-679.

Vandell, L., & Hembree, S. E. (1994). Peer social status and friendship: Independent contributors to children's social and academic adjustment. *Merrill-Palmer Quarterly, 40*(4), 461–477.

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.

Weeks, M., Coplan, R. J., & Kingsbury, A. (2009). The correlates and consequences of early appearing social anxiety in young children. *Journal of anxiety disorders, 23*(7), 965-972.

Wentzel, K. R. (2014). Prosocial behavior and peer relations in adolescence. *Prosocial development: A multidimensional approach*, 178-200.

Wills, T. A. (1985). Supportive functions of interpersonal relationships. In S. Cohen & S. L. Syme (Eds.), Social support and health (pp. 61–82). Academic Press.

Woodhouse, S. S., Dykas, M. J., & Cassidy, J. (2012). Loneliness and peer relations in adolescence. *Social development, 21*(2), 273-293.

Youniss, J., & Haynie, D. L. (1992). Friendship in adolescence. *Journal of developmental and behavioral pediatrics, 13*(1), 59-66.