

**Understanding Adolescents' Loneliness: Testing for Developmental  
Differences in the Experience of Loneliness in Adolescence**

**By**

**Maria Weatherby  
Bachelor of Arts, University of British Columbia, 1997**

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Department of School of Social Work and Family Studies

The University of British Columbia  
Vancouver, Canada

Date Feb 19/2000

**Abstract**

Is the experience of loneliness dependent or independent of one's developmental stage?

Parkhurst and Hopmeyer's (1999) model of 'Developmental Changes in the Sources of Loneliness in Childhood and Adolescence' was utilized in an attempt to address this fundamental question. Their model of loneliness specified five distinct stages. The five stages were identified by grade level. Parkhurst and Hopmeyer's rationale suggested that for each stage, one's unique social group preferences, social needs, and understanding of loneliness, influences their sources of loneliness. For the purpose of this present study, two of the five stages were operationalized and presented in a questionnaire. One of the stages tested was upper elementary to junior high school. Twenty-seven grade eight and forty-three grade nine Physical Education students represented the upper elementary to junior high school stage. The other stage tested was high school to college. Fifty-two grade twelve, English students represented the high school to college stage. Overall, results from the questionnaire suggested that developmental stage did not significantly influence the loneliness experience for grade eight to twelve students, in the direction predicted by Parkhurst and Hopmeyer. However, since the measures used to assess Parkhurst and Hopmeyer's model fit existing research surrounding sex differences in loneliness, sex differences were also an area of investigation in the present study. The results indicated that females valued intimate social needs such as 'being able to share emotions and feelings' and 'being able to trust their friends'. Furthermore, females rated social situations that suggested inadequate intimacy, that is, 'feeling misunderstood' and 'not being to share emotions and feelings', as more lonely 'things' than the males. However, although females perceived that failing to obtain these intimate 'things' would make them feel lonely, in actuality, these intimate 'things' were not significantly associated with higher levels of loneliness for the females. On the other hand, males' social needs included 'having friends to do things with' and 'having friends that make you feel like you belong in the group'. Furthermore, males rated the social situations

that suggested they had inadequate levels of social status within their group, that is, 'if nobody stuck up for them', 'if they weren't popular enough to belong to their group of choice' or 'if they were embarrassed of their group of friends', as more lonely 'things' than the females. However, although males perceived all of these three 'things' that suggested a lack of social status to cause them to be lonely, in actuality, males had higher levels of loneliness from only one 'thing', that is, 'not feeling like they belonged in a group'.

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### **A Look at the Research on Child and Adolescent Loneliness**

Although loneliness occurs throughout all stages of the life span, theoretical developments and empirical research on loneliness is less developed in childhood and adolescence than it is in adulthood. This lack of theoretical development and empirical research has occurred despite the finding that adolescents are the loneliest (Peplau, Bikson, Rook & Goodchilds, 1982; Rubenstein & Shaver, 1982). One reason theoretical and empirical work on child and adolescent loneliness trails behind that of adult loneliness is that two early researchers of loneliness were doubtful children could experience loneliness. These two prominent loneliness researchers, Sullivan (1953) and Weiss (1973) believed that children lacked the cognitive and emotional capacity to feel the true experience of loneliness. Subsequently, the burst of loneliness research that occurred in the 1970s characterized the adult experience of loneliness. It was not until the 1980s that child and adolescent loneliness received more attention, empirically (Rotenberg, 1999).

Although research on child and adolescent loneliness has been moving along well since the 1980's, theoretical development in comparison has received less attention. Specifically, there is concern that a fundamental theoretical debate has still not been thoroughly addressed. This debate concerns the question as to whether child and adolescent loneliness is unique from or basically similar to the adult experience of loneliness. That is, is the experience of loneliness dependent on one's developmental level or is it independent of one's developmental level?

The contributors of the book Loneliness in Childhood and Adolescence (Rotenberg & Hymel, 1999), provide the most recent and focused discussions surrounding this 'unique versus similar' theoretical debate to date. Many of the authors of this book point out that before this debate can be empirically tested, theoretical developments must take place outlining sources of loneliness that are child and adolescent specific (Perlman & Landolt, 1999; Hymel, Thompson, Turelli, Deutsche, 1999; Parkhurst & Hopmeyer, 1999; Sippola & Bukowski, 1999). In

conjunction with this theoretical work, these authors envision empirical work testing the developmentally specific sources of loneliness thus enabling a complete evaluation of the debate to occur.

Unfortunately, most of the research on child and adolescent loneliness has not tackled this unique versus similar debate rather it has relied on adult theories to guide its discourse. Not surprisingly, the loneliness correlates commonly used in child and adolescent research do not allow for an evaluation of the unique versus similar debate. Rather it appears that the correlates being used in most of the child and adolescent loneliness research are basically the same correlates being used in the adult loneliness research. Thus, instead of the child and adolescent loneliness research evaluating this fundamental debate, it for the most part has assumed that the loneliness experience in childhood and adolescence is 'similar' to the loneliness experience in adulthood. Consequently, it seems imperative to briefly review the correlates commonly used in the child and adolescent loneliness research to obtain an indication of the potential problems associated with this 'similar' assumption.

#### An Over-Reliance on Adult Correlates

Sippola and Bukowski (1999) mention that researchers often assume adult correlates are relevant and appropriate variables that will explain child and adolescent loneliness. In particular, Perlman and Landolt (1999) point out two commonly researched correlates of child and adolescent loneliness that seem to have been borrowed from the adult research. Together, these two observations bring up an interesting point: Can we expect to capture a valid picture of the child and adolescent loneliness experience if we continue to test variables that are not child and adolescent centered?

The two sets of correlates identified by Perlman and Landolt (1999) are social problems, and psychological and interpersonal correlates. The social problems commonly identified as correlates for adult loneliness include suicide (Diamant & Windholz, 1981), alcohol use

(Akerlind & Hornquist, 1992), and poor psychological adjustment (Jones & Carver, 1991).

Within the child and adolescent literature, associations have been reported between loneliness and stealing and loneliness and vandalism (Youngblade, Berlin & Belsky, 1999). In addition, Larson (1999) comments on the correlation between loneliness and poor adjustment.

Due to the similarity of the social problems researched for children, adolescents and adults, there may be a tendency to assume that the relationship between social problems and loneliness is independent of one's developmental level. Although this is a possibility, it is also possible that specific social problems may be more likely at one developmental level than another. Perhaps more significantly, it is likely that there are unidentified social problems of children and adolescents due to a reluctance to search for new child and adolescent specific variables associated with loneliness. For instance, peer-related social problems such as feeling like you don't belong to a group may be associated with loneliness for children and adolescents only.

The second set of child and adolescent loneliness correlates, mentioned by Perlman and Landolt (1999) which bear close resemblance to those identified for adults is psychological and interpersonal correlates. In the adult literature, Jones and Carver (1991) stressed personality attributes. In addition, Jones (1982) identified personal social skills, the nature of social relationships formed, and cognitive factors such as interpersonal judgments. Within the child and adolescent literature, shyness (Youngblade, Berlin & Belsky, 1999), depression (Goossens & Marcoen, 1999; Koenig & Abrams, 1999), insecure attachment (Cassidy & Berlin, 1999), social anxiety and public self-consciousness (Goossens & Marcoen, 1999) have been investigated.

Due to this close resemblance between the psychological and interpersonal variables researched for children, adolescents and adults, the relationship between psychological and interpersonal correlates and loneliness appears to have been assumed as 'similar' across developmental levels. However, again these psychological and interpersonal correlates may be

based on one's developmental stage. For instance, certain psychological and interpersonal variables that are associated with loneliness may be more salient and prevalent at certain developmental levels. Perhaps not feeling attractive or popular enough to belong to one's preferred social group is associated with loneliness in early adolescence. Equally possible is that particular psychological and interpersonal variables may be simply normative or unassociated with loneliness at certain developmental stages. For instance, not having a boyfriend or girlfriend may be unrelated to loneliness in middle childhood but more detrimental for late adolescents. Thus, again our understanding of the child and adolescent loneliness experience may be limited because we fail to move beyond adult correlates.

Although this review of the correlates commonly investigated in the child and adolescent loneliness literature reveals the potential effects of holding untested assumptions, developmentally specific correlates of loneliness will likely only emerge when a developmental perspective is utilized. Restated, to the extent that theories guide research, using theories that assume the experience of loneliness is 'similar' across developmental levels will not encourage this 'unique' versus 'similar' debate to be explored.

#### An Over-Reliance on Adult Theories

Currently, two major theories are used to guide the loneliness research in childhood and adolescence. These are the two main theories used to study adult loneliness as well. They are the social needs perspective (Weiss, 1973) and the cognitive perspective (Peplau & Perlman, 1979). The social needs perspective has contributed to the identification of relationship provisions and the distinction between social and emotional loneliness. The cognitive perspective has focused on how the effects of perception, expectations, and attribution style shape the loneliness experience. Although each of these theories has contributed significantly to our understanding of loneliness, neither of these perspectives is overly concerned with identifying possible stage-related provisions, perceptions, or expectations.

### **What the Future Research on Child and Adolescent Loneliness Needs to Address**

Tying these previous criticisms together, it appears that both the theoretical developments and empirical research on loneliness in childhood and adolescence needs to focus on addressing a fundamental issue. Theoretically, a developmental perspective of loneliness needs to be outlined defined and outlined. Empirically, stage specific correlates of loneliness need to be evaluated.

#### Addressing the Need for a Definition of Loneliness that is Compatible with the Child and Adolescent Experience of Loneliness: Parkhurst and Hopmeyer's Definition of Loneliness

As many of the authors in the book Loneliness in Childhood and Adolescence (Rotenberg & Hymel, 1999) point out, there is a need for child and adolescent centered theories (Parkhurst & Hopmeyer, 1999; and others). In particular, there is a need for child and adolescent centered theories that guide and encourage research to test the possibility that loneliness in childhood and adolescence may be 'unique' from the loneliness experienced in adulthood.

Although the necessity of constructing a developmental theory to study loneliness lies in its ability to directly test the question of whether child and adolescent loneliness is unique or basically similar to adult loneliness, it also offers another benefit to the loneliness literature. Namely, since theoretical models offer a distinct way of conceptualizing phenomena, developmental theories may also offer a definition of loneliness that is compatible with the possibility of developmental changes in the sources of loneliness.

With respect to defining loneliness, the process has been difficult due to the variety of researchers studying loneliness. Psychiatrists, psychologists, sociologists and philosophers seem to emphasize different aspects of loneliness. This subsequently suggests the multidimensional nature of loneliness. However, Parkhurst and Hopmeyer (1999) suggest that definitions of loneliness should be abstract enough to refrain from defining merely one aspect of loneliness. They believe that a general, non-causal definition of loneliness contributes to envisioning the

types and dimensions of loneliness as being complimentary rather than perceiving them as contradictory.

Furthermore, Parkhurst and Hopmeyer (1999) feel that when loneliness is defined in emotional terms, it remains sufficiently abstract. The definition they propose is as follows: *loneliness is a sad or aching sense of isolation, that is, of being alone, cut-off, or distanced from others. This is associated with a felt deprivation of, or longing for, association, contact or closeness.* This definition contains three main ideas that are generally agreed upon by the various researchers. It reflects the painful affectual component, the cognitive component of perceiving oneself to be isolated and alone, and the felt desires and longings to be connected.

In addition to being compatible with the multiple dimensions emphasized by the various researchers studying loneliness, this definition proposed by Parkhurst and Hopmeyer (1999) invites another possibility. That is, the definition is compatible with a developmental view of loneliness.

Firstly, the painful affectual component may be dependent on one's emotional development. For instance, Parkhurst and Hopmeyer (1999) point out one emotional pattern whereby egocentric feelings are slowly relinquished to feelings that consider the role and behavior of others, that is, the ability to take the role of the other and understand one's own behavior as an outsider. Changes in emotional development may in turn, introduce new emotions to an individual. For instance, due to an increasing ability to take the role of the other, an adolescent may have the emotional ability to perceive him/herself as alienated, cut-off or not connected to anyone. This higher level of emotional development may subsequently introduce a new emotional source of loneliness.

Secondly, perceiving oneself to be isolated and alone may be dependent on one's cognitive development. Parkhurst and Hopmeyer (1999) discuss one cognitive pattern whereby one is increasingly able to think more abstractly. Consequently, early childhood experiences of



loneliness may be due to physical isolation or lack of physical contact whereas later adolescent experiences of loneliness may be due to feeling psychologically distanced from others. Like changes in emotional development, changes in cognitive development may lead to new, more abstract cognitions. For instance, having the capacity to perceive oneself as feeling psychologically distanced may lead to feelings of being misunderstood. Again, this higher level of cognitive development subsequently may introduce a new cognitive source of loneliness.

Finally, the felt desires and longings to be connected with others may be dependent on one's social needs and desires. Parkhurst and Hopmeyer (1999) mention one social developmental change whereby tendencies to place companionship-like values on the peer group are substituted for desiring more intimate social relations that offer emotional support, advice and discussion of philosophical issues. Again, changes in social development may provide a new social needs route to loneliness. For instance, if one desires more intimate social relations, this may lead to one feeling emptiness or alienation. Again, this higher social development may introduce a new social needs route to loneliness.

#### Addressing the Need for Child and Adolescent Focused Theories: Parkhurst and Hopmeyer's Developmental Theory of Loneliness

In addition to defining loneliness in a more abstract and general way that enables the experience of loneliness to change across developmental stages, Parkhurst and Hopmeyer (1999) have constructed a developmental theory of loneliness. Their theory makes predictions regarding when and how the sources of loneliness change throughout childhood and adolescence. With respect to *when*, Parkhurst and Hopmeyer have identified five distinct stages throughout childhood and adolescence. However, although Parkhurst and Hopmeyer believe that one's developmental level shapes their social needs, understanding, and experience of loneliness, they use school grades as their developmental stage markers. The five school groups identified are toddler/early preschool, kindergarten/early elementary school, middle elementary school, upper

elementary/junior high school, and senior high school/college. Thus, Parkhurst and Hopmeyer use school grade as a proxy for development as their predicted sources of loneliness are specific to the school context. Although there is controversy surrounding the use of the term 'stage' (see von Glaserfeld & Kelley, 1982), this paper will use this term as Parkhurst and Hopmeyer consistently refer to their grade level distinctions as stages.

With respect to *how*, Parkhurst and Hopmeyer (1999) predict that one's social group structure, one's social needs, and one's understanding of loneliness, together contribute to specific sources of loneliness for each of the five stages. Thus in the final stage of senior high school to college, Parkhurst and Hopmeyer predict that the preferred social group is one close friend, romantic or non-romantic. As well, they predict that intimacy is a relevant social need. With respect to one's understanding of loneliness, Parkhurst and Hopmeyer predict that senior high school to college students understand loneliness as feeling alienated or empty. Lastly, Parkhurst and Hopmeyer predict that feeling like nobody wants to be in a close relationship with you is a senior high school to college student source of loneliness.

However, since Parkhurst and Hopmeyer's (1999) predictions regarding social group preference, social needs, and understanding and sources of loneliness rely on developmental trends surrounding social, cognitive and emotional developmental changes, a brief discussion of these social, cognitive, and emotional developmental changes is warranted.

Social Developmental Trends. The first pattern of social development relied on by Parkhurst and Hopmeyer (1999) to inform their developmental model of loneliness is that with development, there is a decreasing tendency to place companionship-like values on the peer group (ie, play games) and an increasing tendency to expect an intimate role in social relations (ie, emotional advice) (Sullivan, 1953). Secondly, Parkhurst and Hopmeyer rely on the social developmental pattern whereby there is a decreasing need to be with others and a greater tolerance or even preference to be alone (Larsen, 1990). The third previously identified pattern

of social development relied on by Parkhurst and Hopmeyer concerns who one includes in their social group. The pattern suggests that young children place little importance on their peer group and more on their dyadic relationships with their parent (Sullivan, 1953). However, in middle childhood, the pattern suggests that having a peer group or 'clique' to play group games is important (Brown, 1989). In early adolescence, the pattern suggests that the peer group becomes even larger and takes on even more importance (Butcher, 1986; Eder, 1985; Eder & Kinney, 1995; Humphreys & Smith, 1987; Weistfield, Block, Ivers, 1983). Finally in late adolescence, the pattern suggests that there is a return to dyadic types of relationships but this time the dyad is not formed with parents, rather a close friend and possibly even a romantic friend (Brown, 1989).

Cognitive Developmental Trends. Parkhurst and Hopmeyer (1999) also rely on one cognitive developmental pattern to inform their developmental model of loneliness. Specifically, the developmental patterns central to the conceptions of friendships (Selman, 1976, 1980, 1981) are used by Parkhurst and Hopmeyer to inform the predictions in their model.

Selman (1976, 1980) suggests that there are five stages of reflective understanding of close dyadic friendships (conceptions of friendships). Furthermore, he suggests that the five, more abstract stages of friendship conceptions contain five levels of social perspectives (relation between perspectives of self and others). The five stages of friendship conception and five levels of social perspective taking will be considered together.

Stage 0 (Momentary physicalistic playmates) involves conceptualizing friendships from proximity. For instance, a friend may be someone who lives nearby. In addition, friendships are conceptualized in terms of someone with whom they are playing with at the moment. That is, the term friendship may be synonymous with playmate in this stage. Finally, conflict and jealousy in Stage 0 revolves around fights over toys and space as opposed to personal feelings or interpersonal affection. Paralleling a Stage 0 conception of friendships is a Level 0 perspective taking. Level 0 perspective taking (Egocentric or undifferentiated perspectives) involves being

able to recognize one's own subjective perspective but not being able to clearly distinguish it from others. That is, there is an inability to understand that someone may have a point of view that differs from his or her own. Furthermore, in Level 0 there is an inability to understand the difference between subjective (psychological) and objective (physical) and between unintentional and intentional. Ages three to seven are roughly associated with this level and stage.

Stage 1 (One-way assistance) involves conceptualizing a friend as someone who performs specific activities that are desired by the self. However, a close friend is based on more than proximity; a close friend is someone who is known better than another person. Although, 'knowing' someone in Stage 1 constitutes only an awareness of her or his likes and dislikes. Conflicts in Stage 1 may result when a friend does not match one's formulated standard or wishes regarding friends and friendships. Paralleling a Stage 1 conception of friendships is a Level 1 perspective taking. Level 1 perspective taking (Subjective or differentiated perspectives) involves understanding that someone may have a different point of view from one's own but that this is the result of them not having the same information. At this level, children seem to be newly concerned with the uniqueness of the covert (psychological). Ages four to nine are roughly associated with this level and stage.

Stage 2 (Fair-weather cooperation) involves conceptualizing friendships in terms of reciprocity. Children are concerned with more than 'knowing' their friends likes and dislikes; children are now concerned with coordinating their specific likes and dislikes with those of their friends. Although one's standards and expectations are more reflexive in this stage, they are not fixed as they seem to be defined in the moment. Conflicts often involve specific arguments that lead to the breakup of the friendship although both parties are likely to hold affection inside. Paralleling a Stage 2 conception of friendships is a Level 2 perspective taking. Level 2 perspective taking (Self-reflective or reciprocal perspectives) involves understanding that

someone may have a different point of view even if they have access to the same information.

This ability to take a second-person perspective, enables the ability for reciprocity of thought and feeling, rather than merely action. However in Level 2, there is not an ability to take the third-person perspective. Ages six to twelve are roughly associated with this stage and level.

Stage 3 (Intimate and mutually shared relationships) involves conceptualizing friendships as more continual both in terms of relation and affect. No longer does the importance of friendships reflect avoiding boredom or loneliness; friends are important because they are necessary for developing mutual intimacy and support. For instance, in Stage 3, friends start to share their problems. Furthermore, unlike in Stage 2, conflict expressed in Stage 3 does not end the relationship. However, the conceptualization of friendships is limited in Stage 3 in that the two-person clique is overemphasized resulting in problems associated with possessiveness.

Paralleling a Stage 3 conception of friendships is a Level 3 perspective taking. Level 3 perspective taking (Third-person or mutual perspectives) involves understand that someone can hold multiple perspectives simultaneously, that is, more than two. This leads to the more elaborated awareness of self-other relation and the mutuality that begins to be shared in this Stage. Ages nine through fifteen are roughly associated with this level.

Stage 4 (Autonomous interdependent friendships) involves conceptualizing friendships as growing rather than being threatened from interdependence. Honoring interdependence refers to being aware that others need to establish relationships with others to grow. Dependence is no longer adequate in fulfilling social needs; interdependence is now valued in friendships.

Furthermore, in Stage 4, 'dependence' in friendships involves more than sharing problems; dependence in meaningful relations now reflects the awareness of psychological support, and self-identification. Paralleling a Stage 4 conception of friendships is a Level 4 perspective taking. Level 4 perspective taking (Societal or in-depth perspectives) involves understanding that perspectives between two persons can be shared on the level of superficial, the level of

common interests, and the level of deeper and unverbilized feelings. This perspective taking enables one to be able to identify meaningful friends. Ages twelve through adulthood roughly represent this stage and level.

Emotional Developmental Trends. Lastly, Parkhurst and Hopmeyer (1999) rely on one emotional development pattern that informs their developmental model of loneliness. The development of empathy will be considered.

Hoffman (1982, 1988) suggests there are four stages in the development of empathy. Global empathy (one-year olds) is an elementary understanding of empathy whereby a young child may cry when someone else cries. Egocentric empathy (two-year olds) involves understanding empathy as the offering of help in a manner that would calm or comfort themselves. Empathy with another person's feelings (preschool and elementary years) involves beginning to be able to figure out what another person may need and that this may not be the same thing they may need. Empathy for another's condition (late elementary and early adolescence) involves the ability to fully empathize with another's condition.

Although many other developmental patterns have been identified and researched, Parkhurst and Hopmeyer rely on the social, cognitive and emotional patterns described above to inform their developmental model of loneliness. However, it is critical to appreciate that their particular selection of developmental trends and the timing associated with these trends significantly shapes the nature of their predictions in their developmental model. This highlights the necessity to construct and test alternative developmental models that rely on alternative developmental trends and timing.

#### Addressing the Need to Identify Child and Adolescent Sources of Loneliness: Parkhurst and Hopmeyer's Developmentally Specific Sources of Loneliness

From their reliance on the above social, cognitive, and emotional developmental patterns, Parkhurst and Hopmeyer (1999) have formulated grade-specific sources of loneliness. Recall,

Parkhurst and Hopmeyer use school grades as a proxy for development as they envision the five school groups as representing five different levels of development. They have arranged these grade-specific sources in their model (see Appendix A). For each of the five school groups, they predict grade specific social relations, social needs, understanding of loneliness, and sources of loneliness. It should be noted that Parkhurst and Hopmeyer clearly state that they expect individuals to share some of the predictions made for the other grade groupings, however; they also expect that individuals will identify more strongly with the social group structure, social needs, understanding of loneliness, and sources of loneliness specific to their grade grouping.

Stage 1: Toddler/Early Preschool Years. In the toddler to early preschool years, children are expected to begin to form attachments to their peers. Prior to this, children are assumed to be primarily attached to their parents. The toddler/early preschool social needs include reassurance, affection, and attention. Based on their cognitive development, toddlers and early preschoolers are expected to understand loneliness as being alone in a strange place or from receiving insufficient attention or affection. Based on their emotional development, toddlers and early preschoolers are expected to understand loneliness as fear or distress. Finally, it is expected that loneliness will be experienced if children in the toddler/early preschool years are unable to obtain sufficient reassurance, affection or attention.

Stage 2: Kindergarten/Early Elementary School Years. In the kindergarten to early elementary school years, children are expected to form dyadic social relationships. The predicted social needs desired from these dyadic social relationships are shared fantasy, deviance, coordinated fun games and a sense of 'we-ness'. Based on their cognitive development, kindergartners and early elementary students are predicted to understand loneliness as having no one to play with or be friends with. Based on their emotional development, kindergartners and early elementary students are expected to understand loneliness as boredom. Finally, it is expected that loneliness will be experienced if children in the kindergarten/early

elementary years are unable to obtain a sense of 'we-ness', fantasy, deviance, or do not feel included in coordinated fun games.

Stage 3: Middle Elementary School Years. In the middle elementary years children are expected to be in social relationships that resemble cliques or small groups. The social needs they are expected to desire from their cliques are someone to be physically connected to as opposed to psychologically or spiritually connected. Accordingly, it may be particularly important that they can play group games and sports with their friends. In addition, it may be important to middle elementary students that their friends display signs of physically helping them or publicly defending them from insults, gossiping, or simply cruel peers. Based on their cognitive development, they are predicted to understand loneliness as being physically left out (ie, not involved in activities), and as feeling let down or not getting help or public defense. Based on their emotional development, middle elementary children are expected to understand loneliness as shame about a lack of competency in particularly important games or sports played with their cliques. Finally, it is expected that loneliness will be experienced if children in the middle elementary years are unable to play group games or sports with their friends. As well, they may experience loneliness if they don't have anyone to stick up for them or if their friends say mean things about them behind their backs. Finally, middle elementary children may experience loneliness if they are embarrassed about their lack of competence in peer valued areas.

Stage 4: Upper Elementary/Junior High School Years. The upper elementary to junior high school stage is also referred to as the stage of early adolescence. Early adolescents are expected to socially desire crowds and flirtations or crushes. It is predicted that early adolescents form an identity based on their association with their group or crowd. In addition, their group or crowd comes to represent their social standing and subsequently provides them with a sense of worth relative to other groups or crowds in their school. Consequently, early adolescents may



find it particularly important that they feel like they belong in a group. For instance, to demonstrate that one has achieved 'inside' status within the group, the ability to banter (ie, pleasantly joke and tease) may be an important social need or desire. In addition, it may be important that their friends represent a level of social standing that is respectable to them as it in turn affects their feelings of self-worth and importance. Based on their cognitive development, early adolescents may understand loneliness as lacking a group to feel psychologically connected to and as feeling that their group makes them feel unimportant or not popular. Based on their emotional development, early adolescents may understand loneliness as feeling they are too unattractive or not popular enough to be included in the group of their choice. In addition, they may understand loneliness as humiliation due to suffering a drop in their social standing if their group decides not to include them, forcing them to join another perhaps less popular group. Finally, it is expected that loneliness will be experienced if early adolescents feel like they don't belong in a group, if they are embarrassed about the social group they belong to, or if they do not feel important to their social group. As well, early adolescents may experience loneliness if they experience a drop in their social standing or if they feel like they are not attractive or popular enough to belong to the group of their choice.

Stage 5: Senior High School/College Years. The senior high school to college stage is also referred to as late adolescence. Late adolescents are expected to desire romantic relationships. One of the social needs desired from their romantic relationships is a fellow-explorer that is also in search for their identity, that is, someone to discuss values, goals, and social roles with. As well, they are expected to desire intimacy from romantic and non-romantic relationships. Consequently, it may be important for late adolescents to feel like their friends help them understand themselves better. In addition, it may be important that their friends understand their needs and share their private feelings with them. Based on their cognitive development, they are predicted to understand loneliness as feeling like a social misfit or feeling

like nobody will ever desire to be in an intimate relationship with them. In addition, they may understand loneliness as not feeling understood by their friend or friends. Based on their emotional development, they may understand loneliness as feelings of emptiness or alienation. Finally, it is expected that loneliness will be experienced if late adolescents are unable to achieve intimacy in their social relationships forbidding them to discuss their values, life goals and to feel like they are understood. Furthermore, they may experience loneliness if they feel like nobody would ever want to be in a close relationship with them. Lastly, they may experience loneliness if they don't feel connected to their friends or if they don't feel like they mean anything to their friends.

### **Limitations of Parkhurst and Hopmeyer's Developmental Model of Loneliness**

As previously stated, Parkhurst and Hopmeyer have not relied on all the identified and researched developmental patterns. Although this may limit the support found for their predictions, it is also possible that Parkhurst and Hopmeyer's model may need to specify how sex, in addition to development, influences their predictions.

### **Possible Sex Differences in the Sources of Loneliness**

As previously stated, Parkhurst and Hopmeyer (1999) predict that since developmental differences have been documented regarding one's social group preferences, one's social needs valued, and one's understanding of loneliness, there may also be developmental differences in one's sources of loneliness. Following this line of reasoning, it is also possible that since there have been documented sex differences in one's social group preferences and one's social needs valued, there may also be sex differences in one's understanding of and sources of loneliness. Although there is ample research documenting sex differences in friendship qualities such as social group preferences and valued social needs, these differences have not been theoretically linked to sex-specific understandings of and sources of loneliness. As such, in addition to the

need of testing alternative developmental patterns, there are potential sex differences that may need to be considered by Parkhurst and Hopmeyer.

Concerning the documented research pertaining to sex differences in social group structure and social needs, Sullivan offers one theory that helps to explain why these differences unfold. Sullivan (1953) and others (Berndt, 1982; Youniss, 1980) believe that during the preadolescent years individuals desire interpersonal intimacy. This desire for intimacy subsequently encourages preadolescents to develop an intimate 'chumship' or 'close friend' with a member of their same sex. According to Sullivan, the nature and expectations contained in these same-sex chumships are not similar across the sexes. Specifically, these same-sex chumships seem to represent very different 'social worlds' or 'cultures' for males and females. These sex differences contained in chumships do not seem to disappear in preadolescence. Rather, according to Sullivan, they are instrumental in forming a blueprint for the nature and expectations one holds in their future relationships.

The preferred social group structure and social needs of females. According to past research, as summarized by McDougall (1998), the preferred social group of females is an inclusive, small group, such as a dyad (Eder & Hallinan, 1978, Lever, 1976; Van Brunshot, Zarbatany & Strang, 1993; Waldrop & Halverson, 1975). These social groups are best characterized as exclusive and intense (Eder & Hallinan, 1978; Goodwin, 1980; Lever, 1976). The activities common within this social structure include cooperation and turn taking (Lever, 1976) and the activities tend to involve low levels of structure (Thorne, 1993). In these small, intense social groups, females focus on monitoring the emotions of themselves and their close friend(s) (Lever, 1976). Furthermore, females tend to be high disclosers, particularly the disclosing of personal information (Eder & Hallinan, 1976).

Not surprisingly, females tend to prefer higher levels of intimacy than males (Berndt, 1981; Bigelow & Lagaipa, 1980; Smollar & Youniss, 1982). In addition to having more intimate

social needs than males, females report actually experiencing higher levels of intimacy in their friendships than males (Berndt, 1981; Berndt, 1982; Buhrmester & Furman, 1987; Bukowski, Newcomb & Hoza, 1987; Claes, 1992, Douvan & Adelson, 1966; McDougall, 1995; Parker & Asher, 1993; Reisman, 1990; Rivenbark, 1971; Sharabany, Gershoni & Hofman, 1981; Sterling, Hymel, & Schonert-Reichl, 1995). Thus for females, achieving intimacy seems to be the focus in their small, exclusive social relationships and friendship qualities that encourage this seem to be preferred.

The preferred social group structure and social needs of males. McDougall (1998) has also summarized the past research surrounding the nature of males' social worlds. The preferred social group of males' is larger than females' (Eder & Hallinan, 1978; Lever, 1976; Waldrop & Halverson, 1978). These larger social groups can be best characterized as aggressive (Maccoby & Jacklin, 1987; Thorne, 1993), as competitive (Lever, 1976), and as highly recreational, that is, involving organized and competitive sports (Lever, 1976; Thorne, 1993). In these larger social groups, males tend to focus on proving and demonstrating their athletic ability (Schofield, 1981) and on competing for the highest place in their formed hierarchies (Thorne, 1993).

Accordingly, males tend to prefer to use language of the 'team', that is, they prefer relationships that emphasize team work which may subsequently help them to combat their high levels of insults, threats and challenges (Goodwin, 1980; Thorne, 1993). In addition, males' social groups tend to involve more competitive activities, particularly recreational activities than females' social groups thus affording males an arena in which to demonstrate their athletic ability (Lever, 1976; Thorne, 1993). Thus for males, achieving a high social status in their formed hierarchies seems to be the focus of their larger social relationships and friendship qualities that enable them to rise to the top seem to be preferred.

Apart from McDougall's (1998) summarization of the unique social worlds of males and females, Larson (1991) found sex differences in grade five to nine students with regards to time

spent alone. For both sexes, he found a dramatic decline with the older students in comparison to the younger students concerning time spent with their family. However, the social group that replaced the family was influenced by sex. For males, time spent with their family was replaced with time spent alone. Whereas for the females, it was replaced with both time spent alone and time spent with friends. As such, males may spend more time by themselves in comparison to females.

Predictions Regarding Sex-specific Social Group Structure and Social needs. Using the research summarized above as a guide, it seems likely that Parkhurst and Hopmeyer (1999) may have some unidentified sex differences in their model. For instance, with respect to social group structure, Parkhurst and Hopmeyer predicted that early adolescents tend to spend time in large groups containing both males and females. On the other hand, they predict that late adolescents prefer to spend time in more intimate, smaller groups to fulfill their social needs. However, the research on sex differences in friendships suggests that in comparison to the females, males prefer to spend time in larger groups and by themselves. Furthermore, in comparison to the males, females prefer to spend time in smaller more intimate groups. Thus, one of the purposes of this study will be to discover if one's developmental level or one's sex predicts their social group structure.

Again, with respect to the social needs predicted by Parkhurst and Hopmeyer (1999), it is also likely that they have failed to specify possible sex differences. First of all, the need to play group games and sports with one's group of friends and the need to be defended and helped by one's group of friends are predicted by Parkhurst and Hopmeyer to be valued in middle childhood. However, the research on sex differences in the friendship literature suggested that males need to feel that they are not at the bottom of the hierarchy in their competitive, activity-oriented relationships. It seems likely that not having friends to play sports with and not having friends to defend you suggests that you do not have high status in your relationships. Thus,

although Parkhurst and Hopmeyer, predict that having friends to play sports with and having friends to defend you are important at the developmental level of middle childhood, it is also possible that these two social needs are important to males, regardless of their developmental level.

Secondly, Parkhurst and Hopmeyer (1999) predict that early adolescents value a sense of belonging and a sense of worth or meaning in their relationships. However, recall that the research on sex differences in the friendship literature suggested that males need to feel that they are not at the bottom of the hierarchy in their competitive, activity-oriented relationships. Again, it seems likely that not having a sense of meaning or worth in one's social group may suggest that one does not have high status in their group. Furthermore, not feeling a sense of belonging to a social group suggests that one does not even have a social group to be included with at all, perhaps the ultimate form of low social status for males. Thus again, although Parkhurst and Hopmeyer, predict that having a sense of belonging and meaning or worth are important at the developmental level of early adolescence, it is also possible that these two social needs are important to males, regardless of their developmental level.

Thirdly, Parkhurst and Hopmeyer (1999) predict that early adolescents value a friend that acts as a confidant. However, the research on sex differences in the friendship literature suggested that females desire intimacy and closeness in their relationships. Since it is likely that having a friend who can be considered a confidant is important in achieving intimacy and closeness, this social need may be valued by females more than males, regardless of their developmental level.

Finally, Parkhurst and Hopmeyer (1999) predict that late adolescents value friendships with high levels of closeness and intimacy, enabling an increased understanding of self, and one's future, life goals, ideologies, beliefs and values to be worked out. However, recall that the research on sex differences in the friendship literature suggested that females desire intimacy and

closeness in their relationships. Since it is likely that all of these late adolescent social needs specified by Parkhurst and Hopmeyer reflect the theme of intimacy and closeness, again these three, late adolescent social needs may be valued by females more than males, regardless of their developmental level.

Predictions regarding Sex-specific Understandings of and Sources of Loneliness.

Borrowing Parkhurst and Hopmeyer's (1999) idea that one's social group preferences, social needs, and understandings of loneliness together contribute to unique sources of loneliness across developmental stages, it may also be possible to envision sex fitting into their rationale. Specifically, the rationale would suggest that given the research documented regarding sex differences in one's social group preferences and social needs valued, it is possible to extend this rationale to account for sex differences in one's understanding of and sources of loneliness. For instance, paralleling females more intimate social group structure and related social needs, they may understand loneliness as being unable to achieve their desired levels of intimacy. For example, females may understand loneliness as not being understood by their friends, as not having adequate intimacy or closeness in their friendships, as not being able to share their thoughts and emotions with their friends, or as losing an intimate friend or boyfriend. Furthermore, females may not only understand but also experience loneliness from sources that prevent them from being able to obtain the high levels of intimacy they desire. Paralleling females' predicted understanding of loneliness, predicted female sources of loneliness include not being understood by their friends, not having adequate intimacy or closeness in their friendships, not being able to share their thoughts and emotions with their friends, and losing an intimate friend or boyfriend. Thus, although Parkhurst and Hopmeyer predict that a lack of intimacy may be linked to one's understanding and sources of loneliness in late adolescence, they may be linked to the female experience of loneliness regardless of their developmental level.

Conversely, paralleling males larger and more competitive social group structure and related social needs, they may understand loneliness as being at the bottom of their formed hierarchies. For instance, males may understand loneliness from such things as feeling shame over their lack of competence in valued areas, from feeling let down if nobody defends them, from feeling left out of activities, from feeling like nobody wants to include them in their group, from feeling shame over their lack of attractiveness or popularity, from feeling embarrassed of their friends and the negative effects it has on their own social standing and from feeling like they are nobody in other's eyes. Furthermore, males may not only understand but also experience loneliness from sources that make them feel like they are in poor social standing. Paralleling males' predicted understanding of loneliness, predicted male sources of loneliness include feeling shame over their lack of competence in valued areas, feeling let down if nobody defends them, feeling left out of activities, feeling like nobody wants to include them in their group, feeling shame over their lack of attractiveness or popularity, feeling embarrassed of their friends and the negative effects it has on their own social standing and feeling like they are nobody in other's eyes. Thus, although Parkhurst and Hopmeyer (1999) predict the above understandings and sources of loneliness to be important at various developmental levels, the above understandings and sources of loneliness may be linked to the male experience of loneliness regardless of their developmental level.

### **Statement of Research Purpose**

In summary, a look at the research on child and adolescent loneliness revealed that a fundamental debate has not been thoroughly addressed. However, this 'unique versus similar' debate can be addressed from formulating a developmental perspective and testing its corresponding developmentally specific predictions of loneliness. Although Parkhurst and Hopmeyer (1999) have formulated a developmental perspective, their stage specific predictions have not yet been subjected to testing. Consequently, this will be the purpose of the present



study. However, only the stage-specific correlates for the early and late adolescents will be tested. Fortunately, the stage-specific predictions contained in Parkhurst and Hopmeyer's developmental model of loneliness allow a simultaneous investigation of potential sex differences. Thus, in addition to Parkhurst and Hopmeyer's stage-specific predictions, sex-specific predictions will be another area of inquiry.

Hypothesis 1a: The Effects of Development on One's Social Group Type.

Upper elementary to junior high school students (early adolescents) prefer social relationships that resemble crowds or large groups. Senior high school to college students (late adolescents) prefer social relationships that are small and intimate.

Hypothesis 1b: The Effects of Sex on One's Social Group Type

Females favor smaller and more intimate social groups than males. Males favor larger social groups and time spent alone.

Hypothesis 2a: The Effects of Development on One's Social Needs

The social needs for upper elementary to junior high school students (early adolescents) include: the need for their group of friends to provide a sense of belonging, to provide them with a sense of worth or meaning, and to be a confidant. The social needs for senior high school to college students (late adolescents) include: the need for their friend(s) to provide intimacy and closeness, an increased understanding of themselves, and an arena in which their future career, life goals, ideologies, beliefs, and values can be shared.

Hypothesis 2b: The Effects of Sex on One's Social Needs

Females value intimate social needs. As such it is important to females that their friend(s) acts as a confidant, that intimacy and closeness can be shared, that they gain a deeper understanding of themselves, and that they can share their future career, life goals, ideologies, beliefs, and values. Males value friends who make them feel like they are in a high position in their formed hierarchies. As such it is important to males that their group of friends provide

them with a sense of belonging, worth and meaning, defense and help when needed, and someone to do things with (particularly group sports).

#### Hypothesis 3a: The Effects of Development on One's Understanding of Loneliness

Upper elementary to junior high school students (early adolescents) understand loneliness as: feeling like nobody would want to include them in their group, feeling shame over their lack of attractiveness or popularity to a particular group, feeling embarrassed about their group of friends and the negative effects it has on their own level of social standing or popularity, and feeling like they are nobody in others' eyes. Senior high school to college students (late adolescents) understand loneliness as: feeling that they may never find anyone to share a close, intimate relationship with (romantic and non-romantic), feeling that nobody really understands them, feeling like they can't share their intimate ideas and thoughts with, and losing a desired close, intimate relationship (romantic and non-romantic).

#### Hypothesis 3b: The Effects of Sex on One's Predominant Understanding of Loneliness

Females understand loneliness as feeling like nobody really understands them, as feeling like they will never find anyone to share a close relationship with, as feeling that they can't share their intimate thoughts and ideas with, and as losing an intimate relationship. Males understand loneliness as feeling shame over their lack of competence in valued areas, feeling let down if their friend fails to defend them, feeling left out of plans for activities (especially sport activities), feeling like nobody would want to include them in their group, feeling shame over their lack of attractiveness or popularity, feeling embarrassed of their friends and the negative impact it has on their social standing, and feeling that they are nobody in others' eyes.

#### Hypothesis 4a: The Effects of Development on One's Sources of Loneliness

Upper elementary to junior high school students' (early adolescents) loneliness levels will be correlated with four sources of loneliness. The four sources of loneliness are feeling like nobody would want to include them in their group, feeling shame over their lack of attractiveness

or popularity to a particular group, feeling embarrassed about their group of friends and the negative effects it has on their own level of social standing or popularity, and feeling like they are nobody in others' eyes. Senior high school to college students' (late adolescents) loneliness levels will be correlated with four sources of loneliness. The four sources of loneliness are feeling that they may never find anyone to share a close, intimate relationship with (romantic and non-romantic), feeling that nobody really understands them, feeling like they can't share their intimate ideas and thoughts with, and losing a desired close, intimate relationship (romantic and non-romantic).

#### Hypothesis 4b: The Effects of Sex on One's Sources of Loneliness

Females' loneliness levels will be correlated with four sources of loneliness. The four sources of loneliness are feeling like nobody really understands them, as feeling like they will never find anyone to share a close relationship with, as feeling that they can't share their intimate thoughts and ideas with, and as losing an intimate relationship. Males' loneliness levels will be correlated with seven sources of loneliness. The seven sources of loneliness are feeling shame over their lack of competence in valued areas, feeling let down if their friend fails to defend them, feeling left out of plans for activities (especially sport activities), feeling like nobody would want to include them in their group, feeling shame over their lack of attractiveness or popularity, feeling embarrassed of their friends and the negative impact it has on their social standing, and feeling that they are nobody in others' eyes.

### **Method**

#### Participants

A total of 135 participants were recruited from the New Westminster Secondary School. Table 1 illustrates the distribution of participants on the basis of grade level, sex and year of birth. The students in grades eight and nine represent the school grade range of upper elementary to junior high school. The students in grade twelve represent the school grade range of high

school to college. Of the 135 participants who completed a questionnaire, eight were not included in any of the analyses as they indicated that they were in multiple grades. Table 2 lists the birth years and multiple grade levels of the respondents that were not included in any analyses. In addition, three Asian international students, who were enrolled in English 12 classes only, were not include in any analyses. Lastly, two participants did not take the questionnaire seriously and were not included in any of the analyses. Therefore, 122 participants were included in analyses.

All of the 122 participants were recruited from non-elective courses. The grade eight students were recruited from two physical education classes. The grade nine students were recruited from three physical education classes. The grade twelve students were recruited from three English classes. Of the sixty-one students registered in the three grade twelve English classes, fifty-one completed a questionnaire (90% response rate). For the grade nine students, a response rate of 86% was obtained (51/59). Finally, a response rate of 71% was obtained with respect to the grade eight students (29/41). The overall participation rate was 84%.

Although the students in grades eight and nine were assumed to be in the same developmental stage, analyses across the (four/five) hypothesis revealed significant differences between these two grades suggesting a need for separate analyses. As such, three age groups were analyzed separately (grade 8, grade 9, and grade 12) despite the homogeneity predicted for the students in grades 8 and 9 representing the upper elementary to junior high school range.

Table 1. Distribution of Participants Included in Analyses

<b>Grade Level</b>	<b>Number of Females</b>	<b>Number of Males</b>	<b>Year of Birth</b>
Grade 8	14	13	1985
Grade 9	22	21	1984
Grade 12	22	30	1980-1981
Total	58	64	

Table 2. Distribution of Excluded Participants Due to Multiple Grades

<b>Grade Level</b>	<b>No. of Participants</b>	<b>Year of Birth</b>
Grade 8/9	2	1989,1986
Grade 9/10	4	1983(3), 1982(1)
Grade 9/10/11	2	1982

### Procedure

After obtaining permission for the present study from both the superintendent for the New Westminster school district and the principle of New Westminster Secondary School, data was agreed to be collected between May and June of 1999. Teachers from the targeted classes told their students about the purpose of the study and handed out parental permission forms which further outlined the purpose and procedure of the study. Only students who obtained parental consent (Appendix B) and who themselves agreed to participate were included in the present investigation.

On the agreed date, the author came into the classrooms and administered the questionnaire (Appendix C). She spent approximately five minutes before the questionnaires were handed out to ensure the students had returned their parental consent forms and were agreeable to participating. In addition, the purpose of the study was restated and students were asked if they had any questions or concerns about confidentiality or their right to refuse to participate. Next, students were asked to spread out and respect the privacy of their fellow classmates. Authorized and agreeable participants spent approximately twenty minutes completing the questionnaire in class time. The author was present while the students completed their questionnaires and was available if the students had any questions or concerns. After all of the students had completed their questionnaires, the questionnaires were collected by the author and stored in a secured place. One, fifteen dollar A&B Sound gift certificate was raffled off in

each of the eight classes. The students were thanked for their participation and told once again that their responses would be kept confidential.

### Measures

Appendix 3 represents the questionnaire. I constructed several of the measures in this study, solely for the purposes of this study. The reason for this was that this study was specifically testing Parkhurst and Hopmeyer's (1999) developmental model of loneliness. Consequently, it was critical to use measures that fit their model precisely. Since no such measures existed, it was necessary to develop measures to specifically test Parkhurst and Hopmeyer's predictions. With respect to the predicted sex differences, fortunately, the items constructed for the purposes of testing Parkhurst and Hopmeyer's developmental model of loneliness simultaneously enabled an investigation of potential sex differences. Thus although the constructed measures primarily tested the developmental predictions made by Parkhurst and Hopmeyer, these same measures fit the sex predictions adequately to simultaneously investigate the sex predictions surrounding the loneliness experience.

Measures Used to Evaluate the Relationships Between Developmental Stage and Preferred Social Structure (Hypothesis 1a) and Between Sex and Preferred Social Structure (Hypothesis 1b). I constructed four measures to test the developmental and sex predictions surrounding one's social structure. Questions 1-4 in the questionnaire represent these four measures. The four measures assessed the type of social group in which one hangs out (both inside and outside of school) and the type of social group in which one discloses more intimate details (regarding a problem and a decision). For instance, one of the four measures stated: "If you had a decision to make, whom would you talk to?" The five response options included: (1) I prefer to keep it to myself (2) one close friend (3) my boyfriend/girlfriend (4) a small group of friends (5) a fairly large group of friends that include males and females.

Four of the five response options directly tested Parkhurst and Hopmeyer's (1999) developmental predictions regarding one's social structure and four of the five response options directly tested the predicted sex differences in one's social structure. See Table 3a for the coding of the response options related to the developmental predictions. And see Table 3b for the coding of the response options related to the sex predictions.

Table 3a. Coding Scheme for the Proposed Developmental Differences in Social Group Structure

<b>Developmental Stages</b>	<b>Ho 1a. Predictions</b>	<b>Corresponding Measures</b>
Primary school – elementary school	Cliques	Small group of friends
Upper elementary – junior high	Crowds	Large group of friends that includes males and females
High school – college	Romantic relationships	Boyfriend/girlfriend

Table 3b. Coding Scheme for the Proposed Sex Differences in Social Group Structure

<b>Sex</b>	<b>Ho 1b. Predictions</b>	<b>Corresponding Measures</b>
Females	Smaller groups	One close friend
	More intimate groups	Boyfriend
Males	More time spent alone	Usually by myself
	Larger groups	Large group of friends that includes males and females

Measures Used to Evaluate the Relationships Between Developmental Stage and Preferred Social Needs (Hypothesis 2a) and Between Sex and Preferred Social Needs

(Hypothesis 2b. To analyze the predicted developmental and sex effects on one's social needs, a q-sort with nine items was utilized. The q-sort is on page three of the questionnaire. Respondents were asked to place the number corresponding to three of the items into the 'most important things' box. In addition, respondents were asked to place the number of three of the items into the 'least important things' box. Consequently, respondents rated three of the nine items as the 'most important', the 'least important', and as neither the most nor least important.

I constructed the nine items used in the q-sort. These nine constructed items reflected Parkhurst and Hopmeyer's (1999) nine predicted social needs directly, that is, almost word for word. Parkhurst and Hopmeyer predicted three developmentally specific social needs for each of their three stages, that is, the primary school to elementary school stage, the upper elementary to junior high school stage, and the high school to college stage. The developmental coding scheme of the nine items is presented in Table 4a. Furthermore, eight of these nine constructed items reflected the predictions made regarding sex differences. The sex coding scheme of the eight items is presented in Table 4b.

The scores of the nine social needs q-sort items ranged between one and three. Specifically, items placed in the 'most important' box received a score of '1', items placed in the 'least important' box received a score of '3', and the remaining, unranked items received a score of '2'. Thus, low scores corresponded to the most important social needs.

Since the measures were constructed solely for the purposes of this study, efforts were made prior to the finalization of the questionnaire to assess construct validity. Specifically, two graduate students were asked to match the nine items to the developmental predictions made by Parkhurst and Hopmeyer (1999) regarding social needs. See Appendix D for a copy of the social needs matching form graduate students were asked to complete. Overall, they matched the nine constructed items to the developmental predictions with a 100% accuracy rate (18/18). Furthermore, the close resemblance that these nine items had to Parkhurst and Hopmeyer's developmental predictions is noteworthy with respect to face validity.

Referring to the developmental coding scheme presented in Table 4a, it was hoped that the three items for each stage could be combined and considered as mini-scales. Thus all nine items were treated as potential items in one of the three potential sub-scales. However, although it was hoped that an adequate Cronbach's alpha level would exist between the three items for each of the three stages, this was not the case. Specifically, the three constructed items



corresponding to the primary school to elementary school stage had a Cronbach's alpha level of .01. The three constructed items corresponding to the upper elementary to junior high school stage had a Cronbach's alpha level of -.64. Finally, the three constructed items corresponding to the high school to college stage had a Cronbach's alpha level of -.06. As such, each of the nine constructed items was analyzed separately across the three stages and across the two sexes.

Table 4a. Coding Scheme for the Proposed Developmental Differences in Social Needs

<b>Developmental Stages</b>	<b>Ho 2a. Predictions</b>	<b>Corresponding Measures</b>
Primary school – elementary school	1. People to play group games and sports with 2. Someone to help, defend you 3. Can gossip with them	1. Can do things with them 2. Stick up for me when I need it 3. Can talk about my other friends with them
Upper elementary – junior high school	1. Provide a sense of belonging 2. Provide a sense of worth, meaning 3. A confidant	1. Make me feel like I belong in our group of friends 2. Make me feel like a special person 3. Can trust them with the secrets I tell them
High school – college	1. Someone to share future career, life goals, ideologies, beliefs, values 2. Increase understanding of themselves 3. Need for intimacy, closeness	1. Can talk about my opinions and beliefs with them 2. Help me understand myself better 3. Can share my private emotions and feelings with them

Table 4b. Coding Scheme for the Proposed Sex Differences in Social Needs

<b>Sex</b>	<b>Ho 1b. Predictions</b>	<b>Corresponding Measures</b>
Females	1. A confidant	1. Can trust them with the secrets I tell them
	2. Need for intimacy, closeness	2. Can share my private emotions and feelings with them
	3. Someone to share future career, life goals, ideologies, beliefs, and values	3. Can talk about my opinions and beliefs with them
	4. Increase understanding of themselves	4. Help me understand myself better
Males	1. Provide a sense of worth, meaning	1. Make me feel like a special person
	2. People to play group games and sports with	2. Can do things with them
	3. Provide a sense of belonging	3. Make me feel like I belong in our group of friends
	4. Someone to help, defend them	4. Stick up for me when I need it

Measures Used to Evaluate the Relationships Between Developmental Stage and Understanding of Loneliness (Hypothesis 3a) and Between Sex and Understanding of Loneliness (Hypothesis 3b). To analyze the predicted developmental and sex effects on one's understanding of loneliness, a q-sort with twelve items was utilized. The q-sort is on page four of the questionnaire. Respondents were asked to place the number corresponding to four of the items into the 'most lonely' box. In addition, respondents were asked to place the number corresponding to four of the items into the 'least lonely' box. Consequently, respondents rated four of the twelve items as the 'most lonely', the 'least lonely', and as neither the most nor least lonely.

Again, I constructed the twelve items used in the q-sort. These twelve constructed items reflected Parkhurst and Hopmeyer's (1999) twelve predicted loneliness sources directly, that is, almost word for word. Parkhurst and Hopmeyer predicted four developmentally specific sources of loneliness for each of their three stages, that is, the primary school to elementary school stage, the upper elementary to junior high school stage, and the high school to college stage. The developmental coding scheme of the twelve items is presented in Table 5a. Furthermore, eleven

of these twelve constructed items reflected the predictions made regarding sex differences. The sex coding scheme of the eleven items is presented in Table 5b.

The scores of the twelve loneliness q-sort items ranged between one and three. Specifically, items placed in the 'most lonely' box received a score of '1', items placed in the 'least lonely' box received a score of '3', and the remaining, unranked items received a score of '2'. Thus, low scores corresponded to the items rated as the loneliest.

Again, since the measures were constructed solely for the purposes of this study, efforts were made prior to the finalization of the questionnaire to assess construct validity. Specifically, two graduate students were asked to match the twelve constructed items to the developmental predictions made by Parkhurst and Hopmeyer (1999). See Appendix E for a copy of the loneliness matching form graduate students were asked to complete. Overall, they matched the measures to the predictions with a 100% accuracy rate (24/24). Furthermore, the close resemblance that these items had to Parkhurst and Hopmeyer's developmental predictions is noteworthy with respect to face validity.

Referring to the developmental coding scheme presented in Table 4b, it was hoped that the four items for each stage could be combined and considered as mini-scales. Thus all twelve items were treated as potential items in one of the three potential sub-scales. However, although it was hoped that an adequate Cronbach's alpha level would exist between the four constructed items for each of the three stages identified by Parkhurst and Hopmeyer (1999), this was not the case. Specifically, the four constructed items corresponding to the primary school to elementary school stage had a Cronbach's alpha level of  $-.43$ . The four constructed items corresponding to the upper elementary to junior high school stage had a Cronbach's alpha level of  $-.30$ . Finally, the four constructed items for the high school to college stage had a Cronbach's alpha level of  $-.02$ . As such, each of the twelve constructed items was analyzed separately across the three stages and across the two sexes.

Table 5a. Coding Scheme for Proposed School Developmental Differences in the Understanding of Loneliness

<b>Developmental Stages</b>	<b>Ho 3a. Predictions</b>	<b>Corresponding Measures</b>
Primary school – elementary school	1. Feel shame over lack of competence in valued areas 2. let down, no one to go to for help of if defense is needed 3. Ostracism, left out, disregarded, slighted 4. Treated meanly or unfairly by friends, ridiculed, insulted	1. Not being good at the things my friends are good at 2. not having my friends stick up for me when I need it 3. Not having anybody to do things with 4. Having my friends say mean things about me behind my back
Upper elementary – junior high school	1. Feel like nobody would want to include them in their group 2. Feel shame over lack of attractiveness or popularity 3. Embarrassed of their friends and the effects it has on their social standing 4. Feel like you are nobody in others' eyes	1. Not being included in a group 2. Not being attractive or popular enough to belong to the group I wanted 3. Being embarrassed of my group of friends 4. Don't feel important to my friends
High school – college	1. Feel like nobody really understand you 2. Lack or loss of an intimate relationship 3. Feel like they will never find anyone to share a close relationship with 4. No rapport with others or no one to share their intimate ideas and thoughts with	1. Not being understood by my friends 2. Having my boyfriend/girlfriend break up with me 3. Feeling like nobody wants to be in a close relationship with me 4. Not being able to share my thoughts and emotions with my friends

Table 5b. Coding Scheme for the Proposed Sex Differences in the Understanding of Loneliness

<b>Sex</b>	<b>Ho 3b. Predictions</b>	<b>Corresponding Measures</b>
Females	1. Feel like nobody really understand you 2. Lack or loss of an intimate relationship 3. Feel like they will never find anyone to share a close relationship with 4. No rapport with others or no one to share their intimate ideas and thoughts	1. Not being understood by my friends 2. Having my boyfriend/girlfriend break up with me 3. Feeling like nobody wants to be in a close relationship with me 4. Not being able to share my thoughts and emotions with my friends
Males	1. Feel shame over lack of competence in valued areas 2. let down, no one to go to for help of if defense is needed 3. Ostracism, left out, disregarded, slighted 4. Feel like nobody would want to include them in their group 5. Feel shame over lack of attractiveness or popularity 6. Embarrassed of their friends and the effects it has on their social standing 7. Feel like you are nobody in others' eyes	1. Not being good at the things my friends are good at 2. not having my friends stick up for me when I need it 3. Not having anybody to do things with 4. Not being included in a group 5. Not being attractive or popular enough to belong to the group I wanted 6. Being embarrassed of my group of friends 7. Don't feel important to my friends

Measures Used to Evaluate the Relationships Between Developmental Stage and Sources of Loneliness (Hypothesis 4a) and Between Sex and Sources of Loneliness (Hypothesis 4b). To analyze the predicted developmental and sex effects on the sources of loneliness, respondents were asked to rate twelve items on a 5-point, Likert-type scale. These were the same twelve items I constructed to test developmental and sex effects on one's understanding of loneliness (hypotheses 3a and 3b). However, to analyze how development and sex affect one's sources of loneliness, these twelve items were not ranked in a q-sort task rather respondent were asked to rate them on a Likert scale. Thus for the hypotheses regarding one's understanding of loneliness (hypotheses 3a and 3b), the twelve items were responded to in a hypothetical sense, that is, 'what items would make you feel lonely'. Whereas for the hypotheses regarding the sources of

loneliness (hypotheses 4a and 4b), the twelve items were responded to in an actual sense, that is, 'how often do you feel loneliness from these twelve items'. The twelve items were randomly sorted and were represented in questions 43-54 in the questionnaire. As well, the coding scheme for these twelve items was presented in Tables 5a and 5b.

The response ranges for the twelve items were YES, yes, sometimes, no, NO.

Although these twelve items were analyzed separately with regards to one's understanding of loneliness (hypotheses 3a and 3b), these twelve items had adequate Cronbach's alpha levels to permit the construction of three mini-scales (four items per mini-scale), that is, one for each of the three stages. The Cronbach's alpha level for the four items relating to the primary school to elementary school stage was .62. Three of the four items ('Do you have friends to do things with' was not reverse coded) were reverse coded to obtain a range of scores for the primary school to elementary school scale from 4 (low loneliness) to 20 (high loneliness). Scores were obtained through summation. The Cronbach's alpha level for the four items relating to the upper elementary to junior high school stage was .74. All of the items were reverse coded to obtain a range of scores for the upper elementary to junior high school scale from 4 (low loneliness) to 20 (high loneliness). Again, scores were obtained through summation. Lastly, the Cronbach's alpha level for the four items relating to the high school to college stage was .55. However, by deleting one of the high school to college items ('Have you felt hurt from a past boyfriend or girlfriend breaking up with you'), the Cronbach's alpha level increased to .73. As such, this item ('Have you felt hurt from a past boyfriend or girlfriend breaking up with you') was analyzed separately and the mini-scale for the high school to college stage range consisted of only three items. All of the three items were reverse coded to obtain a range of scores for the high school to college scale from 3 (low loneliness) to 15 (high loneliness). Again, scores were obtained through summation. The single item ('Have you felt hurt from a past boyfriend or girlfriend

breaking up with you') was also reverse coded to obtain a score for this high school to college single item from 1 (low loneliness) to 5 (high loneliness).

Although three mini-scales and one single item were used to assess the effect of development on the sources of loneliness (hypothesis 4a), the twelve items were analyzed separately to assess the effect of sex on the sources of loneliness (hypothesis 4b).

Apart from rating the twelve items that corresponded to Parkhurst and Hopmeyer's (1999) developmental predictions, two other measures were utilized to assess the developmental and sex effects on the sources of loneliness. Specifically the Loneliness and Social Dissatisfaction Questionnaire (Asher, Hymel, Renshaw, 1984) and the Relational Provision Loneliness Questionnaire (Hayden Thomson, 1989) were utilized to obtain a sense of how lonely respondents felt. Items from these two scales were randomly assorted in questions 5-20, and 23-36 of the questionnaire. These items were placed throughout the questionnaire to break up the monotony of answering all thirty of the questions at once. It was hoped that all of the items from these two scales would have adequate internal consistency enabling one combined loneliness score to be utilized to assess respondents' degree of loneliness.

Loneliness and Social Dissatisfaction (LSD) Questionnaire. The Loneliness and Social Dissatisfaction Questionnaire (Asher, et al., 1984) assessed the level of loneliness and social dissatisfaction responded had. This scale was designed to assess children and adolescents' level of loneliness, rather than adults'. Of the 24 items, 16 focused on either one's experience of loneliness (e.g. I'm lonely), one's feelings of social adequacy versus inadequacy (e.g. It's easy for me to make new friends at school), or one's subjective estimations of their peer status (e.g. I am well liked by the kids in my class). The remaining 8 items in this scale were unrelated to loneliness and social dissatisfaction. These 8 "filler" items were not included in this study as there were concerns over the length of the questionnaire. Respondents were asked to rate the 16 items on a 5-point scale. The five response options were YES, yes, sometimes, no, NO. Ten of

the sixteen LSD items were reverse coded to obtain a range of scores for the LSD of 16 (low loneliness) and 80 (high loneliness). Scores were obtained through summation. The LSD was found to be internally consistent (Cronbach's alpha = .91).

Relational Provision Loneliness (RPL) Questionnaire. The Relational Provision Loneliness Questionnaire (Hayden Thomson, 1989) assessed one's level of group integration and personal intimacy across both the peer and family contexts. This study utilized the fourteen items assessing group integration (seven items) and personal intimacy (seven items) across the peer context only. Response options ranged from YES, yes, sometimes, no, NO. An example of a group integration item was "I feel like other children want to be with me". An example of a personal intimacy item was "There is a friend I feel close to". None of the items were reverse coded. Respondents' scores ranged between 14 (high loneliness) to 60 (low loneliness). Scores were obtained through summing the fourteen items. The RPL was found to be internally consistent (Cronbach's alpha = .91). Furthermore, the seven 'group integration' items and seven 'personal intimacy' items were found to be internally consistent (respectively, Cronbach's alpha = .87 and Cronbach's alpha = .89).

As previously stated, it was hoped that the correlation between the two loneliness scales and the Cronbach's alpha level for the integrated set of items would be high enough to enable one summed loneliness score. That is, it was hoped that the fourteen RPL and sixteen LSD items would have high enough interscale correlations and adequate internal consistency as a total set to be combined to form one loneliness score consisting of thirty items. Since the interscale correlation ( $r = .75$ ) and the internal consistency (Cronbach's alpha = .94) were satisfactory, a summed score consisting of thirty items (14 items from the RPL and 16 items from the LSD scales) was utilized to obtain a summed loneliness score. Again ten of the sixteen LSD items were reverse coded, resulting in a summed scale range from 30 (low loneliness) to 150 (high loneliness).



Demographic Measures. Three questions reflecting the respondents' demographic characteristics were assessed. First, grade level was assessed. Respondents were asked to indicate 'what grade are you in'. Second, age was assessed. Respondents were asked to indicate 'what is your birthday'. Third, sex was assessed. Respondents were asked to indicate 'are you a male or female'.

## **Results**

### General Overview of Analyses

In order to explore the question of whether one's social group, social needs, understanding of loneliness and sources of loneliness were affected by one's developmental stage and sex, a variety of statistical techniques were utilized, that is, chi-square, manova, anova, Tukey's HSD procedure for pairwise comparisons among means, and a *t*-test. The  $p < .05$  level of significance was used throughout unless otherwise noted.

The results were divided into four parts. First, the developmental and sex effects on one's social structure were investigated (hypotheses 1a and 1b respectively). Second, the developmental and sex effects on one's social needs were evaluated (hypotheses 2a and 2b respectively). Third, the developmental and sex effects on one's understanding of loneliness were analyzed (hypotheses 3a and 3b respectively). Four, the developmental and sex effects on the sources of loneliness were investigated (hypotheses 4a and 4b respectively).

Evaluations surrounding developmental differences were analyzed with three points in mind. First, with respect to the items predicted to be relevant for the stage of primary school to elementary school, it was expected that the students in the stage of high school to college (grade 12 students) would identify with these items less than the students in the stage of upper elementary to junior high school (grade 8 and 9 students). Second, with respect to the items predicted to be relevant for the upper elementary to junior high school stage (grade 8 and 9 students), it was expected that these items should be more relevant for the students in this stage

than for the students in the subsequent stage of high school to college (grade 12 students). Third, with respect to the items predicted to be relevant for the students in the high school to college stage, it was expected that these items should be more relevant for the students in this stage than for the students in the previous stage of upper elementary to junior high school (grade 8 and 9 students).

In general, evaluations surrounding sex differences were analyzed with two points in mind. First, were the items predicted to be more relevant for women, actually valued more by women. Second, were the items predicted to be more relevant for men, actually valued more by men.

#### Evaluating the Relationship Between Developmental Stage and Preferred Social Group Structure (Hypothesis 1a)

With regards to evaluating the relationship between developmental stage and one's social structure, four chi-square statistics were calculated for each social situation. Recall, the four social situations were with whom do you spend time with at school and away from school and with whom do you talk with if you had a problem or decision to make.

None of the four chi-square statistics were significant across the four social contexts. The significance level of the chi-square statistic for 'with whom do you spend time with at school' was .20. The significance level of the chi-square statistic for 'with whom do you spend time with away from school' was .09. The significance level of the chi-square statistic for 'with whom do you talk with if you had a problem' was .22. Finally, the significance level of the chi-square statistic for 'with whom do you talk with if you had a decision to make' was .24. The insignificant percentage of students who spent time in each of the four social contexts is presented in Appendix F.

In summary, although one's social structure was predicted to be influenced by one's developmental stage, it was found that students in grades 8, 9, and 12 spend time with or talked

intimately with a similar type of social structure. Specifically, students in grades 8, 9, and 12 spend time predominantly 'in small groups' both inside and outside of school. With regards to talking about a problem, students in grades 8, 9, and 12 primarily consulted with 'one close friend'. Finally, students in grades 8, 9, and 12 consulted 'themselves', 'one close friend', their 'boyfriend or girlfriend', or 'a small group of friends' when they had a decision to make.

#### Evaluating the Relationship Between Sex and Preferred Social Group Structure (Hypothesis 1b)

Again, chi-square statistics were calculated across four social contexts to evaluate the relationship between sex and one's social structure. The four social contexts were identical to those evaluated for the proposed relationship between development and social group structure (hypothesis 1a).

Similar to the results obtained for the relationship between developmental stage and social structure, none of the four chi-square statistics were significant between sex and one's social structure. The significance level of the chi-square statistic for 'with whom do you spend time with at school' was .87. The significance level of the chi-square statistic for 'with whom do you spend time with away from school' was .28. The significance level of the chi-square statistic for 'with whom do you talk with if you had a problem' was .07. Finally, the significance level of the chi-square statistic for 'with whom do you talk with if you had a decision to make' was .23. The insignificant percentage of students who spent time in each of the four social contexts is presented in Appendix G.

In summary, although one's social structure was predicted to be influenced by one's sex, it was found that men and women in grades 8, 9, and 12 spent time with and talked intimately with a similar type of social structure. Specifically, women and men in grades 8, 9, and 12 spent time predominantly 'in small groups' both inside and outside of school. With regards to talking about a problem, women and men in grades 8, 9, and 12 primarily consulted 'one close friend'.

Finally, women and men in grades 8, 9, and 12 consulted 'themselves', 'one close friend', their 'boyfriend or girlfriend', or 'a small group of friends' when they had a decision to make.

Evaluating the Relationships Between Developmental Stage and Preferred Social Needs

(Hypothesis 2a) and Between Sex and Preferred Social Needs (Hypothesis 2b)

To evaluate the developmental and sex effects on one's social needs, a three by two between subject multivariate analysis of variance (manova) was calculated. One of the independent variables was school grade (3) and the other independent variable was sex (2). The dependent variables were the nine social needs items reflecting Parkhurst and Hopmeyer's (1999) predictions which had to be analyzed separately due to the inadequate Cronbach's alpha levels obtained.

Table 6a outlines the results obtained from a multivariate (manova) analysis for grade, sex, and the interaction of grade and sex. Since significant levels of the three effects in the manova were satisfactory, this justified an investigation of the nine social needs items separately, that is, the results from the nine separate anovas were appropriately considered. Table 6b lists the items that were significantly affected by grade level, sex, or the interaction of grade and sex from the anova analyses. Furthermore, Table 6c lists the mean scores of the significant effects obtained in the anovas.

Table 6a. Multivariate Analysis of Social Needs (Manova)

EFFECT	F VALUE
Dev't	2.63***
Sex	6.64***
Dev't*Sex	2.21**

Note: N=121

\*,  $p < .05$

\*\*,  $p < .01$

\*\*\*,  $p < .001$

Table 6b. The Significant Developmental and Sex Effects on One's Social Needs (Anovas)

<b>SOCIAL NEEDS ITEMS</b>	<b>DEV'T</b>	<b>SEX</b>	<b>DEV'T*SEX</b>	<b>R2</b>
Item 1: To belong to a group	---	4.34*	---	.09
Item 2: To stick up for me	---	---	4.77**	.13
Item 3: To talk about opinions	5.69**	---	---	.12
Item 6: To do things with	---	17.30***	6.03**	.20
Item 8: To share emotions with	---	28.90***	---	.25
Item 9: To trust secrets with	5.30**	4.74*	---	.14

Note: N=121

\*,  $p < .05$

\*\*,  $p < .01$

\*\*\*,  $p < .001$

Table 6c. Mean Scores and (Standard Deviations) of the Significant Social Needs Items

	<b>ITEM 1</b>	<b>ITEM 2</b>	<b>ITEM 3</b>	<b>ITEM 6</b>	<b>ITEM 8</b>	<b>ITEM 9</b>
<b><u>Effects of Dev't</u></b>						
All grade 8	---	---	1.65 (.75)	---	---	2.08 (.84)
All grade 9	---	---	2.21 (.80)	---	---	1.49 (.80)
All grade 12	---	---	1.79 (.72)	---	---	1.56 (.70)
<b><u>Effects of Sex</u></b>						
All females	1.92 (.88)	---	---	2.02 (.77)	1.45 (.62)	1.50 (.73)
All males	1.63 (.77)	---	---	1.56 (.73)	2.04 (.68)	1.81 (.83)
<b><u>Interaction Effects of Dev't and Sex</u></b>						
Gr 8 females	---	1.38 (.65)	---	2.23 (.73)	---	---
Gr 8 males	---	1.46 (.66)	---	1.00 (.00)	---	---
Gr 9 females	---	1.52 (.81)	---	1.95 (.86)	---	---
Gr 9 males	---	1.73 (.77)	---	1.95 (.84)	---	---
Gr 12 females	---	2.10 (.80)	---	1.97 (.72)	---	---
Gr 12 males	---	1.41 (.67)	---	1.50 (.60)	---	---

**Notes: Lower scores reflect greater social need**

**Standard deviations are below means in parentheses**

Although an inverse relationship was predicted between the three primary school to elementary school social needs items and grade level, none of the three items had a significant grade main effect. However, two of the three items for this grade range were significantly affected by the interaction of grade and sex.

The social need item of 'having friends to stick up for you when needed' (item 2) was inversely related to grade level for the females only. The grade 12 females ranked the lowest ( $\bar{m} = 2.10$ ), the grade 9 females ranked in the middle ( $\bar{m} = 1.52$ ), and the grade 8 females ranked the highest ( $\bar{m} = 1.38$ ). Pairwise comparisons between the means revealed that the grade 12 females were significantly lower than the grade 8 and 9 females ( $p < .05$ ). On the other hand, for males, a curvilinear relationship was found between needing friends to stick up for you and grade level. The grade 8 and 12 males ranked equivalently ( $\bar{m} = 1.46$  and  $1.41$ , respectively) and the grade 9 males ranked the lowest ( $\bar{m} = 1.73$ ). Pairwise comparisons among means revealed that the grade 9 males significantly valued the need to have friends to stick up for you less than the grade 8 and 12 males (for both,  $p < .05$ ).

The social need item of 'having friends with whom to do things' (item 6) was not inversely related to grade level for either sex. For the females, a positive relationship was found between having friends with whom to do things and grade level. The grade 8 females ranked the lowest ( $\bar{m} = 2.23$ ) and the grade 9 and 12 females ranked equivalently ( $\bar{m} = 1.95$  and  $1.97$ , respectively). Pairwise comparisons among means revealed that the grade 8 females significantly ranked lower than the grade 9 ( $p < .05$ ) and grade 12 students ( $p < .05$ ). For the males, a curvilinear relationship was found between having friends with whom to do things and grade level. The grade 8 males ranked the highest ( $\bar{m} = 1.00$ ), the grade 12 males ranked in the middle ( $\bar{m} = 1.50$ ), and the grade 9 males ranked the lowest ( $\bar{m} = 1.95$ ). Pairwise comparisons among means revealed that the grade 8 males rated significantly higher than the grade 9 and 12 students

(for both,  $p < .05$ ). Furthermore, grade 12 males rated significantly higher than grade 9 males ( $p < .05$ ).

Regarding the inverse relationship predicted between the three upper elementary to junior high school social needs items and grade level, one of the three items had a significant grade main effect. For the social need item of 'having friends with whom your secrets can be trusted' (item 9) a significant grade main effect was found. However, although an inverse relationship was predicted, a positive relationship between grade level and having friends with whom you can trust your secrets was found. The grade 9 and 12 students rated this item equivalently ( $\bar{m} = 1.49$  and  $1.56$ , respectively) and the grade 8 students significantly rated lower than the grade 9 ( $p < .05$ ) and grade 12 ( $p < .05$ ) students ( $\bar{m} = 2.08$ ).

Regarding the positive relationship predicted between the three high school to college social needs items and grade level, one of the three items had a significant grade main effect. The social need item of 'having friends with whom you can discuss opinions and beliefs' (item 3) was significantly affected by grade level. However, although a positive relationship was predicted, a curvilinear relationship was found between grade level and having friends with whom you can discuss opinions and beliefs. The grade 8 and 12 students rated this item equivalently ( $\bar{m} = 1.65$  and  $1.79$ , respectively) and the grade 9 students significantly rated lower than the grade 8 ( $p < .05$ ) and grade 12 ( $p < .05$ ) students ( $\bar{m} = 2.21$ ).

In comparison to the developmental predictions surrounding one's social needs (hypothesis 2a), more support can be offered to the sex predictions surrounding one's social needs (hypothesis 2b). Of the four social needs items predicted to be valued more by females, two had significant sex main effects. Having a friend with whom I am able to share my private emotions and feelings (item 8) was found to be significantly more important to females as predicted ( $p < .001$ ). The mean score difference was  $.59$ . In addition, having friends with whom

your secrets can be trusted (item 9) was found to be significantly more important to females as predicted ( $p < .05$ ). The mean score difference was .31.

Of the four social needs items predicted to be valued more by males, two had significant sex main effects. Having friends with whom to do things with (item 6) was found to be significantly more important to males as predicted ( $p < .001$ ). The mean score difference was .46. Having a group of friends that make you feel like you belong (item 1) also had a sex main effect, as predicted ( $p < .05$ ). The mean score difference was .29.

In addition to the sex main effects, two significant interaction effects between grade and sex were found. Having a friend to stick up for you when needed (item 2) was significantly valued more by grade 12 males than grade 12 females ( $p < .05$ ). The mean score difference for grade 12 males and females was .69. On the other hand, having a friend to stick up for you when needed was not significantly valued more by grade 8 and 9 males than by grade 8 and 9 females. Although having a friend with whom to do things (item 6) had a main sex effect, it was also significantly affected by the interaction of grade and sex. Grade 8 males significantly rated higher than grade 8 females ( $p < .05$ ); mean difference for grade 8 males and females was 1.23. As well, grade 12 males significantly rated higher than grade 12 females ( $p < .05$ ); mean score difference was .47. On the other hand, grade 9 males and females rated equivalently.

To summarize the results for hypothesis 2a, the relationships predicted by Parkhurst and Hopmeyer (1999) between developmental stage and preferred social needs were not supported at all. None of the three primary school to elementary school social needs had a significant grade level main effect. With respect to the three upper elementary to junior high school social needs, only one of the three items had a significant main effect. However, although an inverse relationship was predicted, a positive relationship was found between grade level and being able to trust your friends with secrets (grade 8 students rated the lowest and grade 9 and 12 students rated equivalently). Lastly, only one of the three high school to college social needs had a



significant grade level main effect. However, although a positive relationship was predicted, a curvilinear relationship was found between grade level and talking about your opinions and beliefs (grade 9 students ranked the lowest).

In comparison to the developmental predictions, the sex differences predicted to affect one's social needs (hypothesis 2b) were somewhat supported. Two of the four social needs predicted to be rated as more important by females, had significant sex main effects in the predicted direction. That is, being able to share emotions and feelings and being able to trust friends with secrets were found to be valued more by females as predicted. In addition, two of the four social needs predicted to be rated as more important by males, had a significant sex main effect in the predicted direction. Specifically, having a friend to do things with and having a group of friends that make you feel like you belong were found to be valued more by males as predicted.

Evaluating the Relationships Between Developmental Stage and Understanding of Loneliness (Hypothesis 3a) and Between Sex and Understanding of Loneliness (Hypothesis 3b)

Similar to the analyses used to evaluate the effects of developmental stage and sex on one's social needs, a three by two between-subject multivariate analysis of variance (manova) was calculated to investigate the effects of developmental stage and sex on one's understanding of loneliness. Again, one of the independent variables was school grade (3) and the other independent variable was sex (2). The dependent variables were the twelve predicted sources of loneliness from Parkhurst and Hopmeyer's (1999) model. Recall that these twelve predicted sources of loneliness were responded to in a hypothetical sense rather than an actual sense to assess one's 'understanding' of loneliness.

Although it was hoped that Parkhurst and Hopmeyer's (1999) twelve predicted sources of loneliness would have adequate Cronbach's alpha levels permitting the formation of three mini-scales, this was not an option. Thus a multivariant (manova) analysis for grade, sex, and the

interaction of grade and sex was performed to obtain justification for the consideration of the twelve separate anovas. Since satisfactory significance levels in the manova were obtained for the sex main effect only, the twelve predicted sources of loneliness were analyzed separately, with regards to sex only.

Table 7a outlines the results obtained from a multivariate analysis for grade, sex, and the interaction of grade and sex. Table 7b lists the items that were significantly affected by sex in the twelve separate anovas. Furthermore, Table 7c lists the mean scores of the significant sex main effects obtained in the anova analyses. Although, the results of the twelve anovas with respect to the main effect for grade and the interaction effect between grade and sex need to be considered cautiously due to Type I error probabilities, they are presented in Appendix H.

Table 7a. Multivariate Analysis of Understanding of Loneliness (Manova)

EFFECT	F VALUE
Dev't	1.18
Sex	2.42**
Dev't*Sex	.80

Note: N=120

\*,  $p < .05$

\*\*,  $p < .01$

\*\*\*,  $p < .001$

Table 7b. The Significant Sex Effects on One's Understanding of Loneliness (Anovas)

LONELINESS ITEMS	SEX	R2
Item 3: Not feeling attractive or popular enough to belong to the group you want	6.92**	.10
Item 4: Not feeling understood by friends	5.48*	.08
Item 5: Not having friends to stick up for me when needed	5.20*	.07
Item 6: Feeling embarrassed of my group of friends	4.75*	.06
Item 11: Not feeling able to share my thoughts, emotions with my friends	5.24*	.11

Note: N=120

\*,  $p < .05$

\*\*,  $p < .01$

\*\*\*,  $p < .001$

Table 7c. Mean Scores and (Standard Deviations) of the Significant Understanding of Loneliness Items

	ITEM 3	ITEM 4	ITEM 5	ITEM 6	ITEM 11
<b>Effects of Sex</b>					
All females	2.56 (.67)	1.86 (.74)	1.81 (.69)	2.52 (.59)	1.71 (.68)
All males	2.16 (.84)	2.16 (.82)	2.09 (.69)	2.28 (.73)	2.04 (.66)

**Notes: Lower scores reflect greater understanding of loneliness  
Standard deviations are below means in parentheses**

With respect to hypothesis 3a (the developmental effects on one's understanding of loneliness), little support can be offered to Parkhurst and Hopmeyer's (1999) predictions. As stated previously, the multivariate analysis for grade level was not significant which did not justify analyzing the twelve sources of loneliness separately.

In comparison to the developmental predictions made in hypothesis 3a, more support can be offered to the predicted effects of sex on one's understanding of loneliness (hypothesis 3b). Two of the four loneliness sources predicted to be perceived by females as more likely to cause loneliness, had significant sex main effects in the predicted direction. Not being understood by my friends (item 4) and not being able to share my emotions and feeling with my friends (item 11) were rated as more likely sources of loneliness by women (for both,  $p < .05$ ). The mean score difference for 'not being understood by my friends' was .30. The mean score difference for 'not being able to share my emotions and feelings with my friends' was .33.

Three of the seven loneliness sources predicted to be perceived by males as more likely to cause loneliness, had significant sex main effects. Not being attractive or popular enough to belong to my preferred group (item 3) and being embarrassed of my group of friends (item 6) were rated as more likely sources of loneliness by males (for item 3,  $p < .01$ , for item 6,  $p < .05$ ). The mean score difference for 'not feeling attractive or popular enough to belong to my preferred group' was .40. The mean score difference for 'feeling embarrassed of my group of friends' was .24. On the other hand, not having my friends stick up for me when I need it (item 5) was

predicted to be understood by males as a more likely source of loneliness. However, the opposite was found to be significant ( $p < .05$ ). Females significantly rated having my friends stick up for me when I need it as a more likely source of loneliness in comparison to the males. The mean score difference was .28.

In summary, although no support was found for Parkhurst and Hopmeyer's (1999) predicted relationship between developmental stage and understanding of loneliness, partial support for the predicted relationship between sex and understanding of loneliness was found. Two of the four sources of loneliness that were predicted to be rated as more likely sources of loneliness by females, had significant sex effects in the predicted direction. That is, not being understood by your friends and not being able to share your thoughts and feelings with your friends were considered as more likely sources of loneliness by females in comparison to the males. In addition, three of the seven loneliness items that were predicted to be rated as more likely sources of loneliness by males, had significant sex effects. However, only two items, that is, not feeling attractive or popular enough to belong to the group you wanted to, and feeling embarrassed of your group of friends were considered as more likely sources of loneliness by males in comparison to the females. On the other hand, females significantly rated not having your friends stick up for you as a more likely source of loneliness although the opposite was predicted.

Evaluating the Relationships Between Developmental Stage and Sources of Loneliness (Hypothesis 4a) and Between Sex and Sources of Loneliness (Hypothesis 4b)

To evaluate the relationship between developmental stage and the sources of loneliness, correlations were obtained between the summed loneliness score (LSD and RPL scales) and the three mini-scales and single item representing Parkhurst and Hopmeyer's twelve predicted sources of loneliness. Recall that one mini-scale for the predicted sources regarding each of the three stages was created due to adequate Cronbach's alpha levels and that one item representing

the high school to college stage was to be analyzed separately. The focus was on whether the magnitude of each correlation was different for each of the three grades. A  $t$ -test was used to determine if the correlations were significantly different between each grade (Blalock, 1979).

To evaluate the relationship between sex and the sources of loneliness, again correlations were obtained between the summed loneliness score (LSD and RPL scales) and the sources of loneliness predicted by Parkhurst and Hopmeyer (1999). Recall that mini-scales were not created to investigate the sex differences thus the twelve predicted sources of loneliness were analyzed separately. The focus was on whether the magnitude of each correlation was different for each of the two sexes. After obtaining the correlations, again a  $t$ -test was utilized to determine if the correlations were significantly different (Blalock, 1979).

Due to the increased likelihood of making a Type I error with multiple  $t$ -tests, the Bonferroni technique was used to correct this potential source of error. The Bonferroni procedure splits alpha (.05) by the number of tests (12). Thus the  $p < .005$  level of significance was used to evaluate the developmental and sex differences obtained from the twelve  $t$ -tests. Furthermore, the  $p < .005$  level of significance was only one-tailed due to having specified directional predictions surrounding the developmental and sex effects on one's sources of loneliness.

Table 8. The Significant Sex Effects on One's Sources of Loneliness

LONELINESS SOURCES	T VALUE	CORRELATION
Item 43: Feel like nobody wants to include you in their group	2.93*	R(females) = .60*** R(males) = .85***

Note: n=120

\*,  $p < .005$  (one-tailed)

As Table 8 reveals, this study failed to support any of the developmental predictions made by Parkhurst and Hopmeyer (1999) surrounding the sources of loneliness. Furthermore, only one of the predicted eleven sources of loneliness was significantly affected by sex. Specifically, the correlation between feeling like nobody wants to include you in their group and

the summed loneliness score (LSD and RPL scales) was significantly different for males and females. The association between feeling like nobody wants to include you in their group and one's summed loneliness score was significantly stronger for males ( $p < .005$ , one-tailed).

## **Discussion**

### Overview

The primary purpose of this present study was to address a fundamental debate: Is the experience of loneliness dependent or independent of one's developmental level? This study tested Parkhurst and Hopmeyer's (1999) developmental model of loneliness. Their model of loneliness suggested that the experience of loneliness changes as individuals move through developmental stages. Their developmental stages were represented by grade level. For instance, individuals in senior high school through college were predicted to desire romantic relationships and value intimacy and high levels of disclosure in their relationships. Paralleling their social group preferences and social needs, it was predicted that students in senior high school to college would understand loneliness as an inability to share their thoughts and emotions in their relationships. Furthermore, Parkhurst and Hopmeyer predicted that an inability to share one's thoughts and emotions in their relationships would be a source of loneliness for students in senior high school through college.

Although Parkhurst and Hopmeyer (1999) specified five stages and outlined distinct social group preferences, social needs, understandings of and sources of loneliness for each of their five stages, this study tested the predictions for only two stages. Namely, upper elementary to junior high and senior high school to college were tested. In addition, due to documented sex differences with respect to one's preferences regarding social group structure and social needs, as a secondary purpose, this present study also explored sex differences in one's understanding of and sources of loneliness. Fortunately, it was possible to simultaneously test the sex differences

in conjunction with the developmental differences as many of Parkhurst and Hopmeyer's developmental predictions were predicted to be affected by sex as well.

As the results previously stated, the predicted developmental differences were unsupported. As such, potential factors contributing to this will be considered first. It should be pointed out that although most discussions have a 'Limitations' section, weaknesses of this study will be woven throughout the discussion.

#### Potential Factors Contributing to Unsupported Developmental Predictions

Perhaps the most obvious conclusion one may draw from unsupported developmental predictions is that the experience of loneliness does not seem to be dependent on one's developmental level. Although this is possible, two alternative conclusions are warranted. Namely, there may be developmental differences in the experience of loneliness, however; theoretical and or methodological weaknesses of this present study may have interfered with finding support for the proposed developmental differences. Each of these alternative conclusions are particularly worth considering since both the theoretical model and constructed measures, relied on in this present study, were both being used for the first time. As such, perhaps the more difficult question lies in trying to determine which of these two factors was more problematic. For instance, are Parkhurst and Hopmeyer's (1999) developmental predictions in need of being reworked or do the constructed measures fail to capture their theoretical ideas adequately and in a manner appropriate for adolescents? The latter notion will be discussed first.

Methodological Weaknesses. Two critical problems were evident from the results. First, there were significant developmental differences between the grade eight and nine students in their social needs. This resulted in having to separately analyze the three grade levels as it was not possible to group the grade eight and nine students together as 'early adolescents'. Second, the Cronbach's alpha levels for the two q-sort questions were unsatisfactory. This resulted in

having to separately analyze each measure in the two q-sort questions as the three, hoped for mini-scales could not be constructed for each of the developmental levels represented in the questionnaire. It is possible that each of these problems may be explained by methodological weaknesses in the present study.

Regarding the significant developmental differences found between grade eight and nine students, the nature of the grade eight sample may have contributed to these differences. First of all, when potential classes were being recruited, it was assumed that grade eight and nine students would represent the same developmental stage. As such, the fact that only two classes of grade eight students participated, in comparison to three classes of grade nine and twelve students, was not originally interpreted as problematic. Conversely, there were concerns over only three classes of late adolescents participating, in comparison to a total of five classes of early adolescents participating. Thus, when analyses revealed significant developmental differences between the grade eight and nine students which suggested each grade level had to be analyzed separately, concerns over a smaller grade eight sample emerged.

Secondly, unlike the grade twelve and nine classes where educators allowed ample time for their students to return parental consent forms, the two grade eight educators allowed less time for their students to return their parental consent forms. As such, seventy-one percent of perhaps the more conscientious grade eight students completed the questionnaire as opposed to eighty-six percent of the grade nine students and ninety percent of the grade twelve students. Although a seventy-one percent response rate is generally not problematic, the fact that only two grade eight classes participated in the questionnaire in comparison to the three grade nine and twelve classes made this lower response rate more problematic. To be specific, only twenty-seven grade eight students were included in analyses in comparison to forty-three grade nine students and fifty-two grade twelve students. As such, it was possible that the grade eight



sample was too small and included more conscientious students and or parents in comparison to the grades nine and twelve students.

The key point is that the significant grade eight and nine developmental differences may be explained by the nature of the grade eight sample as opposed to valid developmental differences. Furthermore, the smaller and perhaps more conscientious grade eight sample may explain the curvilinear pattern found for one of the social needs predictions. Recall that significant developmental differences were found between having a friend to share future career ideas, life goals, ideologies, values and beliefs. However, unlike the positive developmental direction predicted, a curvilinear relationship was supported whereby both grade eight and twelve students significantly valued this need more than the grade nine students did. As such the grade eight students appeared to be more similar to the grade twelve students than the grade nine students. Again, it is possible that this may be due to the smaller and more conscientious grade eight sample.

With regards to the unsatisfactory Cronbach's alpha levels for the q-sort questions, this may have also been a result of weak methods. Specifically, this may have been due to the fact that these measures were constructed solely for the purposes of this study and have not been subjected to previous testing. In general, measures improve with time due to the continual revision and cleaning up of problematic wording or phrases. However, the measures used in this present study have not been subjected to this revision process resulting in potential problematic wording or phrases.

Furthermore, to compensate for the fact that these measures had no previous indicators of validity, efforts were made to directly word the nature of the constructed measures after Parkhurst and Hopmeyer's (1999) predictions. However, this strategy may not have been ideal. For instance, although this strategy ensured face validity, it may not have guaranteed high overall validity. That is, the wording that Parkhurst and Hopmeyer use in their theoretical discussion

may not be suitable or appropriate for adolescents. For example, perhaps the wording was odd, too academic, or simply not the terminology common to adolescents. In turn, this may have prevented the adolescents from identifying with or comprehending the essence of the social needs and loneliness measures.

As well, the second strategy designed to obtain an indicator of the validity of the constructed measures may also have been problematic. Namely, fellow graduate students were asked to match the predictions to the measures for the social needs and understanding of loneliness items. However, graduate students may not have been ideal to assess construct validity. Rather, since adolescents participated in the study, perhaps asking adolescents to match the measures and predictions may have been a better strategy to assess construct validity. In addition, it may have enabled an opportunity for feedback on the measures used.

Lastly, the unsatisfactory Cronbach's alpha levels may have been a result of the q-sort task, itself. This task was preferred to Likert-scales as there were concerns over low variability in the social needs and loneliness measures. For instance, it was conceivable that students may perceive all the social needs as important or all of the loneliness measures as leading to loneliness. Since, it was critical to obtain a sense of ranking as opposed to rating of these measures, the q-sort task was favored. However, this was a new, creative task that the students may have found odd. Furthermore, it may have forced them into ranking only three as the most important or as the most lonely. On the other hand, the q-sort task may have forced participants to rank three when they only found one or two to be important or lonely. Thus, the nature of the q-sort task may not have enabled this present study to capture the true feelings of the respondents. Rather, the nature of the q-sort task may have forced the respondents into ranking a set number simply because they were instructed to do so. Possible evidence of this comes from the observation that some of the students only selected one or two of the items to be important or lonely suggesting that they simply did not identify with the nature of the measures. Furthermore,

when the same constructed loneliness measures were used in a rating, Likert-type scale, adequate Cronbach's alpha levels were obtained enabling three mini, developmental scales to be created. This improved Cronbach's alpha level suggests there was something wrong with the q-sort task as opposed to the wording or phrasing contained in the measures.

In sum, three methodological weaknesses may have contributed to the lack of support found for Parkhurst and Hopmeyer's (1999) developmental predictions. First, the small and perhaps more conscientious grade eight sample may have been responsible for the significant developmental differences found between grade eight and nine students. Second, the fact that the strategies, designed to improve the validity of the previously untested measures, were less than ideal may not have enabled problematic wording or phrasing of the measures to be identified. This in turn may have contributed to unsatisfactory Cronbach's alpha levels for the two q-sort questions. Third, the fact that unsatisfactory Cronbach's alpha levels were obtained in the q-sort questions and that satisfactory Cronbach's alpha levels were obtained when the same items were used in the Likert-type scales, suggests that there may have been something wrong with the nature of the q-sort task. However, despite the evidence that these three points highlight, methodological weaknesses do not solely explain the unsupported developmental predictions.

Theoretical Weaknesses. In addition to the two previously identified problems of significant developmental differences between grade eight and nine students and unsatisfactory Cronbach's alpha levels, one perhaps even greater problem existed in the results. That is, even though measurement weaknesses were less of a concern for the Likert-type measures, one thing was consistent with the results surrounding the developmental predictions. Namely, the developmental predictions were still unsupported despite the improved internal-reliability found with respect to the Likert-type scales. Furthermore, it is also possible that theoretical weaknesses may be equally if not more responsible for the first two identified problems.

Regarding the significant developmental differences found between the grade eight and nine students, it is possible that Parkhurst and Hopmeyer's (1999) developmental predictions are simply too rigid and linear to realistically account for the complexities involved in human thought processes and emotions. That is, as humans we may tend to change our minds by basing our thought and needs on circumstances of situations rather than having developmentally linear or stable thoughts and emotions. For instance, on one occasion we may really need a friend to play a more intimate social role and listen to our difficulties. Conversely, on another day, we may need a friend to do things with because we are tired of hanging out at home and are simply feeling bored. Furthermore, our thoughts and behaviors may oscillate rather than move linearly throughout our development. For instance, one day while interacting with an older individual, we may think rather abstractly and then on another day when we are interacting with a younger individual, we may divert to a more concrete way of thought. Thus our thoughts and feelings may naturally oscillate throughout development as we work out our ideas and try to crystallize them. As such, it may be that the significant developmental differences found between grade eight and nine students were valid and that early adolescents' social needs and understanding of loneliness are variable rather than linear and stable. Perhaps, developmental theorists need to appreciate and expect the possibility that adolescents' social, cognitive, and emotional development may oscillate and be situationally-defined as opposed to following a linear and stable pattern.

Regarding the unsatisfactory Cronbach's alpha levels obtained for the two q-sort questions, since the untested constructed measures were arguably accountable for this weak internal-reliability, the same argument applies to the untested theoretical model. Cronbach's alpha tells you whether the items in your measure, all load or are associated with one or with more than one factors. Thus it provides an indication of the unidimensionality of a concept. Since negative Cronbach's alpha levels were found between the items, it is likely that Parkhurst

and Hopmeyer's (1999) predictions lack a central theme or idea. That is, their predictions are not only capturing social needs and an understanding of loneliness but something else as well. Again, this may be due to the fact that their theoretical model has not been previously tested. It is unlikely that an untested theoretical model will have optimal clarity and precision in defining its concepts and predictions without any revision and reworking taking place.

Further evidence that Parkhurst and Hopmeyer's (1999) developmental predictions are in need of being reworked comes from the low and even negative correlations found between their items predicted to represent one stage of development. Surely if the measures were representing one concept, one would not expect there to be negative and or weak correlations between the measures. However, this was the case. Specifically, correlations between the three social needs items for the early adolescence stage ranged between  $-.30$  and  $-.11$ . Correlations between the three social needs items for the late adolescence stage ranged between  $-.08$  and  $.07$ . Correlations between the four understanding loneliness items for early adolescents ranged between  $-.22$  and  $.08$ . Finally, correlations between the four understanding loneliness items for late adolescents ranged between  $-.25$  and  $.04$ . Again, the low and negative correlation values suggest that Parkhurst and Hopmeyer's predictions need to be reworked.

Finally, critical evidence that Parkhurst and Hopmeyer's (1999) predictions are in need of being reworked stems from the third identified problem. That is, despite satisfactory Cronbach's alpha levels, developmental predictions were still unsupported. One theoretical weakness will be considered with respect to this problem. Namely, that the results indicated that some of Parkhurst and Hopmeyer's predictions were not rated as important by many of the participants in this study.

#### Potential Support for Alternative Developmental Patterns

Regarding the predictions that were not valued or associated with the loneliness experience by many of the early or late adolescents, it is possible that these measures may be

valued by or associated with the loneliness experience in earlier or later stages or conversely not at all. Despite the fact that this study was unable to determine whether the predictions rated as unimportant were possibly 'off-time' or truly irrelevant and not central to the loneliness experience, it is clear that alternative developmental trends and patterns do exist in the developmental literature. To be specific, a review of all the developmental trends and patterns would likely reveal some inconsistencies and contradictions as to the timing and issues deemed as the most central and relevant to adolescents. As such, the key point is that when one appreciates that Parkhurst and Hopmeyer's (1999) predictions are based on previously researched developmental trends, one must also consider the possibility that these trends may be unassociated with the loneliness experience or that perhaps these trends are relevant to the loneliness experience in earlier or later developmental stages.

Since Parkhurst and Hopmeyer's (1999) model is the first to link specific developmental trends to one's understanding and sources of loneliness, it is not possible to consult previous research to determine if their developmental predictions are truly unassociated with loneliness or if this study was unsuccessful in revealing the association. Rather, future research will have to re-test Parkhurst and Hopmeyer's developmental predictions that were found to be unassociated with the loneliness experience. On the other hand, it is possible to comment on the possibility that the developmental trends relied on by Parkhurst and Hopmeyer are 'off-time' as there is existing research that suggests alternative social group preferences and social needs in adolescence. Two alternative patterns that have received empirical support will be considered.

Cutrona (1982) found evidence of romantic relationships being relevant later than Parkhurst and Hopmeyer's (1999) model suggests. Desiring intimacy and desiring romantic relationships should not be interpreted to mean the same thing. Rather, intimacy should be envisioned as occurring in non-romantic relationships as well as romantic ones. Cutrona's study found that although UCLA students first believed that their loneliness could be alleviated if they

found a satisfying romantic relationship, it was later found that their loneliness was alleviated from the formation of close, non-romantic relationships. Thus, this study suggests that romantic relationships may not hold central importance until young adulthood or later.

As such, Cutrona's (1982) study may shed light on the finding that late adolescents did not hang out or consult with romantic relationships. Furthermore, this study may shed light on the reason for the finding that losing a desired, romantic relationship was not associated with late adolescents' loneliness scores as predicted by Parkhurst and Hopmeyer (1999). Consequently, it is fair to say that Parkhurst and Hopmeyer may need to move some of their romantically linked predictions into a later stage, that is, young adulthood.

Second, early adolescents did not understand or experience loneliness as stemming from three of Parkhurst and Hopmeyer's predicted loneliness items. The first loneliness item was feeling shame over one's lack of attractiveness or popularity. The second loneliness item was feeling unimportant or not special to one's social group. The third loneliness items was feeling embarrassed of one's social group and the negative impact it has on one's own social standing. It is possible that Parkhurst and Hopmeyer underestimated early adolescents' need for intimacy and overestimated the association between these more superficial and status-based understandings and sources of loneliness. Schonert-Reichl and Hymel (1996) provide a review of findings from several studies that supports this suggestion.

Schonert-Reichl and Hymel (1996) suggest that preschoolers understand their friendships in a concrete manner, that is, their friends are those whom they are playing with at the present time or those whom they live close to or those whom share their belongings with them. As such, they characterize preschoolers' conceptions of their friendships as superficial because they are established and terminated as a result of external qualities such as proximity.

Conversely, Schonert-Reichl and Hymel (1996) suggest that by middle childhood, conceptions of friendships begin to be based more on internal qualities. For instance, by grade

four and five, students start to choose their friends based on their similarity in values and attitudes. In addition, they begin to expect mutual trust, loyalty, reciprocity, and commitment. At this age, good friends may be described as someone who is nice and helpful.

By early adolescence (grades 7, 8, and 9) Schonert-Reichl and Hymel (1996) suggest that conceptions of friendships are based even more on intimate internal qualities. For instance, mutual understanding and intimate disclosing is expected. At this age, good friends may be described as a confidant, that is, someone who understands one's thoughts and feelings and can be trusted with these innermost thoughts and feelings.

By late adolescence (grades 11 and 12 or even early adulthood), Schonert-Reichl and Hymel (1996) suggest that conceptions of friendships begin to emphasize emotional support. In addition, by late adolescence, it is understood that even one's closest friend cannot supply their every need.

Thus Schonert-Reichl and Hymel's (1996) review of several studies reveals that there is empirical support for the need and valuing of intimacy in early adolescence. Consequently, it is fair to say that some of Parkhurst and Hopmeyer's predictions may be off-time. Specifically, they may need to move some of their intimacy predictions from late adolescence into early adolescence. For instance, sharing one's emotions and thoughts was a valued social need and was perceived to be related to loneliness by both early and late adolescents. Furthermore, they may need to move some of their more superficial and status based predictions from early adolescence into middle childhood. For instance, early adolescents did not perceive three predictions to be related to loneliness. The three items predicted to be understood by early adolescents as leading to loneliness were a shame over a lack of attractiveness or popularity, feeling unimportant or not special to one's social group, and feeling embarrassed of one's social group and the negative impact it has on one's social status.



In addition to the two potentially off-time predictions commented on above, one late adolescent social need failed to receive empirical support. Namely, the need to increase one's understanding of oneself was not considered an important social need for the late adolescents in this study. Recall that in Selman's (1981) model of friendship conceptions, Stage 4 (Autonomous interdependent friendships) involves conceptualizing friendships as an opportunity to gain a sense of self-identification. He suggests this stage is associated with the age of twelve through adulthood. Since the late adolescents in this study revealed this was not one of their valued social needs, it is possible that the social need of increasing self-understanding is valued later in this range, that is, in young adulthood.

Apart from noting the possibility that Parkhurst and Hopmeyer's (1999) predictions may be limited in that they have relied on developmental trends that may be 'off-time', another limitation of their model deserves discussion. Specifically, Parkhurst and Hopmeyer's model may be limited in that they have failed to address significant sex differences.

#### Potential Support for Sex Differences in the Experience of Loneliness

In comparison to the lack of support for the notion of a developmentally 'dependent' experience of loneliness, this study found support for some of the predicted sex differences in one's social needs, understanding of and sources of loneliness. With respect to social needs, the notion that females have more intimate social needs than males was partially supported. Females significantly rated 'being able to share emotions and feelings with their friends' and 'being able to trust their friends with the secret they tell them' as more important than the males. Furthermore, the notion that males value the obtainment of high status within their competitive friendships was also partially supported. Males significantly rated 'being able to find friends to do things with' and 'feeling like you belong in a group' as more important than the females.

With respect to understanding loneliness, the notion that females understand loneliness as stemming from more intimate sources was also partially supported. Females significantly rated

'not being able to share emotions and feelings with their friends' and 'not being understood by their friends' as more lonely things than the males. Furthermore, the notion that males understand loneliness as stemming from an inability to obtain high status within their competitive friendships was also partially supported. Men significantly rated 'not feeling attractive or popular enough to belong to the group that they wanted to belong to', 'feeling embarrassed of their group of friends', and 'not having friends to stick up for them when they needed it' as more lonely things than the females.

With respect to sources of loneliness, although the sources of loneliness that represented inadequate intimacy levels were not associated with higher levels of loneliness for the females, one of the sources of loneliness that represented inadequate social status was associated with higher levels of loneliness for the males. Specifically, males' loneliness scores were significantly associated with the loneliness source of 'feeling like nobody wants to include you in their group'.

Thus as the results suggested, it appears that Parkhurst and Hopmeyer are in need of considering how sex differences effect the loneliness experience. Perhaps a consideration of how development and sex interact to influence the loneliness experience is justified as well. This may be particularly worthwhile for the social needs of needing a friend to defend or stick up for you and the social need of needing a friend to do things with. Recall each of these social needs was significantly influenced by the interaction of development and sex. However, although many predicted sex differences were supported, many of the predictions were weak and one was unsupported.

With respect to weakly supported sex differences, measures that explained less than ten percent of the variance will be considered. Namely, the male valued social need of belonging to a group explained less than ten percent of one's social needs. Furthermore, the male perceived loneliness items of not feeling attractive or popular enough to belong to the group you want, and feeling embarrassed of your friends each explained less than ten percent of one's understanding

of loneliness. Lastly, the female perceived loneliness item of not feeling understood by your friends, also explained less than ten percent of one's understanding of loneliness.

With respect to the unsupported sex difference, one loneliness item predicted to be understood more by males was not supported. Rather females perceived that not having a friend to stick up for you would result in loneliness significantly more than males did. However, this difference explained only seven percent of one's understanding of loneliness. Furthermore, when this item was rated as a social need, it was significantly valued as a social need more by males as predicted. A larger amount of variance was explained with respect to one's social needs, specifically, thirteen percent. Thus, this sex difference may need to be considered as tentative.

Other than the one conflicting sex difference, many predicted sex differences were insignificant. However, since the measures used in this present study were constructed to primarily test developmental differences it is not seen as fair to comment on the potential reasons for insignificant predictions. Rather it seems logical to assume that methodological weaknesses play a large role in this. Furthermore, many of the sex predictions were stretched from the existing research to fit the developmental predictions as it was seen as necessary to at least speculate on possible sex differences in Parkhurst and Hopmeyer's developmental predictions.

On the contrary it seems more pertinent to highlight the sex differences found in the developmental predictions. Particularly, since some of the sex differences were quite strong. For instance, there were three sex differences including the one previously mentioned regarding 'sticking up for you', that moderately explained one's social needs and understanding of loneliness. Having a friend whom acts as a confidant and understanding loneliness as not being able to share one's thoughts and emotions were both valued more by women, as predicted. Furthermore, each explained fourteen and eleven percent respectively. Even more worthy of consideration are the sex differences that explained more than twenty percent of one's social needs, and sources of loneliness. The male social need of having friends to do things with

explained twenty percent of the variance in social needs. The female social need of needing friends to share your intimate thoughts and emotions with explained twenty-five percent of the variance in one's social needs. Lastly, the male source of 'feeling like nobody wants to include you in their group' explained seventy-two percent of males' loneliness scores in comparison to only thirty-five percent of females' loneliness scores.

Thus in sum, it seems more pertinent to focus on the significant sex differences found in Parkhurst and Hopmeyer's (1999) developmental predictions. Again, this highlights the need for Parkhurst and Hopmeyer to consider the influence of sex in their model of loneliness. In addition, Parkhurst and Hopmeyer may also need to consider how the interaction of sex and development influences one's experience of loneliness.

Although the primary purpose of this present study was to address the fundamental debate of whether loneliness was developmentally dependent or independent in adolescence, unfortunately this debate still remains largely unsettled. Rather, this study seemed to break new ground in testing specific developmental differences in the experience of loneliness between early and late adolescents using an untested developmental model of loneliness and untested measures. As such, it appears that this study generated more questions than answers. For instance, regarding the significant developmental differences between the grade eight and nine students, was the grade eight sample problematic or is the model too rigid and linear to realistically account for the complexities involved in human thoughts and emotions? Regarding the unsatisfactory Cronbach's alpha levels, was the q-sort task problematic or do the predictions and corresponding measures need to be reworked? Lastly, surrounding the lack of significant developmental differences, are the predictions valid for early or later developmental stages or are the predictions simply not indicators of social needs, understandings of and sources of loneliness in early and late adolescence?

Despite the number of unanswered questions, one previously unanswered question was addressed in this present study. Namely, that there does seem to be sex differences in the experience of loneliness. Although a clear picture of the sex differences in the loneliness experience was not obtained from this present study, three notable sex differences were found. With respect to sex differences in social needs, females valued being able to share their emotions and feelings with their friends whereas males valued being able to do things with their friends. With respect to sources of loneliness, males experienced loneliness if they did not feel like they belonged. Lastly, apart from noting three likely sex differences, this present study offers two key suggestions that future researchers in this area may want to consider.

#### Recommendations for Future Research

Two suggestions can be drawn from this present study that may assist future research in this area. The two suggestions center around recommendations to utilize both longitudinal and qualitative designs.

First, with respect to longitudinal designs, cross-sectional designs enable only a one-time, snap shot into the participants' thoughts and feelings. However, as was previously stated, it may be likely that human thoughts and feelings are situational or circumstantial, thus a one-time, snap shot may not be adequate to capture the participants' true range of thoughts and feelings. As such, longitudinal designs are urged to test this possibility. As well, to obtain a sense of the timing of developmental changes in social needs, understandings of and sources of loneliness, again longitudinal designs are advised.

Second, qualitative methods are urged to enable a more thorough analysis of the developmental changes involved in social needs, and the understanding of and sources of loneliness. This may be particularly worthwhile since there are uncertainties surrounding the conceptual strength of Parkhurst and Hopmeyer's (1999) model. Qualitative methods would

enable the researcher to explore the nature of the social needs, understandings of and sources of loneliness in more detail and depth.

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**Appendix A: Parkhurst and Hopmeyer's Model of Loneliness: Developmental  
Changes in the Sources of Loneliness**

<b>GRADE RANGE</b>	<b>NEW PEER RELATIONSHIPS</b>	<b>NEW VALUED FUNCTIONS AND ACTIVITIES PROVIDED BY PEERS</b>	<b>NEW COGNITIONS PRODUCING LONELINESS</b>	<b>NEW ROUTES TO LONELY FEELINGS THROUGH OTHER EMOTIONS</b>
Toddler/ Early Preschool	Attachments to peers	Reassurance, affection, attention, companionship	Alone in strange place, want affection, no attention from others, miss friend	Fear, distress
Kindergarten, Early elementary school	Dyadic friendships	Fun of coordinated play, shared fantasy, deviance and humor, sense of 'we-ness'	No one to play with, no one will be your friend	Boredom
Middle elementary school	Cliques	Helpers, allies, defenders, gossips, people to play group games and sports	Conflict with friend, ostracism, rebuff, left out, let down, slighted, ignored, or disregarded by group, no one to go to for help, treated meanly or unfairly by friends	Social anxiety, humiliation from slights, insults, unfair treatment, ridicule or abuse, shame over lack of competence in areas valued by peers
Upper elementary/junior high school	Crowds, prestige, acceptance, romantic flirtations and crushes	Confidants, banter, sense of belonging, models, sense of standing, worth, meaning, identity based on association with group	Breach of confidence, friendship betrayal, no one to confide in, feel socially distanced, don't belong, lack group to identify with, despised, nobody in others' eyes, not valued or important not likeable or attractive	Shame because unattractive, unlikeable, unacceptable, unpopular, humiliation of felt damage to social standing or loss of face
Senior high school/college	Romantic relationships	Fellow-explorers in search for identity, ideology, values, goals, social roles, self-understanding, intimacy	Feel psychological distance, no rapport with others, no one to talk to about philosophical issues, not understood, feel like a social misfit, lack or loss of intimate relationship, feel that will never find anyone to share intimate relationship	Emptiness, alienation

Parkhurst & Hopmeyer (1999)

This questionnaire is being used across two age groups; therefore, you may find a few questions that seem less relevant to your current situation. For these questions, we've made response categories to fit a variety of people's circumstances. Please answer all questions and select the response that best fits your situation.

**Instructions:** Put a "1" beside your **first choice** and a "2" beside your **second**, leave all other options blank.

1. Who do you usually spend time with outside of school?

- \_\_\_\_\_ usually by myself
- \_\_\_\_\_ one close friend
- \_\_\_\_\_ boyfriend/girlfriend
- \_\_\_\_\_ a small group of friends
- \_\_\_\_\_ a fairly large group of friends that include boys and girls

2. Who do you usually spend time with at school?

- \_\_\_\_\_ usually by myself
- \_\_\_\_\_ one close friend
- \_\_\_\_\_ boyfriend/girlfriend
- \_\_\_\_\_ a small group of friends
- \_\_\_\_\_ a fairly large group of friends that include boys and girls

3. If you had a problem whom would you talk to?

- \_\_\_\_\_ I prefer to keep it to myself
- \_\_\_\_\_ one close friend
- \_\_\_\_\_ boyfriend/girlfriend
- \_\_\_\_\_ a small group of friends
- \_\_\_\_\_ a fairly large group of friends that include boys and girls

4. If you had a decision to make who would you talk to?

- \_\_\_\_\_ I prefer to keep it to myself
- \_\_\_\_\_ one close friend
- \_\_\_\_\_ boyfriend/girlfriend
- \_\_\_\_\_ a small group of friends
- \_\_\_\_\_ a fairly large group of friends that include boys and girls

**Instructions:** circle **ONE** answer

- |  |            |            |                  |           |           |
|--|------------|------------|------------------|-----------|-----------|
| 5. It's easy for me to make new friends at school.                                       | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 6. I feel part of a group of friends that does things together.                          | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 7. I have nobody to talk to in my classes.   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 8. I'm good at working with other students in my classes.                                | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 9. I have a lot in common with other students.   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 10. It's hard for me to make friends at school.  | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 11. There is someone my age I could go to if I were feeling down.                        | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 12. I feel in synch with other students in my classes.                                   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 13. I have a lot of friends in my classes.   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 14. I have at least one really good friend I can talk to when something is bothering me. | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 15. I feel alone at school.  | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 16. I can find a friend in one of my classes when I need one.                            | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 17. I feel like other students want to be with me.                                       | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 18. It's hard to get other students in my classes to like me.                            | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 19. I feel that I usually fit in with other students in my classes.                      | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 20. I don't have anyone to hang out with at school.                                      | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |

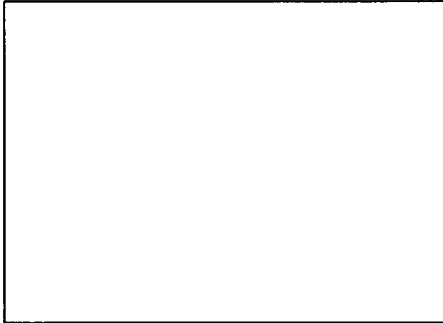


***Instructions:***

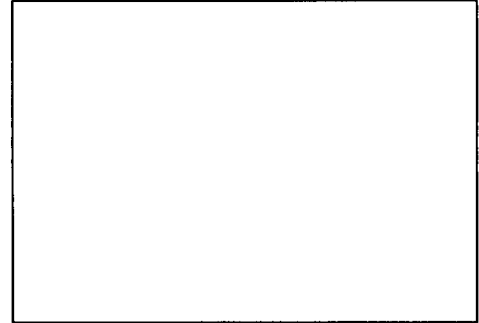
Pick **three** things that are the most important things about friends to you. Place the number beside each thing into the ‘**most important things**’ box.

Next, pick **three** things that are the least important things about friends to you. Place the number beside each thing into the ‘**least important things**’ box.

**MOST IMPORTANT THINGS**



**LEAST IMPORTANT THINGS**



**Things I like about my friends:**

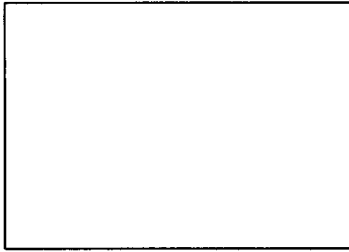
1. Make me feel like I belong in our group of friends.
2. Stick up for me when I need it.
3. Can talk about my opinions and beliefs with them.
4. Help me understand myself better.
5. Make me feel like a special person.
6. Can do things with them.
7. Can talk about my other friends with them.
8. Can share my private emotions and feelings with them.
9. Can trust them with the secrets I tell them.

**Instructions:**

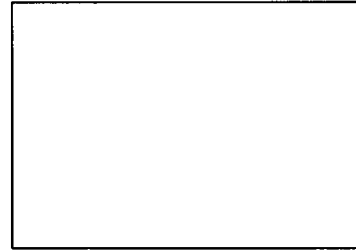
Pick **four** things that would make you feel the most lonely. Place the number beside each thing into the '**most lonely things**' box.

Next, pick **four** things that would make you the least lonely. Place the number beside each thing into the '**least lonely things**' box.

**MOST LONELY THINGS**



**LEAST LONELY THINGS**



**THINGS THAT MAKE ME LONELY:**

1. Not being very good at the things my friends are good at.
2. Not being included in a group.
3. Not being attractive or popular enough to belong to the group that I wanted.
4. Not being understood by my friends.
5. Not having my friends stick up for me when I need it.
6. Being embarrassed of my group of friends.
7. Not having anybody to do things with.
8. Not feeling important to my friends.
9. Having my boyfriend or girlfriend break up with me.
10. Feeling like nobody wants to be in a close relationship with me.
11. Not being able to share my thoughts and emotions with my friends.
12. Having my friends say mean things about me behind my back.

**Instructions:** circle **ONE** answer

- |   |     |     |           |    |    |
|---|-----|-----|-----------|----|----|
| 23. I have a friend who is really interested in hearing about my private thoughts and feelings. | YES | yes | sometimes | no | NO |
| 24. When I want to do something for fun, I can usually find friends to join me.                 | YES | yes | sometimes | no | NO |
| 25. I get along with other students in my classes.  | YES | yes | sometimes | no | NO |
| 26. I have a friend I can tell everything to.   | YES | yes | sometimes | no | NO |
| 27. I feel left out of things at school.  | YES | yes | sometimes | no | NO |
| 28. I don't have any friends I can go to when I need help in class.                             | YES | yes | sometimes | no | NO |
| 29. When I am with other students, I feel like I belong.  | YES | yes | sometimes | no | NO |
| 30. There is somebody my age who really understands me.   | YES | yes | sometimes | no | NO |
| 31. I don't get along with other students in school.  | YES | yes | sometimes | no | NO |
| 32. I'm lonely at school.   | YES | yes | sometimes | no | NO |
| 33. There is a friend I feel close to.  | YES | yes | sometimes | no | NO |
| 34. I am well liked by other students.  | YES | yes | sometimes | no | NO |
| 35. There is someone my age I can turn to.  | YES | yes | sometimes | no | NO |
| 36. I don't have any friends in school.   | YES | yes | sometimes | no | NO |

37. Please **PRINT** your cultural background in the space below. For example, are you Caucasian (white), Chinese, Japanese, Native, Italian, Indian, etc.?

38. What is your birthday? \_\_\_\_\_ day \_\_\_\_\_ month \_\_\_\_\_ year

39. What grade are you in? \_\_\_\_\_

40. What grade were you in when you started attending this school? \_\_\_\_\_

41. Are you a male or female? Male Female

42. Do you plan to go to college or university? YES NO CAN'T DECIDE

**Instructions:** Circle **ONE** answer

- |   |            |            |                  |           |           |
|---|------------|------------|------------------|-----------|-----------|
| 43. Do you feel like nobody wants to include you in their group?                                      | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 44. Do you feel unattractive or not popular enough to belong to the group that you want to belong to? | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 45. Do you feel like you have friends to do things with?  | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 46. Do you feel like nobody wants to be in a close relationship with you?                             | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 47. Do you feel like nobody really understands you?   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 48. Do you feel embarrassed of your group of friends?   | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 49. Do you feel like nobody sticks up for you when you need it?                                       | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 50. Do you feel like you can't share your thoughts and emotions with your friends?                    | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 51. Do you feel unimportant to your friends?  | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 52. Do you feel that you are not good at the things your friends are good at?                         | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 53. Have you felt hurt from a past boyfriend or girlfriend breaking up with you?                      | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |
| 54. Do your friends say mean things about you behind your back?                                       | <b>YES</b> | <b>yes</b> | <b>sometimes</b> | <b>no</b> | <b>NO</b> |

55. One purpose of this study is to understand the feelings adolescents and young adults associate with loneliness. What feelings do you think are associated with loneliness? Please list or describe the feelings you associate with loneliness.

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**THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY!**

## **Appendix D: Matching Form for Social Needs Items**

### **Social Needs Questions**

**Instructions:** For each of the 9 social needs questions, please place the social need theme number which best captures the question in the space provided. There are 9 themes. Each theme should be used only once.

Question 1: It is important that I have friends to stick up for me when I need it.

Theme: \_\_\_\_\_

Question 2: It is important that I have friends to do things with.

Theme: \_\_\_\_\_

Question 3: It is important that I have someone to talk about my other classmates with.

Theme: \_\_\_\_\_

Question 4: It is important that I can discuss my opinions and beliefs with my friends.

Theme: \_\_\_\_\_

Question 5: It is important that my group of friends make me feel like I belong.

Theme: \_\_\_\_\_

Question 6: It is important that my group of friends make me feel special.

Theme: \_\_\_\_\_

Question 7: It is important that I can trust my friends with the secrets I tell them.

Theme: \_\_\_\_\_

Question 8: It is important that my friends help me to understand myself better.

Theme: \_\_\_\_\_

Question 9: It is important that I have one friend that I can share my private emotions and feelings with. Theme: \_\_\_\_\_

**These are the 9 social needs themes**

**Theme 1:** need friends to defend or act as an ally or helper when needed

**Theme 2:** need for fellow explorer, that is, someone to share future life goals, career, beliefs, and ideologies

**Theme 3:** need for social relations to provide them with a sense of belonging

**Theme 4:** need for intimacy and closeness with friends

**Theme 5:** need for their group of friends to provide them with a respectable sense of worth, or feeling of meaningfulness

**Theme 6:** need for increased self-understanding

**Theme 7:** need friends to play group games or sports

**Theme 8:** need for a confidant, that is, someone they can trust

**Theme 9:** need for someone to gossip with

## Appendix E: Matching Form for Understanding Loneliness

### Loneliness Questions

**Instructions:** For each of the 12 questions listed below, please place the loneliness theme number which best captures each question in the space provided. There are only 12 loneliness themes. Please use each theme only once.

Question 1: I would feel lonely if I had nobody to do things with.

Theme: \_\_\_\_\_

Question 2: I would feel lonely if I felt like I wasn't attractive or popular enough to belong to the group that I wanted to belong to. Theme: \_\_\_\_\_

Question 3: I would feel lonely if I had nobody that would stick up for me when I needed it.

Theme: \_\_\_\_\_

Question 4: I would feel lonely if I felt like nobody would want to include me in their group.

Theme: \_\_\_\_\_

Question 5: I would feel lonely if I found out that my friends were saying mean things about me behind my back. Theme: \_\_\_\_\_

Question 6: I would feel lonely if I felt like there was nobody who really understood me.

Theme: \_\_\_\_\_.

Question 7: I would feel lonely if I felt embarrassed of my group of friends.

Theme: \_\_\_\_\_

Question 8: I would feel lonely if I wasn't very good at the things that my friends were good at and valued. Theme: \_\_\_\_\_

Question 9: I would feel lonely if I felt like nobody would ever desire to be in a close relationship with me. Theme: \_\_\_\_\_

Question 10: I would feel lonely if my boyfriend or girlfriend didn't want to go out with me anymore and broke up with me. Theme: \_\_\_\_\_

Question 11: I would feel lonely if I felt like I wasn't important to my friends.

Theme: \_\_\_\_\_.

Question 12: I would feel lonely if I wasn't able to share my thoughts and emotions with my friends.

Theme: \_\_\_\_\_.

**These are the 12 loneliness themes**

**Theme 1:** Loneliness from feeling left out, disregarded, slighted.

**Theme 2:** Loneliness from feeling let down when nobody defends or helps you if needed.

**Theme 3:** Loneliness from feeling shame over a lack of competency in valued areas.

**Theme 4:** Loneliness from feeling being treated meanly or unfairly by friends, that is, from being insulted or ridiculed.

**Theme 5:** Loneliness from feeling like you are nobody in others' eyes.

**Theme 6:** Loneliness from feeling like nobody would want to include them in their group.

**Theme 7:** Loneliness from shame over their lack of attractiveness or popularity to a particular social group.

**Theme 8:** Loneliness from humiliation due to feeling embarrassed about their group of friends and the negative effects it has on their own level of social standing or popularity.

**Theme 9:** Loneliness from feeling that they may never find anyone to share a close, intimate relationship with (either romantic or non-romantic), that is, feel like a social misfit.

**Theme 10:** Loneliness from feeling that nobody really understands them

**Theme 11:** Loneliness from losing a desired close, intimate relationship (romantic or non-romantic)

**Theme 12:** Loneliness from feeling like you have no rapport with others or no one to share your intimate ideas and thought with.



## Appendix F: Insignificant Developmental Differences in Social Group Structure

### Developmental Percentages for Time Spend Outside School

<b>SOCIAL STRUCTURE</b>	<b>GRADE 8</b>	<b>GRADE 9</b>	<b>GRADE 12</b>
By myself	15.4%	23.3%	13.5%
One close friend	19.2%	20.9%	13.5%
Boyfriend or girlfriend	0%	9.3%	21.2%
Small group of friends	57.7%	41.9%	36.5%
Large group of friends	7.7%	4.7%	15.4%

### Developmental Percentages for Time Spend at School

<b>SOCIAL STRUCTURE</b>	<b>GRADE 8</b>	<b>GRADE 9</b>	<b>GRADE 12</b>
By myself	7.4%	7.0%	9.6%
One close friend	7.4%	18.6%	3.8%
Boyfriend or girlfriend	0%	2.3%	9.6%
Small group of friends	66.7%	48.8%	53.8%
Large group of friends	18.5%	23.3%	23.1%

### Developmental Percentages for Talking about a Problem

<b>SOCIAL STRUCTURE</b>	<b>GRADE 8</b>	<b>GRADE 9</b>	<b>GRADE 12</b>
By myself	25.9%	18.6%	13.5%
One close friend	51.9%	67.4%	57.7%
Boyfriend or girlfriend	0%	9.3%	21.2%
Small group of friends	57.7%	41.9%	36.5%
Large group of friends	7.7%	4.7%	15.4%

### Developmental Percentages for Talking about Making a Decision

<b>SOCIAL STRUCTURE</b>	<b>GRADE 8</b>	<b>GRADE 9</b>	<b>GRADE 12</b>
By myself	15.4%	12.8%	18.4%
One close friend	42.3%	28.2%	12.2%
Boyfriend or girlfriend	15.4%	17.9%	20.4%
Small group of friends	26.9%	33.3%	42.9%
Large group of friends	0%	7.7%	6.1%

## Appendix G: Insignificant Sex Differences in Social Group Structure

### Sex Percentages for Time Spent Outside School

<b>SOCIAL STRUCTURE</b>	<b>MALES</b>	<b>FEMALES</b>
By myself	24.6%	15.5%
One close friend	9.8%	21.1%
Boyfriend or girlfriend	9.8%	14.1%
Small group of friends	47.5%	39.4%
Large group of friends	8.2%	9.9%

### Sex Percentages for Time Spend at School

<b>SOCIAL STRUCTURE</b>	<b>MALES</b>	<b>FEMALES</b>
By myself	11.5%	6.9%
One close friend	11.5%	11.1%
Boyfriend or girlfriend	3.3%	5.6%
Small group of friends	54.1%	54.2%
Large group of friends	19.7%	22.2%

### Sex Percentages for Talking about a Problem

<b>SOCIAL STRUCTURE</b>	<b>MALES</b>	<b>FEMALES</b>
By myself	27.9%	11.1%
One close friend	57.4%	62.5%
Boyfriend or girlfriend	4.9%	8.3%
Small group of friends	9.8%	18.1%
Large group of friends	0%	0%

### Sex Percentages for Talking about Making a Decision

<b>SOCIAL STRUCTURE</b>	<b>MALES</b>	<b>FEMALES</b>
By myself	15.8%	16.4%
One close friend	35.1%	17.9%
Boyfriend or girlfriend	15.8%	17.9%
Small group of friends	28.1%	43.3%
Large group of friends	5.3%	4.5%

**Appendix H: Anova Results for Developmental and Interactional Differences in Understanding Loneliness – Manovas Insignificant.**

**Significance Level for Developmental and Interactional Differences in Understanding Loneliness**

<b>Understanding Loneliness Items</b>	<b>F-Value</b>	<b>R2</b>
Item 1: Loneliness from feeling incompetent in valued areas	4.24+	.05
Item 7:Loneliness from not having friends to do things with	3.11+	.03

+. p < .05

**Means and (Standard Deviations) for Insignificant Understanding of Loneliness Items**

	<b>Item 1: loneliness from feeling incompetent in valued areas</b>	<b>Item 7: Loneliness from not having friends to do things with</b>
<b><u>Developmental Effects</u></b>		
Grade 8	2.28 (.84)	
Grade 9	2.42 (.76)	
Grade 12	2.75 (.76)	
<b><u>Interactional Effects</u></b>		
Grade 8 males		1.69 (.75)
Grade 8 females		2.08 (.79)
Grade 9 males		1.67 (.86)
Grade 9 females		2.19 (.68)
Grade 12 males		1.91 (.81)
Grade 12 females		1.67 (.76)

**Notes: Lower scores reflect greater understanding of loneliness  
Standard Deviations are below means in parentheses**