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The influence of perceived social support from parents, classmates, and teachers on early adolescents' mental health

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The Influence of Perceived Social Support From Parents, Classmates, and Teachers on Early Adolescents' Mental Health

by

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ABSTRACT

The present study examined the relationships among perceived social support, mental health, and achievement in early adolescents, via analysis of an archival data set consisting of 390 middle school students. Specifically of interest was how various sources of social support (i.e., parent, classmate, and teacher) independently and uniquely predicted pathology (i.e., internalizing and externalizing symptoms) and wellness (i.e., life satisfaction) in youth. This study also examined the role of gender in the relationship between social support and mental health outcomes in order to delineate the specific types of support most salient to boys versus girls. Finally, this study explored the protective nature of high student academic achievement in the relationship between social support and mental health in order to determine if academic achievement moderated the relationship between social support and mental health. Results indicated that social support from all sources was inversely associated with both internalizing and externalizing problems, and associated in a positive manner with life satisfaction and achievement. Social support was a significant predictor of all mental health outcomes, with social support and life satisfaction evidencing the strongest relationship. The strength and magnitude of the associations between perceived support from various sources and student mental health were consistent across gender groups, evidencing no

moderating effect. Academic achievement moderated the direction and strength of the relationships between externalizing behavior and (a) classmate support, and (b) parent support, respectively. Implications for school psychologists and directions for future research are discussed.

Chapter 1

Introduction

Mental health problems have been shown to have a significant negative impact and impairment on a youth's quality of life and academic success, as well as continue into adulthood (Knopf, Park, & Mulye, 2008). Thus, adolescence presents as a critical time for the prevention of mental disorders, as unique biological (e.g., hormonal effects associated with puberty), social (e.g., sense of belonging and supportive peer relationships), and school-related (e.g., achievement orientation and school transitioning) factors may influence mental health. In addition to identifying factors related to reduced mental health symptomatology, understanding the correlates of optimal functioning is also critical throughout adolescence.

Psychological Wellness: An Adapted View of Mental Health

Psychological health is often marked simply by the absence of disease/disorder or negative outcomes such as behavior or academic problems (Diener, 2000). There is an implicit assumption among psychologists that individuals who do not present with psychopathologic symptoms or disorders are mentally healthy. However, research within the past decade has indicated that the absence of pathology does not equate to optimal mental health (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). Rather, the construct of mental health is comprised of two components: well-being and psychopathology (i.e., "distress"; Wilkinson & Walford, 1998). Thus, optimal wellness not only includes the absence of negative indicators of mental health (i.e.,

psychopathology) but also includes the presence of positive indicators of mental health (i.e., life satisfaction).

Since the late 1950s, several conceptual frameworks have addressed positive mental health. These frameworks include a range of emphases, such as cultural definitions of mental health, subjective sense of well-being, and capacity for coping and resiliency in the face of stressors (World Health Organization, 2004). In the adolescent health field, similar efforts have expanded the definition of health from one that examines negative behaviors and outcomes to one that incorporates positive youth development and functioning (Bernat & Resnick, 2006; The Forum for Youth Investment, 2004). Such efforts have been in line with the Positive Psychology Movement, which recognizes the saliency of identifying strengths and helping adolescents to thrive and form positive connections with others, in conjunction with reducing and/or eliminating problematic behaviors and risk factors. Frameworks for conceptualizing positive adolescent development include domains such as individual assets (e.g., social and emotional competency, self-efficacy, positive identity, life satisfaction, and pro-social involvement) and environmental factors that foster positive youth development (e.g., family, school and community connections; Kasser, 2005; Park, 2004; Larson, 2000). However, there is a relative paucity of information about specific indicators of wellness and how they relate to adolescent mental health (Bernat & Resnick, 2006).

Life Satisfaction

One positive indicator of well-being that has received attention within the literature relative to beneficial outcomes for youth is life satisfaction (LS). Life

satisfaction is one of the most well-established indicators of general wellness and, moreover, positive functioning (Suldo, Riley, & Shaffer, 2006). Studies have evidenced positive associations between LS and adolescent achievement (Kirkcaldy, Furnham, & Siefen, 2004; Suldo, Shaffer, & Riley, 2008). Moreover, high levels of life satisfaction have been associated with social-emotional outcomes such as lower rates of suicide attempts (Kim & Kim, 2008), decreased substance use (Fergusson & Boden, 2008), and greater parent-peer attachment (Ma & Huebner, 2008). Such findings demonstrate the positive implications high levels of life satisfaction have for adolescent development and success.

Social Support

Positive psychology has been "informed by decades of research examining positive emotions, characteristics, values, and institutions that support and enhance individuals" (Beaver, 2008, p. 129). Social support is one such enhancing agent that has received considerable attention in child and adolescent literature. Research has described social support as an expansive construct that describes the physical and emotional comfort given to individuals by their family, friends, and other significant persons in their lives (Israel & Schurman, 1990). Research has consistently shown that low levels of social support are related to a variety of poor psychological (Garnefski & Diekstra, 1996), social (Demaray & Elliott, 2001), academic (Richman, Rosenfeld, & Bowen, 1998), and health-related (Frey & Rothlisberger, 1996) outcomes for adolescents. Conversely, high levels of support can mitigate the negative impact of psychosocial stress on mental (DeGarmo, Patras, & Eap, 2008; Treharne, Lyons, & Booth, 2007), behavioral

(Crockenburg, 1987), and academic outcomes (Hamre & Pianta, 2006). For instance, teenagers who receive more social support are less likely to exhibit angry and hostile behaviors throughout adolescence and have a decreased probability of exhibiting such behaviors in adulthood (Crockenburg, 1987). Social support has also been shown to relate positively to students' satisfaction with their schooling experience (DeSantis King, Huebner, Suldo, & Valois, 2006).

Research consistently indicates that youth derive social support from a number of sources (e.g., parent/family, peers/classmates, and teachers), and social support from each source is associated with beneficial outcomes (Malecki & Demaray, 2003). In early childhood, parent support seems to be most salient to development. Perceptions of supportive family relationships have been linked with decreases in internalizing (e.g., Rosario, Salzinger, Feldman, & Ng-Mak, 2008) and externalizing behaviors (e.g., Carlton et al., 2006), as well as increases in indicators of wellness such as life satisfaction and subjective-well being (i.e., happiness; Edwards & Lopez, 2006; Suldo & Huebner, 2006). However, as children transition into middle and high school, perceptions of peer and teacher support tend to gain relative importance over parental support. For example, supportive peer relations have been associated with lower rates of depression and anxiety (Crockett et al., 2007; La Greca & Lopez, 1998), less peer victimization (Hodges, Boivin, Vitaro, & Bukowski, 1999), and lower drop-out rates for inner-city adolescents (Lagana, 2004) suggesting that close peer support may serve a protective mental health function for adolescents. Peer support has also been shown to correlate inversely with other indicators of internalizing psychopathology in adolescents and co-occur with

psychological wellness among adolescents (e.g., Suldo & Schaffer, 2008). Likewise, researchers have begun to illustrate how positive perceptions of teacher support can promote mental wellness, such that greater perceptions of teacher support are associated with higher levels of life satisfaction (Suldo et al., 2008) and subjective well-being (Suldo, Friedrich, White, Farmer, Minch et al., 2009). Moreover, supportive teacher-student relationships help maintain students' interests in academic and social pursuits, which in turn lead to better grades and more positive peer relationships (Wentzel, 1998).

Notably, research has shown that the actual receipt of social support is not necessary for achieving beneficial outcomes; the mere perception that one has received support is often adequate. For instance, one study found that the perception that social support is available seems to mitigate the negative impact of a stressful event and to hasten recovery even if social support is not actually verified or used (Costello, Pickens, & Fenton, 2001). In other words, simply having the belief that one is supported, even if the adolescent does not use this support, holds positive implications for successful development.

Rationale

As suggested by Miller and colleagues (2008) "school psychologists concerned with the broad development of children and youth, including the development of both mental and physical health, should be cognizant of research for enhancing wellness and health promotion in all students" (p. 5). Social support is one construct that represents a potential area to focus prevention and intervention efforts. However, relatively little attention has been afforded to middle-school aged adolescents regarding how social

support networks can mitigate negative mental health outcomes, and dually promote optimal wellness. Specifically, it is unknown which source(s) of support are most salient to middle school students' mental well-being. Also, there has been a paucity of research that relates social support to positive indicators of mental health, such as LS despite calls (e.g., Maddux, Snyder, & Lopez, 2004; National Association of School Psychologists [NASP], 2006) to include positive indicators of wellness within the construct of psychological health (rather than simply the absence of psychopathology). Continued research in this area might further illustrate how optimal wellness in youth develops.

Purpose of the Current Study

Given the limitations of the current literature, the aim of this study was to add to the literature base by providing information regarding the relationships among social support, mental health, and academic achievement in early adolescents. The specific sources of support (i.e., parent, teacher, or classmate) most predictive of mental health outcomes (i.e., internalizing and externalizing psychopathology) were determined and discussed. Moreover, as an answer to the call for increased research regarding positive indicators of wellness, this study also included an examination of life satisfaction as a mental health outcome. This study also addressed gender-related differences among these aforementioned relationships to determine if particular sources of support were more or less salient for one gender versus the other. Finally, given the strong association between academic achievement and mental health in children, the role of achievement as a moderator in the link between social support and mental health outcomes was explored. Based on the research-supported negative associations between psychopathology and

achievement (e.g., Bardone Moffitt, Caspi, Dickson, & Silva, 1996; Benner, Nelson, Allor, Mooney, & Dai 2008; Bonifacci, Candria, & Contento, 2008) and the protective nature of academic achievement in adolescents (Carlton et al., 2006; Muratori & Filippo, 1997), it was hypothesized that high academic achievement would serve as a protective factor in the link between social support and mental health outcomes, while low academic achievement would serve as a risk factor for students to experience psychological dysfunction when faced with low levels of social support.

Research Questions

The specific research questions addressed by the analysis of an archival data set consisting of survey data and school records from 390 middle school students were as follows:

1. What are the associations between social support, mental health, and academic achievement among early adolescents?
2. Which sources of support (parent, teacher, peer/classmate) are most predictive of the following mental health outcomes:
    a. Internalizing psychopathology
    b. Externalizing psychopathology
    c. Life satisfaction?
3. Are there gender differences in these relationships, such that certain sources of support are more or less salient to girls or boys?
4. Does academic achievement serve as a risk or protective factor in the link between social support and mental health, such that high achievement buffers

students from the negative effects of low support or low achievement exacerbates the negative effects of low support?

Significance of the Current Study

The current study will contribute to the literature by further delineating the complex relationships among social support and mental health. Specifically, this study will expand upon extant literature which has primarily focused on how social support contributes to psychopathology by broadening the scope of mental health to include an indicator of wellness (i.e., life satisfaction). To this researcher's knowledge, there is only one published study which assesses middle school students' perceptions of parent, teacher, and peer social support and the unique contributions of each to their global life satisfaction (see Danielson, Samdal, Hetland, & Wold, 2009). Furthermore, the present study will be the first examination of achievement as a potential moderator in the relationship between social support and mental health. An understanding of associations between perceived social support, mental health, and achievement will provide a more complete picture of psychological functioning and its buffers. Such information can be used to help inform prevention and intervention efforts regarding wellness promotion in the schools.

Chapter 2

Review of Relevant Literature

This chapter reviews relevant literature regarding the relative importance of social support, mental health, and achievement to adolescent development. The review begins by defining social support and examining how specific sources of support (i.e., parent/family, peer/classmate, and teacher) differentially lead to positive outcomes for youth. Subsequently, an examination of the two distinguishable, yet highly correlated components of mental health (i.e., pathology and wellness) is provided as the literature increasingly supports this comprehensive view of mental health. Specifically, ensuing sections discuss how the mere absence of pathology is not, in itself, sufficient to account for the optimal functioning in youth. Rather, indicators of thriving (e.g., life satisfaction) are important variables to consider when promoting optimal social, behavioral, and psychological well-being in youth. Next, the differential associations among adolescent mental health outcomes and each specific source of social support is considered, followed by a brief review of the comparative importance of each source of support to adolescent development. Finally, a rationale for the examination of achievement as a potential moderating variable in the relationship between social support and mental health is discussed, followed by concluding comments and the purpose of the current study.

Social Support

Social support is an expansive construct that describes the physical and emotional comfort given to individuals by their family, friends, and other significant persons in their lives (Israel & Schurman, 1990). Social support is purported to have a beneficial effect on health and well-being of people, and while it is a term that does not have a widely agreed-upon definition in the adolescent health and development literature, it can be generally defined as ‘‘… the degree to which a person’s basic needs are gratified through interaction with others …” (Thoits, 1982, p. 145). The social support construct encompasses a variety of specific characteristics of an individual’s social world that might promote well-being and/or increase resistance to health problems (Cohen, Gottlieb, & Underwood, 2000). An important aspect of support is that a message or communicative experience does not constitute support unless the receiver views it as such, a phenomenon the research has identified as perceived social support (Haber, Cohen, Lucas, & Baltes, 2007). More broadly, social support refers to one’s social relationships as buffering life’s stressors, and thus promoting one’s general health and well-being (Barrera & Ainlay, 1983).

Theoretical investigations of social support indicate that several aspects (e.g., multiple sources and multiple types) must be taken into account when examining this vast construct (Winemiller, Mitchell, Sutcliff, & Cline, 1993). With regards to sources of support, research has primarily focused on family and social relationships among adults (Procidano & Heller, 1983). More recently, adolescents have begun to receive increased attention in the literature, and thus both teachers and classmates have also received

attention as additional sources of support (Malecki & Demaray, 2003). To date, the literature has supported the existence of four main types of social support: emotional, instrumental/tangible, informational, and personal feedback/appraisal (e.g., Tardy, 1988; Tetzloff & Barrera, 1987; Wills, Blechman, & McNamara, 1996). Emotional support is what people most often think of when they talk about social support; it is characterized by perceptions of care and warmth. Instrumental (i.e., tangible) support refers to concrete "helping behaviors" (Tardy, 1988, p. 349) such as giving advice, loaning money, or sacrificing one's time. Finally, informational support involves "the accessibility of advice and/or guidance that is helpful in handling one's personal problems" (Vaux, Burda, & Stewart, 1986, p. 161), while appraisal support alludes to non-critical personal feedback which the recipient values as honest and helpful. While the four aforementioned types of social support are included in the most widely used conceptualization of social support with adolescents (see Malecki & Demaray, 2003), other conceptualizations of social support include additional types, such as social companionship or esteem. Social companionship (i.e., involvement) pertains to time spent with another person in enjoyable activities. This type of support has been considered to be a "multifunctional" (Suurmeijer, Van Sonderen, & Krol, 2005, p. 192) activity, as pleasurable interactions with others simultaneously provide people with both emotional and instrumental support. In lieu of emotional support, some researchers have identified a dimension known as esteem support (warmth and compliments intended to boost one's self-esteem) (Keefe & Berndt, 1996). Despite the availability of conceptual frameworks for examining types of social

support, the majority of studies in the literature measure global social support and do not examine specific types of support (Malecki & Demaray).

Importance of Social Support to Adolescent Development

Adolescence is widely considered the time in life when youth attain the skills and attributes necessary to become a productive, self-sufficient adult. Nearly all cultures recognize a phase in life when society acknowledges these emerging capacities of young people. While most of the world's adolescents make it through the period without considerable difficulty, even those adolescents who have no significant personal problems or acute health-care needs experience normative stressors and needs for guidance and support associated with making the transition from childhood to adulthood. As the subsequent review of literature will show, social support is crucial to successful adolescent development and adaptation.

With regards to children and adolescents, the literature has supported a link between social support and improved outcomes. For instance, social support contributes to attachment security by buffering the infant-mother attachment relationship from stressors (Crockenburg, 1981). Further, teenagers who receive more social support are less likely to exhibit angry and hostile behaviors throughout adolescence and have a decreased probability of exhibiting such behaviors in adulthood (Crockenburg, 1987). In regards to the academic climate, social support has also been shown to relate positively to students' satisfaction with their schooling experience (DeSantis King et al., 2006). Interestingly, the actual receipt of social support may be secondary to its perception. For instance, one study found that the perception that social support is available seems to

mitigate the negative impact of a stressful event and to hasten recovery even if social support is not actually verified or used (Costello et al., 2001). In other words, simply having the belief that one is supported or has a range of individuals who support him/her, even if the adolescent does not use this support, holds positive implications for successful development.

In studies examining adults, social support processes are strongly linked to mental and physical health (House, Landis, & Umberson, 1988; LaRocco, House, & French, 1980). As previously alluded to, the ability of social support mechanisms to moderate or "buffer" the impact of psychosocial stress on physical and mental health has been well documented throughout the literature (Cobb, 1976; Caplan, 1979; DeGarmo et al., 2008; Treharne et al., 2007). Although this link has been recognized for some time, limited progress has been made in understanding the more specific mechanisms linking specific aspects of social support (i.e., received social support versus perceived social support or type of support) and overall (i.e., physical and mental) health in adolescents (Sarason, Sarason, & Gurung, 2001).

The stress and coping perspective has received significant attention in the social support literature and has been the impetus behind most efforts to manipulate social support and subsequently, improve mental health (Lakey & Lutz, 1996). "Stress" or "stressor" refers to any environmental, social, or internal demand which requires the individual to readjust his/her usual behavior patterns (Holmes & Rahe, 1967). The stress and coping perspective generally purports that stressors motivate efforts to cope with behavioral demands and with the emotional reactions that are usually evoked by them

(Lazarus & Folkman, 1984). As stressors accumulate, an individual's ability to cope with such demands can be overtaxed, depleting both their psychological and physiological resources, and in turn increasing the probability that psychological distress or disorder will occur (Thoits, 1995). However, family ties, friendships and supportive teacher-student relationships have the potential to serve as psychological barriers against many mental health problems such as anxiety and depression (Cohen & Willis, 1985). Moreover, social support also has the ability to promote positive mental health via increasing one's sense of belonging, purpose, and self-worth (Turner-Musa & Lipscomb, 2007). The following section provides a review of how specific sources of support for adolescents lead to positive outcomes.

Parent/family support. Numerous studies and review articles published during the past 50 years provide evidence of the important role that parental support plays in the lives of children and adolescents (e.g., Lamborn & Felbab, 2003; Peterson & Rollins, 1987). Parental support refers to "gestures or acts of caring, acceptance, and assistance that are expressed by a parent toward a child" (Shaw, Krause, Chatters, Connell, & Ingersoll-Dayton, 2004, p. 4). Support from parents received during childhood is thought to have significant and lasting health implications because the parent– child relationship serves as the context within which important health-enhancing social and psychological development takes place. For instance, if parents provide children with a caring and supportive environment, then children may generalize this learning experience. As they age, they may seek out environments in which social support is readily available (Caspi & Elder, 1988). Conversely, if parents are neither helpful nor available, then children

may develop lifelong patterns of withdrawal from and avoidance of others (Bowlby, 1980). In other words, the parent– child relationship may influence the evolving structure and quality of one's network of social relations and support over the life course (Antonucci & Akiyama, 1987). Accordingly, problems in the development of this important social resource may compromise individual health and well-being (Cohen et al., 2000). Children whose parents provide ample support report fewer psychological and physical symptoms during their childhood than do children who receive less parental support (Wickrama, Lorenz, & Conger, 1997).

Research has also demonstrated the importance of parents in the academic success of children across a range of ages, populations and settings. Findings from parental monitoring research suggest that parent-child communication and support are important predictors of academic achievement (Verner, 2007). Regarding the socialization process in minority families (i.e., African American and Hispanic), support (maternal and/or paternal) is related to indicators of pro-social adjustment in adolescents, such as academic achievement (Bean, Bush, McKenry, & Wilson, 2003; Kim, Brody, & Murry, 2003), self-esteem (Bean et al.), and lower levels of depression symptoms (Mounts, 2004; Zimmerman, Ramirez-Valles, Zapert, & Maton, 2000). These findings extend the notion that social support is important in the normal development of children and adolescents from diverse ethnic backgrounds. In addition, aspects of parent-child relationships, specifically parental provision of emotional support, are among the strongest predictors of subjective well-being (SWB), the scientific term for "happiness," during youth (Huebner, Suldo, McKnight, & Smith, 2004). Supportive parenting is related to more

positive reports of life satisfaction among youth (Petito & Cummins, 2000; Suldo & Huebner, 2004).

Peer/classmate support. For young children, the family (parents, in particular) is typically their most important and influential source of support (Hall & Brassard, 2008). As individuals move from early childhood into later childhood and adolescence, however, they spend increasingly more time outside of the home interacting and developing relationships with others, including classmates and/or peers. Research has demonstrated the beneficial effects that peer support (i.e., the provision and reception of help and support characterized by empathy, mutual respect, shared responsibility, and agreement of what is considered to be helpful; Mead, Hilton, & Curtis, 2001) can have on the outcomes of children and adolescents. For instance, children who begin kindergarten with familiar classmates are more likely to develop stable, positive attitudes toward school than children with fewer such acquaintances (Ladd & Price, 1987). Similarly, children who have a larger number of friends and higher levels of peer acceptance in their kindergarten classrooms develop more favorable school attitudes over the course of the school year (Ladd, 1990). Gains in school liking have also been linked to the perceived supportiveness of children's classroom peer relationships; in a study of early friendship quality, researchers found that children who characterized their friendships as offering higher levels of aid tended to like school better as the school year progressed (Ladd, Kochenderfer, & Coleman, 1996).

Peers begin to take on a more central role in the lives of adolescents, and supportive peer networks appear to promote identity achievement (Hamer & Bruch,

1994; Ontai-Grzebik & Raffaelli, 2000). Supportive peer relations have also been associated with lower rates of depression and anxiety (Crockett et al., 2007; La Greca & Lopez, 1998), less peer victimization (Hodges et al., 1999), and lower drop-out rates for inner-city adolescents (Lagana, 2004) suggesting that close peer support may serve a protective mental health function for adolescents. Conversely, unsupportive peer relationships co-occur with negative outcomes, such as increased symptoms of depression (Lui, 2002; Newman, Newman, Griffen, O'Connor, & Spas, 2007), conflict (Laursen, 1993), and suicidal ideation (Sun & Hui, 2007).

Within a school context, the transition to high school can be especially difficult as adolescents shift from being the oldest and most physically mature in their school, to the youngest and least physically developed among their peers. Peer groups can often be disrupted and reorganized as students move from middle schools to larger high schools (Newman et al., 2007). Peer support during this transition is critical to the academic success of adolescents as studies have shown a positive link between supportive peer relationships and academic achievement (i.e., higher grades; Chen, 2005; Gonzales, Cauce, Friedman, & Mason, 1996; Somers, Owens, & Piliawsky, 2008). Moreover, one recent study identified lack of peer support as one barrier that was negatively associated with inner-city adolescents' psychological preparedness to transition into high school (Turner, 2007). Such findings emphasize the importance of positive and supportive peer relationships during secondary school.

Teacher support. Researchers have defined teacher support as "the degree to which students feel supported, respected, and valued by their teacher" (Doll, Zucker, &

Brehm, 2004, p. 6). The literature has consistently shown positive, supportive teacher-student relationships to be fundamental to fostering desirable socio-emotional, behavioral, and academic outcomes (Hamre & Pianta, 2006). For instance, positive teacher-student relationships serve as a resource for children at risk for school failure, while conflicting, negative relationships exacerbate that risk (Ladd & Burgess, 2001). Further, support from teachers may be particularly salient for children who display early academic or behavioral problems. One study examined a group of kindergarteners who were designated as at risk for special education or retention on the basis of low school-entry screenings (Pianta, Steingberg, & Rollins, 1995). Those who were ultimately retained or referred for services (between kindergarten and second grade) were compared with those who, despite being high risk, were promoted or not referred. The at-risk children who were not referred or promoted had significantly more positive student-teacher relationships in comparison to their high-risk peers who were either retained or referred. Similarly, highly aggressive third and fourth graders who are able to elicit positive support from their teachers are more likely than other aggressive students to be well liked by their peers (Hughes, Cavell, & Wilson, 2001). Such effects of supportive teacher-student relationships also remain evident among students from diverse cultures and minority populations, as evidenced in a study among a group of aggressive African American and Hispanic students in which supportive student-teacher relationships were associated with declines in aggressive behavior between the second and third grade (Meehan, Hughes, & Cavell, 2003).

The need for positive relationships with teachers is not only a necessary component of elementary-aged students' healthy development and academic success; such relationships are also beneficial for middle and high school students, as well. For instance, one recent study found that support from teachers is indirectly associated with substance use in middle school students (Suldo, Mihalis, Powell, & French, 2008). Specifically, teacher support was one of two variables that significantly predicted affiliation with deviant peers, which, in turn, predicted substance use. Moreover, middle school teachers who convey emotional warmth and acceptance, as well as make themselves available regularly for personal communication with students, foster the relational processes characteristic of support (Hamre & Pianta, 2006). These supportive relationships help maintain students' interests in academic and social pursuits, which in turn lead to better grades and more positive peer relationships (Wentzel, 1998). Likewise, students' relationships with adults in the high school setting are among the most important predictors of healthy adjustment. Specifically, data from the Longitudinal Study of Adolescent Health indicate that high school students reporting greater connectedness to teachers display lower rates of emotional distress, suicidal ideation, suicidal behavior, violence, substance abuse, and early sexual activity (Paulson & Everall, 2003; Resnick et al., 1997; Zimmer-Gembeck, 2007).

Summary

Social support can be broadly understood as "an individual's perceptions of general support or specific supportive behaviors (available or enacted upon) from people in their social network, which enhances their functioning and may buffer them from

adverse outcomes" (Malecki & Demaray, 2002, p. 2). A popular model of social support proposed by Tardy (1985) describes several elements of social support. First, social support comes from people in one's social network and for students, these potential resources may include parents, teachers, and classmates. Additionally, social support can take many forms such as emotional or caring support (communicating trust or love), instrumental support (providing time or resources), informational support (providing needed information), and appraisal support (providing feedback). Social support can be given to someone or received, and can be perceived to be available and/or actually used.

A growing literature highlights the importance of social support for physical health (see Reblin & Uchino, 2008 for a review), life satisfaction (Nativg, Albretsken, & Qvarnstrom, 2003; Suldo & Heubner, 2006), and positive adjustment (DeBaryshe, Yuen, & Stern, 2001). Human beings have a fundamental need to form and maintain positive, enduring interpersonal relationships. Research has also consistently shown that perceiving low levels of social support can be related to a variety of poor psychological (Compas, Slavin, Wagner, & Vannatta, 1986; Garnefski & Diekstra, 1996), social (Bender & Losel, 1997; Demaray & Elliott, 2001), academic (Levitt, Guacci-Franco, & Levitt, 1994; Richman, Rosenfeld, & Bowen, 1998), and health (Frey & Rothlisberger, 1996) outcomes for adolescents. Conversely, high levels of support can mitigate the negative impact of psychosocial stress on physical and mental health (Cassel, 1976; Cobb, 1976; Caplan, 1979; DeGarmo et al., 2008; Treharne et al., 2007). Given the links between social support and mental health, the next section of this literature review will

define mental health using both positive and negative indicators, and illustrate how mental health is relevant to adolescents' academic achievement.

Mental Health

For all individuals, mental, physical, and social health are vital parts of life that are closely interwoven and deeply interdependent. As an understanding of these relationships grows, it continues to become apparent that mental health is crucial to the overall welfare of individuals (Taylor & Brown, 1999). Researchers delineate the construct of mental health (i.e., psychological well-being) from two differing perspectives (Keyes, 1998; Keyes 2002). The long-standing "clinical tradition" (or medical/deficit model) operationalizes well-being through measures of psychopathology (e.g., depression, anxiety, or substance abuse) whereas the "psychological tradition" operationalizes well-being in terms of one's subjective evaluation of life satisfaction and presence of positive affect (Keyes, 1998; Keyes, 2002, p. 209). Thus, the deficit model views well-being as the absence of negative feelings and conditions (i.e., pathology), while the positive psychological model involves the presence of more positive than negative perceived self attributes. Recent research has stipulated that a complete understanding of mental health includes components of both "suffering and happiness", as well as their interaction (Seligman, Steen, Park, & Peterson, 2005, p. 410). The following sections provide an overview of how mental health, both pathology and wellness, have been conceptualized in the literature, while also describing common indicators of each.

Psychopathology

Mental health professionals have traditionally viewed mental health within the context of mental illness/disorder. Psychiatric illnesses have been historically been characterized as diseases, with a strong emphasis on internal pathology. As such, psychological and psychiatric treatments have often focused on reducing symptoms, preventing relapse, minimizing rehospitalization, and eliminating maladaptive behaviors. In other words, "psychotherapy as defined now is where you go to talk about your troubles and your weaknesses" (Seligman et al., 2005, p. 420). However, as Seligman and colleagues (2005) have indicated, these traditional deficit-focused approaches have underemphasized clients' strengths and the development and integration of positive characteristics (e.g., fostering a positive self-image based on clients' specific achievements, altruism, resiliency, and responsibilities) in helping clients deal more successfully with their psychological problems. Yet, a person's well-being is still often implied or judged simply by the absence of disease/disorder (deficit model) or negative outcomes such as behavior or academic problems (Diener, 2000).

Essentially, when determining mental health/well-being, most assessment procedures used by mental health practitioners are primarily focused on examining psychopathology, or negative indicators of mental health. Among such assessments focused on negative indicators is the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR), the most widely used diagnostic manual in clinical practice today. The purpose of the DSM-IV-TR is to "provide clear descriptions of diagnostic categories in order to enable clinicians and investigators to

diagnose, communicate about, study, and treat people with various mental disorders" (American Psychiatric Association, 2000, p. xxxvii). Although classifying a mental disorder can provide useful information for treatment, this type of diagnosis is quite limited. Specifically, by only diagnosing and treating mental illness, practitioners ignore opportunities to assess an individual's subjective perceptions about the positive characteristics of his/her life and self.

Similarly, American schools' Exceptional Student Education (ESE) programs utilize a deficit-based diagnostic model when making eligibility decisions about students. Qualifying students with special mental health needs in the school environment (for ESE services), as outlined in the Individuals with Disabilities Improvement Education Act (2004), requires that students exhibit "mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities" (The Council of Parent Attorneys and Advocates, 2005, p. 9). This impairment-based conceptualization excludes the diverse mental health promotion needs of the vast majority of students.

Behavioral researchers have also developed and refined an alternative type of classification system for organizing behavioral, social, and emotional problems in youth; this method is commonly known as the behavioral dimensions approach. This approach utilizes statistical procedures to identify behavioral clusters, or "highly interrcorrelated behaviors" (Merrell, 2009; p. 50). Within this paradigm, researchers have sorted general types of behavioral and emotional problems along two broad dimensions—internalizing

(overcontrolled) and externalizing (undercontrolled) behaviors/disorders. More specifically, internalizing problems include a broad domain of symptoms related to depression, anxiety, and social withdrawal. Children and adolescents with these types of disorders typically deal with problems internally, rather than acting them out in the environment. Conversely, externalizing problem behaviors are characterized by behaviors directed outward, typically toward other people or objects in the environment. Examples include, but are not limited to, disobedience, aggression, and delinquency.

Neither of the most popular aforementioned diagnostic systems (i.e., DSM or ESE) includes accurate indicators of an individual's overall mental well-being. Previous research incorporating assessments of both positive and negative indicators of mental health has identified a dual factor model of mental health (c.f., Greenspoon & Saklofske, 2001). In this model, positive indicators of wellness are coupled with traditional negative indicators of psychopathology to comprehensively measure mental health. A recent study examined the existence and utility of a dual-factor model in early adolescence and found the existence of this model to be supported through the identification of four mental health groups: Vulnerable Youth (low on both positive and negative indicators of mental health, specifically internalizing and externalizing behavior problems), Symptomatic but Content Youth (high on both positive and negative indicators of mental health), Troubled Youth (low on positive indicators and high on negative indicators of mental health), and youth with Complete Mental Health (high on positive indicators and low on negative indicators of mental health; Suldo & Shaffer, 2008). The means of the four groups differed significantly in terms of academic, physical health, and social

functioning. Specifically, results supported the importance of high positive indicators of mental health (i.e., subjective well-being [SWB] or happiness) to the optimal functioning of youth, as students with Complete Mental Health exhibited better academic, physical, and social outcomes than their Vulnerable peers, who were also without clinical levels of psychopathology (i.e., internalizing and externalizing symptoms) but maintained low levels of SWB. The results of this study emphasize the importance of conceptualizing mental health in a more holistic manner rather than just using indices of impairment. The next section focuses on what has been termed the Positive Psychology Movement and its views on the importance of utilizing positive indicators of well-being.

Wellness

For the past fifty years, psychology has primarily approached mental health from a deficit model and been chiefly concerned only with mental illness. Though the field has appreciably advanced both the methods and effectiveness of treatment options for psychopathology in children, this has not come without a cost. According to Seligman (2002), simply "relieving the states that make life miserable has made building the states that make life worth living less of a priority" (p. 9). In effect, this almost exclusive attention to pathology has neglected (1) the idea of a fulfilled child within the context of a thriving community, and (2) the importance of creating environments that promote mental wellness in all children.

The positive psychology movement moves psychology from a preoccupation with repairing the worst things in life to also building the best qualities in life. Positive psychology has been defined as "the study of positive emotion, positive character, and

positive institutions" (Seligman & Csikszentmihalyi, 2000, p. 6). Positive psychologists have enhanced the field's understanding of how, why, and under what conditions positive emotions and positive character promote wellness, and have helped to delineate the institutions that enable adolescents to thrive.

Over the past few decades, a growing interest has developed in healthy development or wellness. This topic is of particular importance during the critical adolescent years when emotional and social development can change drastically as one navigates transitions. Compared to the substantial body of literature on indicators of psychopathology, little research has examined positive indicators of well-being in adolescents. However, research in this area is becoming more prevalent due to the recognition that happiness and wellness do in fact exist separately from disease (e.g., Deiner, 2000; Deiner, Lucas, & Oshi, 2002; Huebner, Gilman, & Suldo, 2007; Keyes, 2003; Keyes, 2006). Adopting an expanded model of mental health allows practitioners to recognize and work with more diverse groups of individuals.

Indicators of wellness. Diener (1984) suggested that a conceptualization of wellness must include at least three components: (1) It should be subjective, reflecting a concern for how the individual views him- or herself, (2) it should include positive indices of an individual's sentiments toward life as opposed to negative ones, and (3) it should be global to encompass all areas of an individual's life. Positive indicators of mental health include variables such as positive affect, life satisfaction (or perceived quality of life; LS and PQOL, respectively), self-efficacy, hope, and other factors related to one's mental wellness (Lopez & Snyder, 2003).

Life satisfaction is one of the most well-established indicators of general wellness and, moreover, positive functioning (Suldo et al., 2006). While LS is sometimes misconceptualized as a synonym for happiness (or SWB), it is actually one of three components that comprise the construct of SWB. Specifically, SWB can be defined as "a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction" (Diener, Suh, Lucas, & Smith, 1999, p. 277). In essence, SWB is an individual's present evaluation of his or her happiness, and is comprised of three components: positive affect (pleasant feelings and moods), negative affect (bothersome emotions like guilt and anger), and life satisfaction (a cognitive, global evaluation made when considering contentment with life in general or within the context of specific life domains such as family, friends, and self). Since LS is the more stable component of SWB, it is the indicator most frequently included in studies of youths' SWB (Suldo et al.).

A growing body of literature (reviewed in the next section) supports that students' mental health, either defined in terms of psychopathology or wellness, is linked to their academic achievement. Academic success is one of the most crucial developmental tasks during the adolescent years, important because successful academic performance during high school relates to attainment of further educational and employment goals during adulthood (e.g., Ou, Mersky, Reynolds, & Kohler, 2007; Fuligni & Hardway, 2004). Because of the salience of academic achievement during youth, the next section will review how student achievement is associated with positive and negative indicators of mental health.

Mental Health and Student Achievement

As aforementioned, research supports that mental health is inextricably related to student achievement (e.g., Coulliard, Garnett, Hutchins, Fawcett, & Maycock, 2006; Feinstein & Peck, 2008; Ghosh, 2007; Parette & Peterson-Karlan, 2007; Witcher, Alexander, Onwuebuzie, Collins, & Witcher, 2007). While this link has been well established among primary-aged youth (Coulliard et al.; Parette & Peterson-Karlan, 2007; Puskar & Benardo, 2007) and college students (Dempsey & Keen, 2008; Zhang, Cao, & Zhang, 2007; Witcher et al.), the literature within this area is relatively limited among an adolescent population. Yet, studies that have examined how mental health (both pathology and wellness) is related to adolescent achievement have found a general relationship between the two constructs. As discussed below, negative indicators of mental health tend to be associated with lower levels of student achievement. Conversely, positive indicators of mental health tend to be associated with greater gains in adolescent achievement, a finding which holds significant implications for considering whether or not to implement specific programs for promoting wellness within the schools.

Psychopathology and student achievement. Throughout the adolescent literature, externalizing psychopathology has been consistently found to have detrimental effects on student achievement. For example, antisocial behavior in adolescents (e.g., conduct disorder) undermines academic achievement throughout the school years (Bardone et al., 1996; Benner et al., 2008; Chen, Rubin, & Li, 1997; Hawkins et al., 2003; Masten & Coatsworth, 1995; Risi, Gerhardstein, & Kistner, 2003). There is a growing literature base linking internalizing symptoms to academic achievement. Anxiety, depression, and

general internalizing symptoms show signs of reciprocal linkages over time with school adjustment and achievement (Bonifacc et al., 2008; Herman, Lambert, Reinke, & Ialongo, 2008; Masten et al., 2005; Undheim & Sund, 2008). The evidence linking internalizing problems with academic achievement suggests that objective and perceived academic failures are generally related to increases in internalizing symptoms and, conversely, that achievement gains predict decreases in depressive symptoms, although the evidence is somewhat inconsistent with respect to gender (Chen, Rubin, & Li, 1995; Masten et al.; Maughan, Rowe, Loeber, & Stouthamer-Loeber, 2003). Specifically, Chen and colleagues (1995) found that poor academic achievement was associated with future development of depression in Chinese youth, regardless of gender. Similarly, there were no gender differences in Masten and colleagues' (2005) study which reported a relationship between academic achievement and American adolescents' subsequent development of internalizing problems. However, results from another study showed that low reading achievement is associated with an increased risk for depressed mood in boys only (Maughan et al.). Further, for adolescents who meet criteria for psychiatric diagnoses of anxiety disorders and depression (i.e., those above diagnostic thresholds), academic problems such as increased drop-out rates (Bardone et al., 1996), lower academic achievement (Bernstein & Borchardt. 1991; Lane, Barton-Arwood, Neslon, & Wehby, 2008; Roeser, Eccles, & Sameroff, 2000; Wang, Zhang, & Leung, 2005), and increased rates of retention (Robles-Piña, Defrance, & Cox, 2008) have been noted both currently and in the future.

Wellness and student achievement. Calls in the literature have served to shift mental health professionals' preoccupation with remediation to a focus on prevention and resiliency. In alignment with this perspective, studies have begun to explore how positive indicators of mental health are associated with success within the school environment. A recent study on SWB in adolescents found that students with high SWB exhibited higher scores on state reading assessments and had better school attendance (Suldo & Shaffer, 2008). Moreover, mean achievement scores for students who had high levels of SWB and low levels of psychopathology significantly exceeded the scores of students with high levels of psychopathology. Studies examining the link between LS and adolescent achievement have been rather limited and inconclusive (Suldo et al., 2006). One recent study examined a set of school-related variables (e.g., academic beliefs, attachment to school, and academic achievement) and their implications for high school students' LS (Suldo et al., 2008). Results showed a significant, albeit small and indirect, link between academic achievement (i.e., GPA) and global LS. Studies that have been conducted on a national scale have also shown a positive relationship between LS and achievement (e.g., Kirkcaldy et al., 2004). Notably, some studies involving adolescent populations from within an individual country have not always supported such a link (i.e., Bradley & Corwyn, 2004; Huebner, 1991a; Huebner & Alderman, 1993). As such, it has been hypothesized that culture may play a moderating role in this relationship (Suldo et al., 2006). More research still needs to be conducted to provide more definitive conclusions regarding the conditions under which LS is linked to student achievement.

Summary

Mental health is a construct that has been predominantly concerned with the absence of psychopathology in individuals. However, researchers are beginning to recognize the importance of mental wellness to the successful development and thriving of adolescents (Heubner, 1991; Suldo et al., 2006; Suldo & Shaffer, 2008). Thus, mental health can no longer be conceptualized as simply the absence of psychopathology; its conceptualization must be expanded to include the presence of positive indicators (e.g., LS and SWB), as the previously reviewed literature delineates the positive outcomes these constructs hold for adolescents. One such positive outcome is the research-supported link between mental health and academic achievement in adolescents. More specifically, studies have highlighted how psychopathology (as defined by internalizing and externalizing symptoms) negatively affects student achievement (e.g., Herman et al., 2008) and conversely, linked indicators of wellness with better achievement (e.g., Suldo & Shaffer, 2008; Suldo et al., 2008). In alignment with the traditional focus on psychopathology in regards to mental health, there is a dearth of research that concentrates on academic correlates of wellness and achievement in adolescence. This is an area that lends itself to considerable inquiry and clarification.

Conversely, social support is a construct that has gained substantial attention in the literature. The next section will provide a review of studies that have supported the association between social support and mental health in adolescents. In particular, the review will examine the distinct relationships among specific sources of social support

(i.e., parent/family, peer, and teacher support) and conclude with an examination of the perceived comparative importance of these sources of support.

Associations among Social Support and Mental Health

As aforementioned, social support is critical to successful adolescent development. Supportive and fulfilling relationships with family, friends, and even teachers are fundamental to leading a meaningful and happy life. Such relationships benefit adolescents through better health outcomes, improved coping mechanisms, and increased life satisfaction (Myers, 2000). Moreover, studies have shown supportive social relationships impact mental health through their influence on an individual's stress level, depression, anxiety, and psychological well-being (Kawachi & Berkman, 2005). The subsequent sections will review how each source of social support (i.e., parent/family, friend/peer, and teacher) specifically contributes to the mental health outcomes of adolescents.

Parent/Family Support and Mental Health

Research indicates that family support serves as a strong resiliency factor against poor mental health outcomes (e.g., McCubbin, McCubbin, Thompson, & Thompson 1995). For example, one recent study found overwhelming evidence that family support promotes psychological well-being (based on a five-point Likert scale ranging from least well-adjusted to most well-adjusted) and reduces the risk for internalizing and externalizing symtomatology in Hawaiian adolescents (Carlton et al., 2006). Additionally, supportive family behaviors have been associated with decreased levels of stress (Youngstrom, Weist, Albus, 2003) and suicidality (Cheng & Chan, 2007) in youth.

Conversely, unsupportive parent-child relationships can negatively impact the psychological well-being of youth. For example, low levels of parental support have been associated with increased internalizing symptoms of anxiety, depression, and post-traumatic stress disorder (PTSD; Rosario et al., 2008). Moreover, a recent study of Latino youth examined the independent and interactive effects of parent support and conflict within a triadic familial context (i.e., mother-father-youth; Crean, 2008). Results showed that higher levels of unsupportive behavior (i.e., conflict) with either mother or father were associated with higher levels of both internalizing and externalizing symptomatology (r = .25-.47, $p < .001$). Interestingly, parental support from the opposite parent helped to buffer the impact of the non-supportive parent-child relationship and lead to decreases in internalizing problems. Notably, parental support only served as a protective factor against the future development of internalizing symptoms among boys, indicating that unsupportive parental relationships may be especially damaging for adolescent females.

While numerous studies have linked lack of parental support to increased levels of depression (e.g., Christie-Mizelle, Pryor, & Grossman, 2008; Gaylord-Harden, Ragsdale, Mandara, Richards, & Peterson, 2007; McCarty, Vander Stoep, Kuo, & McCauley, 2006), a recent longitudinal study has further examined this link and suggests that the relationship among depressive symptoms and parent social support is interactive and dynamic across the transition from adolescence into young adulthood (Needham, 2008). Data were collected on approximately 11,000 youth in three waves (mean age 15.28 at Wave 1 and 21.65 at Wave 3). Results indicated that parental support during adolescence

has an inverse relationship with initial symptoms of depression for both girls and boys. Notably, adolescent girls with low levels of parental support tended to exhibit significantly higher levels of depressive symptomatology than their male counterparts, which is consistent with results found by Crean (2008). Additionally, adolescents who began the study with higher levels of depressive symptomatology reported less parental support during young adulthood, providing support for a reciprocal, interactive relationship. The results from this study show how the negative ramifications of a lack of parental support during adolescence can carry over into young adulthood.

Within the past decade, researchers have begun to explore how social support is related to wellness in youth. Research has supported a significant relationship between students' SWB and parental support; specifically, students who report the highest SWB concomitantly report more perceived support from significant adults, such as parents (Nevin, Carr, Shevlin, & Dooley, 2006; Suldo & Huebner, 2006). Additionally, social support has been instrumental for youth who have experienced stressful life events such as teenage pregnancy (Stevenson, Maton, & Teti, 1999), immigration (Liebkind & Jasinskaja-Lahti, 2000; Jasinskaja-Lahti, Liebkind, Jaakkola, & Reuter, 2006), and threat of war (Ronen & Seeman, 2007). Specifically, results from these studies indicated that high levels of perceived support are associated with various indicators of psychological well-being (i.e., high levels of mastery, life satisfaction, and self-control), even in the face of significant stressors (Suldo, 2009). Moreover, a recent study by Edwards and Lopez (2006) showed that family support was associated with higher life satisfaction in Mexican-American youth. Such findings are consistent with previous literature using

diverse cultural groups (e.g., Jasinskaja-Lahti et al.) and demonstrate the importance of supportive family relationships across diverse ethnic backgrounds.

The critical importance of warm, supportive parent-child relationships to optimal wellness in youth is illustrated in the examination of parenting style in relation to adolescents' wellness, particularly in regards to authoritative parenting (Suldo & Huebner, 2004). Authoritative parenting is comprised of three dimensions: support/involvement, supervision, and psychological autonomy promotion. While all three dimensions are positively associated with life satisfaction in adolescents, parental social support has been shown to be the strongest correlate. Notably, one study by Bradley and Corwyn (2004) found that parental support failed to predict life satisfaction in a cross-cultural sample of European-, African-, Mexican-, Chinese-, and Dominican-American youth (although support did show a small bivariate correlation [$r = .13$, $p < .05$] with life satisfaction). This finding contradicts the conclusions from all other available research.

Peer/Classmate Support and Mental Health

During adolescence, peers take on an increasing influence (Brown, 2004). While support from parents provides guidance and nurturance, peer relationships satisfy the need for affiliation and prepare adolescents for meaningful relationships with those of their own age and with adults as well (Meeus, Oosterwegel, & Vollebergh, 2002). Research on unsupportive peer relations documents the increased risk for a range of adolescent problem behaviors and depressed mood (Dumont & Provost, 1999; Wenz-Gross et al, 1997). Interestingly, Dumont and Provost (1999) revealed group differences

in indices of depressive symptoms and levels of daily stress among well-adjusted, resilient, and vulnerable adolescents. Well-adjusted adolescents reported higher peer support than those in a vulnerable group who scored low on indices on both depressive symptoms and level of daily stress. Such findings may suggest that adolescents' sense of relatedness and support within their peer group is critical for social-emotional adjustment (see Eccleston, Wastell, Crombez, & Jordan, 2008).

Peer support has also been shown to inversely correlate with other indicators of internalizing psychopathology in adolescents. For instance, researchers of a study examining perceived social support among bullies, victims, and bully-victims indicated that "uninvolved youth" (i.e., youth not involved in either bullying or victimization) reported the most peer social support and also the least symptoms of anxiety and depression (Holt & Espelage, 2007). An additional link between peer support and decreased levels of anxiety has also been supported for African-American adolescents (Ginsburg, 2002).

Furthermore, peer support has been shown to promote psychological well-being among adolescents (McCreary, Slavin & Berry, 1996; Rodriguez, Mira, Myers, Morris, & Cardoza, 2003). For example, one study showed that peer support was also positively associated with well-being (i.e., decreases in indicators/levels of psychopathology) in adolescent mothers (Kissman & Shapiro, 1990). Peer support has also been linked to positive indicators of well-being in youth (i.e., SWB). More specifically, results from Suldo and Shaffer's (2008) study evidenced a relationship between SWB, low levels of psychopathology, and social support from classmates. In particular, students with high

levels of SWB and low levels of psychopathology (i.e., "complete mental health") perceived better social support from peers and parents in comparison to "vulnerable" (low levels of psychopathology and SWB), "symptomatic but content" (high levels of psychopathology and SWB), and "troubled" (high levels of psychopathology and low levels of SWB) youth (p. 60). These findings are consistent with extant literature which has shown that students with the highest levels of LS also report the most perceived peer/classmate support (Suldo & Huebner, 2006). Thus, not only do supportive peer relationships mitigate the probability of experiencing negative mental health outcomes, but they co-occur with "complete mental health" (or optimal wellness) in youth (Suldo & Schaffer, 2008).

The provision of peer support is especially salient during the transition from elementary school to middle school, as it can be critical in shaping adolescents' psychological and behavioral adjustment. For example, results from a study examining the changes in students' perceptions of teacher and peer support throughout middle school indicated that perceptions of declining peer support were associated with declines in psychological and behavioral adjustment. Specifically, as students reported declines in peer support, there were corresponding increases in depressive symptoms and externalizing behavior problems (Way, Reddy, & Rhodes, 2007). Furthermore, gender was found to be a predictor of initial peer support and depressive symptoms. In particular, girls exhibited lower levels of peer support than boys, and dually presented with higher levels of depressive symptoms. Such findings seem intuitive given the inverse relationship generally described by the literature between peer support and depressive

symtomatology (e.g., Chong, Huan, Yeo, & Ang, 2006; Dumont & Provost, 1999; Lui, 2002; Newman et al., 2007; Wenz-Gross et al, 1997). However, these findings are inconsistent with other research studies which indicate that girls perceive more peer support in comparison to their male counterparts (e.g., Malecki & Elliott, 1999).

A further examination of gender differences among peer support and related outcomes investigated the role of depression, self-esteem, problem solving, assertiveness, social support, and some socioeconomic factors on adolescent suicidal behavior (Eskin, Ertekin, & Dereboy, 1997). Although prior research identified an inverse relationship between peer support and depression, girls scored significantly higher on scales measuring depression and suicidality, but also perceived more social support from friends in comparison to boys. Thus, although girls indicated they received a greater degree of peer support, they still maintained higher levels of depressive symtomatology in comparison to their male counterparts. Such findings may indicate that perceived social support, though beneficial, may not be as strong of a protective factor as actual peer support received.

Teacher Support and Mental Health

Schools have more influence on the lives of young people than any other social institution (except the family) and provide a setting in which peer networks develop, socialization occurs, and norms that govern behavior are developed and reinforced. Schools should have a vested interest in addressing the mental health needs of students because healthy children show higher achievement and beneficial social-emotional

outcomes in comparison to children with mental health problems (Adelman & Taylor, 2000; Opie & Slater, 1988).

Accordingly, teachers have been identified as an important source of social support for adolescents (e.g., Hamre & Pianta, 2006; Hughes et al., 2001; Malecki & Demearay, 2003). While the literature provides support for positive teacher-student relationships and increases in academic (Felner, Aber, Primavera, & Cauce, 1985; Hamre & Pianta, 2006; Wentzel, 1998) and social-behavioral outcomes among adolescents (Hamre & Pianta, 2006; LaRusso, Romer, & Selam, 2008), there is a paucity of research that has examined teachers' effect on adolescent psychological well-being. Studies that have examined the link between supportive teacher-student relationships and psychological functioning have shown inverse relationships with suicidal ideations and emotional distress (Paulson & Everall, 2003; Resnick et al., 1997). Colarassi and Eccles (2003) found that supportive teacher relationships had a significant negative effect on adolescent depression, while self-esteem was boosted as a result of teacher support. The findings from this study may suggest that perceived support from teachers potentially effects mental health outcomes via creating an increase in beliefs that are inconsistent with depression and low self-esteem, such as acceptance, connectedness, and the belief that others will help.

Furthermore, perceived teacher–student relationships were examined as a protective factor against declines in emotional functioning of youth across the middle school years (Reddy, Rhodes, & Mulhall, 2003). For all students, changes in perceptions of teacher support reliably predicted changes in psychological adjustment. Specifically,

students who received increasing levels of teacher support evidenced corresponding increases in self-esteem and decreases in depression. These findings, in conjunction with the results from aforementioned studies, underscore the critical role of teacher support in predicting adolescent well-being. Of interest, however, is that although the girls from this study perceived higher levels of teacher support in comparison to their male counterparts, there were no gender differences in levels of depression. Such a finding indicates that gender may not be a salient predictor of differences in psychological outcomes, which is inconsistent with some previous research (i.e., Eskin et al., 1997; Way et al., 2007).

Despite calls for a greater focus on positive indicators of mental health, there is less research examining how supportive teachers may promote mental wellness in adolescents. Recent studies have begun to explore such links and have found that students who perceive high levels of support from their teachers also report higher LS (Nativg et al., 2003; Suldo & Heubner, 2006). Moreover, supportive student-teacher relations are the aspect of school climate most strongly related to older adolescents' LS (Suldo et al., 2008). Notably, one recent study thoroughly examined the importance of teacher support on adolescents' social-emotional wellness (Suldo et al., 2009). Specifically, this study sought to determine which type(s) of teacher support (i.e., emotional, appraisal, instrumental, or informational) contributed the most unique variance to students' SWB. Findings from this study indicate that overall teacher social support accounts for 16% of the variance in students' SWB.

Comparative Importance of Sources of Social Support

As reviewed within the previous sections, research consistently indicates that youth derive social support from a number of sources, and social support from each source is associated with beneficial outcomes (Malecki & Demaray, 2003). Yet, current theory and research suggest that all social support is not the same. Two important influences on the effectiveness of support are the characteristics of the provider and the characteristics of the recipient (Antonucci, 1983). For example, alternate support providers, such as parents and peers, differentially affect adolescent outcomes (Barone, Iscoe, Trickett, & Schmidd, 1998; Wentzel, 1998).

The primary source of social support for youth often varies as a function of age. In childhood, youth tend to seek support primarily from parents; but as they transition into adolescence, peer support becomes more salient (Furman & Buhrmester, 1992). For example, Canadian adolescents rated both peer and family support as one of the "best" help-seeking options for adolescents in divorcing families; however, peer support was rated above family support in terms of most helpful (Ehrenburg, Stewart, Roche, Pringle, & Bush, 2006). Additionally, older adolescents typically report less support from all sources than younger adolescents (Malecki & Elliott, 1999). However, given that youth report that they receive different social provisions (i.e., types of social support) from parents than from peers (Furman & Buhrmester, 1985), both sources of support are important for positive youth outcomes.

Notably, some research suggests that culture and developmental level may play a role in the comparative influence of different sources of social support. For instance,

while parent support has been linked to academic achievement in American adolescents (e.g., Wentzel, 1998), one study found an inverse relationship between supportive parent-child relationships and academic achievement in students from Hong Kong (Chen, 2008). As suggested by Chen (2008), such a counterintuitive finding may be attributed to parents' tendency to increase support via academic monitoring (e.g., checking homework) and assistance (e.g., helping to complete assignments and projects) in response to their child's underachievement. Notably, teacher support significantly predicted high academic achievement in these students. The relative importance of teacher support has also been documented throughout the literature in other adolescent populations. Yoon and Carcarmo (2007) found that teacher support was a significant predictor of African-American middle school students' overall school attachment, beyond the variance explained by parent support. Further, teacher support uniquely predicts school satisfaction in middle school students, beyond that of parents and peers (DeSantis King et al., 2006). Thus, while parent support seems to be more salient to elementary-aged students, the importance of supportive teacher-student relationships appears to play a more critical role in the school-related outcomes of adolescents.

In terms of recipient characteristics, research has addressed gender differences in the amount and kind of support adolescents receive and who they receive it from. The literature base suggests that girls report more perceived social support than do boys from many sources in their lives (Furman, 1996; Malecki & Demaray, 2002; Malecki & Elliott, 1999). One potential hypothesis for this phenomenon was that girls may have an inflated sense of the support they receive from others; however, research by Malecki and

Demaray (2003) showed there is no difference between boys and girls when examining support from teachers and parents, which may indicate true differences in the saliency of support sources among these two groups. Additionally, examinations of at-risk youth show that parental support is more strongly correlated with high SWB in comparison to other peer and environmental factors (Liebkind & Jasinskaja-Lahti, 2000; Stevenson et al., 1999). Such findings may indicate that perceived support from parents is more salient than other support sources for vulnerable youth.

Social Support and Mental Health: Examining the Role of Academic Achievement

The importance of social support to adolescent social, behavioral, and psychological functioning has been well documented within the literature. While higher perceptions of social support have been indicative of beneficial psychological and school-related outcomes for youth, some students remain resilient against the development of psychological, school, or other behavior problems in the face of unsupportive relationships (e.g., Rosario et al., 2008; Way et al., 2007). As given by Carlton and colleagues (2006), "resiliency indicators describe the capacity for individuals to withstand adversity and maintain psychological health and well-being" (p. 292). In line with the ambitions of the positive psychology movement, the primary goal of resiliency-based research has focused on delineating specific indictors (or sets of indicators) of wellness that protect against psychological impairment, rather than devoting sole attention to the reduction of psychopathological risk factors and symptoms. Of such indicators, academic achievement has been one variable shown to protect against adversity and lead to positive outcomes for youth (Carlton et al.).

Particularly, a recent study of adolescent Americans evidenced a relationship between family support, achievement, and mental health (Carlton et al., 2006). Specifically, Carlton and colleagues examined how individual (e.g., achievement and physical fitness), family (e.g., family support and parental expectations), and community (e.g., extracurricular activities and peer support) "resiliency variables" predicted mental health outcomes (i.e., internalizing and externalizing symptomatology; p. 298). Regression analyses showed that family support and achievement accounted for a significant amount of variance in internalizing symptomatology (R^2 = .10 and .01, respectively, $p < .01$); those who perceived higher levels of family support and maintained higher levels of achievement had higher levels of well-being in regards to internalizing symptomatology. Similarly, family support and achievement were two resiliency variables that predicted decreased levels of externalizing symtomatology for youth (R^2= .03 and .06, respectively, $p < .01$). Interestingly, family support was the strongest resiliency variable regarding internalizing symptomatology, while achievement was evidenced to be more crucial to the prediction of externalizing symptoms. In sum, Carlton and colleagues concluded that family support and achievement are two variables that protect against psychiatric symptomatology and promote wellness in youth. However, conclusions drawn from this study should be interpreted cautiously as the measures and techniques utilized to evaluate "well-being" (i.e., low levels of internalizing and externalizing symtomatology) were questionable, at best, as the instruments were not demonstrated to have adequate reliability and validity regarding measurement of these constructs. Moreover, "well-being" was indicated by the

absence of psychopathological symptoms in youth, though recent research has noted this is not the most comprehensive indicator of well-being (Greenspoon & Saklofske, 2001; Keyes, 2006). In spite of the methodological flaws apparent within the study, Carlton and colleagues have taken a critical first step in examining the interrelationships among social support, achievement, and mental health in adolescents.

While the focus of preceding sections has centered on the direct relationships among social support, mental health, and achievement, there have also been studies that have evidenced relationships among these and other interrelated constructs. For instance, Utsey and colleagues (2006) found that the combined effects of social support and cognitive ability moderated the relationship between stress and quality of life in African-American young adults. Specifically, high levels of cognitive ability and social support mitigated the negative effects of stress in relation to participants' PQOL. In a study which examined the nature of the relationship between mental health and life events (i.e., occurrence of academic pressure and negative interpersonal relationships) in Chinese middle school students, social support served as a protective factor for the development of internalizing disorders (i.e., anxiety and depression; Guo, Li, Wang, & Shen, 2006). Moreover, high academic achievement has been shown to protect against the development of depression in pre-adolescent children who experience high numbers of undesirable and uncontrollable life events (Muratori & Filippo, 1997).

For adolescents, there is increasing evidence for the importance of resilience in development (e.g., McCubbin et al., 1995; McCubbin et al. 1998). In line with the movement from focusing on psychopathology and remediation to promotion of wellness

and prevention, an understanding of how the adverse effects of unsupportive social relationships can be mitigated within the school setting is critical. Given the strong, positive association between academic achievement and favorable mental health outcomes (i.e., lower indicators of pathology and higher indicators of wellness; Benner et al., 2008; Suldo & Shaffer, 2008) and that prior research has demonstrated the protective nature of academic achievement, future endeavors should examine the role achievement plays in the relationship between social support and psychological outcomes.

Conclusions

Summary of the Literature

Adolescence is a time in which multiple transitions in development occur and affect one's psychological adjustment. Adolescents' perception of social support exerts significant influence on their psychological adjustment (e.g., Demaray & Malecki, 2002). Supportive relationships with others (i.e., social support) have been conceptualized as a resource for promoting successful adaptation during adolescence. As reviewed above, social support holds significant implications for the social, behavioral, and emotional functioning of adolescents. In particular, there is substantial empirical evidence to suggest that adolescents' family, peers, and teachers provide important contexts to shape and foster beneficial outcomes for youth.

Perceptions of supportive family relationships have been linked with decreases in internalizing (e.g., Rosari et al., 2008) and externalizing behaviors (e.g., Carlton et al., 2006), but research suggests the negative effects of unsupportive relationships with parents may be especially detrimental for female adolescents (Crean, 2008). Almost all

research has supported a direct link between support from parents and indicators of wellness (i.e., SWB and LS) among youth (e.g., Edwards & Lopez, 2006; Suldo & Huebner, 2006; see Bradley & Corwyn, 2006 for an exception). Peer support has also been shown to inversely correlate with other indicators of internalizing psychopathology in adolescents and co-occur with psychological wellness among adolescents (e.g., Suldo & Schaffer, 2008). Likewise, researchers have begun to illustrate how positive perceptions of teacher support can promote mental wellness (e.g., Suldo et al., 2008), such that greater perceptions of teacher support are associated with higher levels of LS and SWB.

Limitations of Extant Literature

While extensive examinations among social support, mental health, and academic achievement have been conducted with young children and older adolescents, less attention has been afforded to a younger population of adolescents. The transition to middle school can be tumultuous for young adolescents and is linked to declines in psychological, academic, and emotional adjustment (Newman et al., 2007). It is critical that this age group be thoroughly examined in order to provide information on how to potentially mitigate these negative outcomes. Specifically, it is unknown which source(s) of support are most salient to middle school students' mental health. Such an understanding is needed so that school psychologists can make more informed decisions regarding where to focus prevention and intervention efforts. An additional limitation of the literature is reflected by the paucity of research that relates social support to positive indicators of mental health, such as LS or SWB, despite calls (e.g., Maddux et al., 2004;

NASP, 2006) to include positive indicators of wellness within the construct of psychological health (rather than simply the absence of psychopathology). Increased research in this area might elucidate ways to foster optimal wellness in youth. Additionally, the literature has provided inconsistent results in regards to how gender may influence the magnitude of the relationship between social support and mental health outcomes, and has neglected to examine how various sources of support may be more or less salient to boys versus girls. Additional research on these issues would help to clarify the specific role that gender plays among these variables. Finally, it is unknown if social support is as crucial of a predictor among youth with high academic achievement, which may function as a protective factor.

Purpose of the Current Study

Given the limitations of the current literature, this study aimed to add to the literature base by providing information regarding the relationships among social support, mental health, and academic achievement in early adolescents (i.e., middle-school aged students)—a population group which has been neglected in the literature in comparison to children (i.e., elementary-aged students) and older adolescents (i.e., high school students). Specifically, bivariate relationships among these three constructs (i.e., social support, mental health, and achievement) were examined. Also, the specific sources of support (i.e., parent, teacher, or peer/classmate) most predictive of mental health outcomes (i.e., internalizing and externalizing psychopathology) were determined. Moreover, as an answer to the call for increased research regarding positive indicators of wellness, this study included an examination of life satisfaction as a mental health

outcome. This study also addressed potential gender-related differences among these aforementioned relationships to determine if (1) particular sources of support are more or less salient in one group versus the other and (2) the magnitude of the relationship between social support and mental health outcomes is different based on gender. Although gender-specific research results have been relatively inconsistent regarding the magnitude of social support on mental health outcomes in youth, due to findings that have suggested the significant adverse effects of unsupportive relationships for girls (beyond that of boys; e.g., Crean, 2008), it was hypothesized that the strength of the relationship between perceived support and psychopathology will be stronger for girls than boys. Additionally, due to the hypothesized relative strength of the relationship between social support and psychopathology in combination with the saliency of supportive peer and teacher relationships to adolescents, it is further postulated that peers and teachers may be a more important source of social support for girls regarding mental health outcomes. Finally, given the strong association between academic achievement and mental health in children, the role of achievement as a moderator in the link between social support and mental health outcomes was explored. Based on the research-supported negative associations between psychopathology and achievement (e.g., Bardone et al., 1996; Benner et al., 2008; Bonifacci et al., 2008) and the protective nature of academic achievement in adolescents (Carlton et al., 2006; Muratori & Filippo, 1997), it was hypothesized that high academic achievement would serve as a protective factor in the link between social support and mental health outcomes, while low academic achievement would serve as a risk factor for increased psychological dysfunction. Simply

stated, students with high academic achievement may not be as sensitive to the effects of social support, whereas the mental health of students who are performing poorly in school may vary more as a function of their available support resources.

Chapter 3

Method

The present study assessed the interrelationships among social support, mental health, and academic achievement among 6th, 7th, and 8th grade students. Moreover, in line with research identifying both positive and negative indicators in the construct of mental health (Greenspoon & Saklofske, 2001; Suldo & Schaffer, 2008), this study examined how specific sources of social support predict both psychopathology (negative indicators) and life satisfaction (LS; positive indicator) in youth. The relative influence of specific sources of perceived social support was also examined by gender, while achievement was examined as a potential moderator in the association between social support and mental health. The primary variables of interest were source of social support (i.e., parent, classmate, and teacher), psychopathology (i.e., internalizing and externalizing symtomatology), life satisfaction, and academic achievement. This chapter describes the participants, setting, instrumentation, independent and dependent variables, procedure, and data analyses utilized within the current study.

Participants

For the purpose of this study, archival data were analyzed. The dataset used in the current study was part of a larger study investigating the subjective well-being and psychopathology of middle school students in relation to various educational, physical health, and social outcomes (Suldo & Shaffer, 2008). Data were provided to this

examiner by the principal investigator of the aforementioned study, a faculty member from the USF School Psychology Program. Participants in the dataset included 401 students enrolled in grades six through eight at a local middle school; a subsample of 390 students with complete data on the variables of interest (i.e., social support, life satisfaction, internalizing and externalizing symptomatology, and achievement) will be examined in the current study. The school under study is a large (approximately 1600 students), public school in a local urban school district. In order to maintain confidentiality, participant names and student identification numbers were not disclosed to this researcher.

Participant Selection

Participation was elicited from students in the general, advanced, or gifted education tracts; demographic information about the sample is included in Table 1. In order to meet inclusion criteria, students must have had complete data for all of the following variables: social support, gender, psychopathology, achievement, and LS.

Table 1

Descriptive Statistics of Student Participants (N = 390)

Variable	n	%
Gender		
Male	154	40
Female	236	60
Grade		
6	126	32
7	156	40
8	108	28
Ethnicity		
Caucasian	215	55
African-American	54	14
Hispanic/Latino	52	13
Asian	20	5
Native American	5	1
Multi-racial	37	10
Other	7	2
Socioeconomic status		
Low	98	25
Average/High	292	75

Measures

Variables of interest for the current study included social support source (i.e., teacher, parent, and peer), psychopathology (i.e., externalizing and internalizing behaviors), life satisfaction, and academic achievement. The measurement of each variable is described within the subsequent sections.

Socio-Demographic Variables

Gender, school, grade level, race/ethnicity, socio-economic status (SES), and age were based on self-report data obtained from the demographics form completed by participants (see Appendix A); SES was assessed using the one-item indicator, "Do you

receive free or reduced lunch?". Two sample Likert-type questions were included at the bottom of the demographics form to train students in how to answer Likert-type questions using an example of a frequency ("I go to the beach") and agreement ("Going to the beach is fun") item. Students rated the items on a scale of 1 to 5. These sample questions represented the general format of all subsequent measures administered.

Child and Adolescent Social Support Scale

The Child and Adolescent Social Support Scale (*CASSS*; Malecki, Demaray, & Elliot, 2000).is a 60-item self-report scale that measures participants' perceptions of support received from five major sources including parents, teachers, classmates, close friends, and school (see Appendix B). Each of the five source subscales consist of 12 items and measure four types of social support including emotional, instrumental, appraisal, and informational. Participants are asked to rate the frequency with which they perceive each type of support is enacted by a given source (e.g., "My parent(s) show they are proud of me," "My teacher(s) care about me", and "My classmates treat me nicely"). Ratings are listed in a Likert format and range from 1 (*never*) to 6 (*always*). Subscale frequency scores on the CASSS are calculated by summing the frequency ratings on the 12 items on each subscale; higher scores are indicative of higher perceptions of support from a specific source. In the current study, only the Parent, Teacher, and Classmate subscales were analyzed. A rationale for omitting the Close Friend and School subscales was provided by the principal investigator of the original data collection effort (c.f., Suldo & Shaffer, 2008). Specifically, anecdotal accounts and prior research with these scales appeared to indicate questionable utility. For instance, regarding the Close Friend

subscale, it seems likely that by definition (or nature), a close friend provides the kind of support elicited by included items (i.e., My close friend…helps me when I need it, …accepts me when I make mistakes, …spends time with me). For this reason, it has been the experience of the principal investigator that this subscale results in such positively skewed data that data are not available to be subject to further analyses. As for the School subscale, issues related to the ambiguity of the perceived school support source are implicated for its omission. Specifically, items assessing "school support" are worded in such a manner that it is challenging to ascertain the actual source of the perceived support (e.g., teachers, classroom aids, administrators, coaches) and thus, data gathered from this subscale does not help to inform practical applications for increasing "school" support.

Support for the reliability and validity of the CASSS (2000) is provided by previous studies with middle school students, as summarized by Malecki and Demaray (2006). The five–factor structure corresponding to the parent, teacher, classmate, close friend, and school subscales was confirmed via factor analyses in the same study. The CASSS (2000) Parent, Teacher, and Classmate subscales were significantly correlated with parent, teacher, and classmate frequency scores from the Social Support Scale for Children (SSSC; Harter, 1985; r = .56, .48, and .36, respectively), which is indicative of moderate to high construct validity (Malecki & Demaray, 2003). Regarding reliability, evidence was found for high 8 to 10 week test–retest reliability (r = .78). High internal consistency of the subscales of interest (i.e., Parent, Teacher, and Classmate) is supported by alpha coefficients ranging from .92 to .93 (Malecki & Demaray, 2006). Additional research regarding the CASSS (2000) type (of support) items help to provide some

evidence that that the items on the CASSS reflect the various types of support (e.g., emotional, instrumental) that were intended (Malecki & Demaray, 2003). Raters were provided with a one-sentence description of each of the respective types of support and were asked to categorize specific items from the CASSS as one of the four types of social support. Results indicated that 92% of the items were categorized correctly, which provides evidence that items on the CASSS are indeed indicative of the four separate constructs of social support.

Students' Life Satisfaction Scale.

The Student's Life Satisfaction Scale (SLSS; Huebner, 1991b; see Appendix C) is a seven-item self-report measure of global life satisfaction; it was developed to be utilized with youth between the ages of 8 and 18. Respondents are asked to indicate on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*) the extent to which they endorse general statements about their life (e.g., "My life is just right," "I wish I had a different life"). Scaled scores are obtained by reverse-scoring negatively worded items, then summing the responses and dividing by the number of items to yield an overall judgment of life satisfaction. Higher scores are indicative of higher levels of life satisfaction. The use of the SLSS to measure life satisfaction in adolescents is well-documented throughout the literature (e.g., Fogle, Huebner, & Laughlin, 2002; Gilman & Heubner, 2006; Haranin, Huebner, & Suldo, 2007; Huebner, Funk, & Gilman, 2000).

The reliability and validity of the SLSS has been investigated in studies of U.S. elementary school (Huebner, 1994) and middle school students (Huebner, Gilman, Laughlin, 1999). The results have provided encouraging evidence of reliability and

validity for research purposes. For example, internal consistency estimates have been reported to fall within the 0.80–0.90 range (Gilligan & Huebner, 2007; Gilman & Huebner, 1997; Huebner, 1991b; Terry & Huebner, 1995). Moreover, one-month test-retest coefficients (mean $r = 0.72$) suggest meaningful stability over time (Huebner et al., 1999). Evidence for construct validity with U.S. students has been provided through exploratory (Huebner, 1994) and confirmatory factor analyses (Huebner et al., 1999). Moderate convergent validity has been found between the SLSS and other measures of SWB, such as the Piers-Harris happiness subscale (Piers, 1984) and the Andrews and Withey Life Satisfaction Scale (Andrews & Withey, 1976), with correlations of .34 to .62 (Huebner, 1991b). Finally, external validity is supported by the scale's use among diverse samples of children and adolescents to determine global life satisfaction, including children identified with learning disabilities and emotional handicaps (Huebner & Alderman, 1993) and children from different ethnic and cultural backgrounds (Greenspoon & Saklofske, 1997; Huebner, 1995).

The Youth Self Report form of the Child Behavior Checklist

The Youth Self Report form of the Child Behavior Checklist (YSR; Achenbach & Rescorla, 2001; not included as an appendix due to copyright restrictions) is comprised of 112 items designed to measure eight dimensions of psychopathology, among adolescent populations ranging in age from 11-18 years. The YSR assesses eight areas of problem behavior: anxious/depressed, withdrawn/depressed, rule-breaking behavior, somatic complaints, aggressive behavior, social problems, thought problems, and attention problems. Responses are given on a 3-point Likert scale in which subjects indicate the

degree to which a feeling or behavior is true for themselves currently (i.e., in the past six months). The scale is as follows: 0 = 'not true,' 1 = 'somewhat or sometimes true,' 2 = 'very true or often true'. For the purposes of this study, only five of the eight subscales pertinent to the topic of investigation were analyzed. These subscales assessed internalizing (withdrawn/depressed, somatic complaints, and anxious/depressed subscales) and externalizing (rule-breaking behavior and aggressive behavior subscales) behaviors.

The YSR's utility in identifying children with symptoms of psychopathology is well supported throughout the literature. For instance, the YSR has been found to differentiate children with symptoms of psychopathology with high levels of accuracy, indicating high content validity. Specifically, all items on the YSR have been found to discriminate between clinical populations of adolescents and non-referred samples (Achenbach & Rescorla, 2001). In regard to construct validity, correlations with the diagnostic categories of the DSM-IV checklists range from .27 to .60 (Achenbach, Dumenci, & Rescorla, 2001). Correlations with the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992), which include mother, father, and teacher reports of psychopathology, range from .38 to .89 (Achenbach & Rescorla, 2001). Regarding reliability, test-retest reliability at 8-days obtained coefficient alphas ranging from .80 to .90 (Achenbach & Rescorla, 2001). Since subscales were derived from factor analyses of the correlations among all ASEBA items, scale compositions are based on the internal consistency of particular subsets of items. Thus, the internal consistency of the internalizing and externalizing composite scales are quite high (α = .71- .80 and .81-.86,

respectively; Achenbach & Rescorla, 2001).

Academic Achievement.

During the 2006 data collection, researchers ascertained achievement data from participants' school records. For the purposes of this study, two different types of achievement variables (i.e., standardized assessments in reading and math, and middle school grade point average [GPA]) were combined into a composite variable of academic achievement. Previous research on academic achievement in youth has utilized each of the indicators (i.e., standardized assessments and GPA) as a measure of academic achievement (e.g., Suldo & Shaffer, 2008; Annunziata, Hogue, Faw, & Liddle, 1996, respectively). Although these different indicators of academic achievement have, in some cases, resulted in differential outcomes (e.g., Alva, 1993; Volpe et al., 2006), combining the two were considered to result in a more psychometrically sound construct. Specifically, GPA (ranging from 0-4) and Florida Comprehensive Achievement Test (FCAT) math and reading scores (ranging from 1-5) were standardized so that all indicators were on the same metric, and then averaged to create a mean achievement variable. Though this created variable has little direct real-world applicability, it served to create enough variance to distinguish students with various levels of achievement.

Procedure

Student data Collection

This section summarizes the procedures used to create the archival dataset examined in the current study. Description of procedures was ascertained through written

documents describing the specific procedures involved in the study that yielded the dataset (i.e., Suldo & Shaffer, 2008; Suldo et al., 2009).

Parental consent was obtained via a written parental consent form (see Appendix D) that students were required to take home and return to school after obtaining parent signatures; such procedures may have been the source of unequal gender representation within the sub-sample. Specifically, girls may have been more likely than boys to take paperwork home, have it completed, and then return it back to school. After obtaining written student assent for participation, students were asked to report to the school media center during their elective class period on one of two data collection dates in January of 2006 and complete questionnaires in groups of approximately 50-75 students. The principal investigator read aloud the student assent form (see Appendix E) to all students prior to completion of the surveys. Students were told that they could withdraw from the study at any time during the course of data collection. Students then completed the demographic questionnaire and all measures described earlier within this chapter. Measures in the survey packet were counterbalanced to control for order effects. The principal investigator and graduate student assistants were on hand throughout the administration of the surveys to assist students with questions and ensure independent responding. Upon each student's completion of the measures packet, a member of the research team visually scanned through the packet to check for skipped items or response errors, and students were asked to complete or correct the items as needed. Approximately 55-60 minutes was allotted for students to complete the measures.

Due to the archival nature of the data set, this researcher had no control over data collection procedures, nor content included in the questionnaire. However, written documents by the researchers who collected the data set suggest that precautions were taken to address potential threats to validity during data collection and maximize their ability obtain valid conclusions. First, during the initial administration in January of 2006, questionnaires in the survey packet were counterbalanced to control for order effects. Further, the research team collecting data had knowledge of the appropriate response modes for each questionnaire and was trained to answer students' questions in a standardized manner to control for administration errors. The research team was also available on-site if student participants appeared agitated (e.g., tearful, angry) and/or expressed a desire to withdraw from the study although no such incident was reported. Regarding privacy, students were seated appropriate distances from one another to prevent the participants from seeing each other's responses; frequent supervision and monitoring of student behavior and survey completion was ensured by the research team. Following student data collection, teachers were provided with detailed instructions for completing all behavior rating scales and given contact information for a member of the research team to answer any questions. Finally, no adverse events that would significantly effect the outcomes of this study occurred during student or teacher data collection.

Analyses

A de-identified dataset that was previously checked for errors was obtained from the principal investigator of the 2006 study; all data was entered, coded, and ready for

analysis. The following series of statistical analyses was performed to answer the research questions posed in this study.

Descriptive Analyses

Means, standard deviations, and additional descriptive data (i.e. skew, kurtosis, etc.) for the entire sample were obtained for all variables of interest, which include: social support (CASSS), life satisfaction (SLSS), psychopathology (externalizing and internalizing factors of the YSR), and indicators of academic achievement.

Correlational Analyses (Research Question 1: What are the associations among social support, mental health, and academic achievement among early adolescents?)

To determine the relationships between social support, mental health (i.e., psychopathology and life satisfaction), and academic achievement of middle school students, correlation coefficients were calculated between each variable. A correlation coefficient (ranging from -1 to +1) provides information about the strength and direction of the relationship between two variables. An alpha level of .05 was used to determine statistical significance.

Regression Analyses (Research Question 2: Which sources of support [parent, teacher, classmate] are most predictive of internalizing psychopathology, externalizing psychopathology, and life satisfaction?)

To determine the sources of social support most predictive of mental health outcomes in students, data from the sample of 390 middle school students was subjected to a series of three simultaneous multiple regression analyses; separate regression analyses were conducted for each outcome variable (internalizing behavior,

externalizing behavior, and life satisfaction). In each regression analysis, each of the three specific sources of social support (i.e., teacher, parent, and classmate) was simultaneously entered as predictor variables. In simultaneous regression, all variables are entered into a regression equation concurrently to determine the proportion of the variance in the criterion variable for which each predictor variable is uniquely accountable. An alpha level of .05 was used to determine statistical significance of beta weights. Beta weights, also termed standardized regression coefficients (to denote z-scale), show the predicted change in the dependent variable given a one-unit standard deviation change in the independent variable while controlling for the other independent variables in the equation. The size of beta weights reflects the relative importance of the various predictor variables.

Group Differences (Research Question 3: Are there gender differences in the relationships between support and mental health, such that certain sources of support are more or less salient to girls or boys?)

To determine if the sources of support predict life satisfaction and psychopathology similarly for both boys and girls, additional regression analyses were conducted using life satisfaction, internalizing behaviors, and externalizing behaviors as the criterion variables (respectively), and the three sources of social support, gender, and moderator terms represented by interactions between gender and social support sources (e.g., gender x parent, gender x teacher support) as the predictors. As suggested by Aiken and West (1991), predictor variables were centered by subtracting the group mean from each individual's score on that particular variable to address potential

muticollinearity between the predictors, moderator, and the interaction terms. An alpha level of .05 was used to identify statistically significant interaction terms.

Moderator Tests (Research Question 4: Does academic achievement serve as a risk or protective factor in the link between social support and mental health, such that high achievement buffers students from the negative effects of low support or low achievement exacerbates the negative effects of low support?).

To determine if achievement functioned as a moderator in the relationship between perceived social support and mental health in students, additional regression analyses that include interaction terms were conducted. To test for moderation, three separate regression analyses were conducted using the indicators of mental health (life satisfaction and psychopathology) as the dependent/criterion variables and perceived sources of social support, achievement, and the interaction of social support and achievement as the predictors/independent variables. As above, predictor variables were centered and an alpha level of .05 was used to identify statistically significant beta weights.

Given that significant interaction terms were identified, follow-up procedures were conducted to determine the exact nature of the relationship. Specifically, significant interactions were explored by calculating a simple regression line for three values (i.e., ≥ one standard deviation above the sample mean, at the sample mean, and ≤ one standard deviation below the sample mean). The results for the three values were plotted for the indicated mental health outcome and the slopes for the three values were compared.

Chapter 4

Results

This chapter presents the results of the analyses conducted to answer the research questions within the current study. First, correlations among variables are provided to illustrate the relationships between social support, mental health, and academic achievement among adolescents. Next, results from regression analyses conducted to determine which sources of social support (parent, teacher, classmate) are most predictive of mental health outcomes (specifically, internalizing psychopathology, externalizing psychopathology, and life satisfaction) are presented. Then, results of regression analyses conducted to determine if gender differences exist in the relationships between social support and mental health are presented. Finally, results from regression analyses conducted to determine if academic achievement serves as a risk or protective factor in the link between social support and mental health are shared, as are graphs that depict the nature of the identified interaction effects.

Data Screening

During data entry for the original research study that yielded the dataset analyzed in the current study, data were checked for errors and accuracy (Suldo & Schaffer, 2008). For the current study, data were screened using Statistical Analysis Software (SAS) to detect the presence of either univariate and/or multivariate outliers. Univariate outliers were defined as participants scoring more than 3.5 standard deviations from the group

mean on any variable of interest (i.e., life satisfaction, internalizing problems, externalizing problems, parent support, teacher support, classmate support, and achievement). Multivariate outliers were defined as subjects scoring higher than 22.46, the criterion determined by the Mahalanobis distance for 6 degrees of freedom. Of note, the achievement variable was not included in the analysis of multivariate outliers due to the fact that this variable was only utilized within a small portion of the analyses. A total of 9 subjects were identified as multivariate outliers, while 3 subjects were identified as univariate outliers (all of which were also identified through multivariate screening procedures). As a result, a total of 9 subjects were removed and excluded from further analyses. Thus, the dataset retained for all subsequent analyses consisted of 381 participants.

ScaleRreliability

Prior to further analyses, all scales utilized within the study (i.e., CASSS, SLSS, and YSR subscales) were analyzed to determine the internal consistency of each. Cronbach's alpha ranged from .82 (Achievement) - .95 (Parent Support, Teacher Support, and Classmate Support), indicating high estimates of reliability for each scale.

Descriptive Analyses

Descriptive statistics for the data set, which excluded identified outliers, are presented in Table 2. To assess univariate normality, skew and kurtosis of each of the seven variables were calculated. All obtained values, with the exception of internalizing problems (skew = -1.19, kurtosis = 1.57) and externalizing problems (skew = 1.16, kurtosis = 1.21), were between -1.0 and +1.0, demonstrating a normal distribution of

scores on each of the target variables. Although the skew and kurtosis of the externalizing and internalizing problem variables indicated a slightly non-normal distribution, the variables were retained due to Walker and Maddan's (2008) observation that statistical software packages (such as SAS) use a "popular" formula to calculate skew and kurtosis values such that the acceptable range is between -3.0 and +3.0 (p. 141).

Table 2

Means, Standard Deviations, Ranges, Skew, and Kurtosis of Variables

Variable	*N*	*M*	*SD*	Range	Skewness	Kurtosis	α
Predictor							
Teacher Support	381	4.86	.99	1.5 - 6.0	-.99	.37	.95
Parent Support	381	4.79	1.11	1.0 – 6.0	-.98	.19	.95
Peer Support	381	4.28	1.18	1.0 – 6.0	-.48	-.50	.95
Achievement (standardized)	381	.00	.86	-2.45 -1.18	-.53	-.61	.82
Outcome							
Internalizing Problems	379	11.06	8.11	0 - 46	1.19	1.57	.89
Externalizing Problems	377	9.92	7.45	0 - 38	1.16	1.21	.90
Life Satisfaction	381	4.56	1.03	1.0 – 6.0	-.82	.26	.90

Note. Higher scores reflect increased levels of the construct indicated by the variable name.

Correlational Analyses

Pearson product-moment correlations among all continuous variables included in analyses are presented in Table 3. As can be seen, the subscales from the CASSS (i.e.,

Teacher, Parent, and Classmate Support scales) are all moderately correlated with one another (r = .39 - .51, p <. 01), as are the subscales of the YSR (i.e., Internalizing and Externalizing; r = .54, p < . 01). As expected, life satisfaction was significantly negatively correlated with both internalizing and externalizing problems (r = -.52 and -.51, respectively, p < .01). As for the various interrelations among the predictor and outcome variables, life satisfaction was positively associated with the social support variables (r = .37 - .67), with parent support identified as the strongest correlate. Also as expected, the social support variables displayed a moderately inverse relationship with both internalizing and externalizing problems (r = -.21 – -.51, p < .01). The strongest association was yielded between parent support and externalizing problems, such that students who perceived high levels of social support from parents also tended to self-report fewer externalizing symptoms of psychopathology. Student achievement demonstrated small correlations with teacher support and parent support (r = .15 and .23, respectively); classmate support was not related to achievement. Achievement, however, evidenced a moderate positive association with life satisfaction indicating that students with high levels of life satisfaction also tended to earn higher grades and test scores (r = .30, p < . 01). Finally, achievement was negatively associated with both internalizing and externalizing problems (r = -.19 and -.35, respectively). A review of the magnitude of these relationships indicated that of the two psychopathology outcome variables, achievement is more closely associated with externalizing problems.

Table 3

Intercorrelations between Predictor and Outcome Variables (N = 381)

Variable	1.	2.	3.	4.	5.	6.	7.
1. Teacher Support	1						
2. Parent Support	.51**	1					
3. Classmate Support	.39**	.43**	1				
4. Life Satisfaction	.37**	.67**	.38**	1			
5. Internalizing Problems	-.21**	-.38**	-.29**	-.52**	1		
6. Externalizing Problems	-.37**	-.51**	-.24**	-.51**	.54**	1	
7. Achievement	.15*	.23*	.06	.30**	-.19*	-.35**	1

Note. *$p < .01$, ** $p < .0001$

Regression Analyses

To determine the extent to which particular sources of social support were predictive of mental health outcomes, a series of multiple regression analyses were conducted for each outcome variable of interest (i.e., life satisfaction, internalizing behavior, externalizing behavior; Table 4). An alpha level of .05 was used to determine statistical significance.

Table 4

Summary of Simultaneous Regression Analyses for Variables Predicting Mental Health Outcomes

	R^2	Parameter Estimates			Uniqueness Indices	
Predictors		*B*	*SE B*	ß	sr^2	*t*
Internalizing Behavior	.16					
1. Parent Support		-2.27	.42	-.31***	.06	-5.39**
2. Teacher Support		.07	.46	.01	.00	.15
3. Classmate Support		-1.12	.37	-.16**	.02	-3.02**
Externalizing Behavior	.27					
1. Parent Support		-2.94	.36	-.44***	.13	-8.16***
2. Teacher Support		-1.10	.39	-.15**	.02	2.80**
3. Classmate Support		.02	.31	.00	.00	.08
Life Satisfaction	.45					
1. Parent Support		.57	.04	.61***	.25	13.09***
2. Teacher Support		.02	.05	.02	.00	.41
3. Classmate Support		.09	.04	.11*	.01	2.50*

Note. *$p < .05$, **$p < .01$, ***$p < .0001$

Internalizing and Externalizing Behavior

Two separate regression equations were computed for internalizing and externalizing psychopathology. Social support accounted for 16% of the variance in

internalizing behavior and 27% of the variance in externalizing behavior. Parent support was the strongest predictor of both internalizing behavior
(β = -.31) and externalizing behavior (β = -.44). Parent support was strongly, inversely related to both outcome variables, indicating that greater perceptions of social support from parents dually predicts lower levels of internalizing and externalizing symptomatology.

Parent support and classmate support made unique contributions to the variance explained in internalizing behavior problems, while parent support and teacher support accounted for a unique amount of the variance explained in externalizing problems. More specifically, parent support accounted for 6% and classmate support accounted for 2% of the variance in internalizing behavior, after controlling for the contributions of other social support sources in predicting this outcome (see Table 4). Regarding externalizing behaviors, after controlling for the contributions of other sources, parent support and teacher support (sr^2 = .13, sr^2 = .02, respectively) both made unique contributions in predicting students' externalizing psychopathology. Thus, it appears social support from parents is associated with the manifestation of fewer internalizing and externalizing behaviors in students, while support from classmates and teachers co-occurs only with fewer symptoms of internalizing behaviors or externalizing behaviors, respectively.

Life Satisfaction

To determine the extent to which social support predicted life satisfaction, each specific source of support (i.e., parent, teacher, and classmate) was entered into a simultaneous multiple regression equation. Social support explained 45% of the variance

in global life satisfaction (R^2= .45). However, only parent and classmate support uniquely predicted life satisfaction. In other words, after controlling for the shared variance among these three different sources of support, social support from parents and classmates were the only sources of support that independently related to differences in students' global life satisfaction. Specifically, greater perceptions of both parent (β = .61) and classmate (β = .11) support were related to increased global life satisfaction and together, accounted for a total of 26% of the unique variance explained in life satisfaction. The magnitude of the beta weights associated with parent and classmate support suggest that social support from parents is a much stronger predictor of life satisfaction than social support from classmates, albeit both are important and unique contributors to life satisfaction. The uniqueness indices associated with each predictor indicated that after controlling for the contributions of other two sources of support, parent support alone accounted for 25% of the variance in life satisfaction (sr^2 = .25), and classmate support explained an additional 1% of the variance in students' life satisfaction scores that was not explained by perceptions of social support from parents or teachers.

Moderator Tests

Gender. To determine if gender differentially affected how social support related to mental health outcomes in middle school students, a series of multiple regression analyses were conducted that included interaction terms between each source of social support and gender (i.e., gender*parent support, gender*teacher support, gender*classmate support). A moderator is identified when the effect of one variable depends on the different levels of another (i.e., an interaction; Baron & Kenny, 1986).

Thus, a moderator variable would change the direction or strength between an independent and dependant variable—in this case, social support and mental health. To test for moderation, three separate regression analyses were conducted using the indicators of mental health (i.e., life satisfaction and psychopathology) as the dependent/criterion variable, and gender, social support source, and the interaction of gender and social support as the predictors/independent variables. All continuous predictor variables (i.e., parent support, classmate support, and teacher support) were centered by subtracting the group mean from each predictor variable. An alpha level of .05 was used to identify statistically significant interaction terms. Results of regression analyses (with gender as a moderator) are presented in Table 5.

Table 5

Student Mental Health Predicted by Support Source, Gender, and Interactions

	Parameter Estimates			Uniqueness Indices		
	B	*SE B*	ß	*sr²*	*t*	R^2
Internalizing Behavior						
Model						.22
1.Teacher Support	-.53	.65	-.07	.00	-.82	
2. Parent Support	-1.22	.70	-.15	.01	-1.74	
3. Classmate Support	-1.46	.57	-.21	.01	-2.56**	
4. Gender	4.37	.78	.26	.06	-5.60***	
5. Parent Support x Gender	-1.27	.86	-.14	.00	-1.48	
6. Classmate Support x Gender	0.12	.73	.01	.00	0.16	
7. Teacher Support x Gender	.26	.90	-.01	.00	-.28	
Externalizing Behavior						
Model						.27
1.Teacher Support	-1.81	.58	-.24	.02	-3.14***	
2. Parent Support	-2.41	.61	-.36	.03	-3.91***	
3. Classmate Support	-.24	.50	.04	.00	.48	
4. Gender	-56	.69	.04	.00	.81	
5. Parent Support x Gender	-.83	.76	.07	.00	-1.09	
6. Classmate Support x Gender	-.43	.64	-.10	.00	-.66	
7. Teacher Support x Gender	1.25	.79	-.05	.00	1.56	
Life Satisfaction						
Model						.45
1.Teacher Support	.06	.07	.06	.00	.93	
2. Parent Support	.48	.07	.52	.06	6.51***	
3. Classmate Support	.14	.06	.15	.01	2.26*	
4. Gender	-.16	.08	-.07	.01	-1.93	
5. Parent Support x Gender	.12	.09	.10	.00	1.31	
6. Classmate Support x Gender	-.05	.08	-.04	.00	-.65	
7. Teacher Support x Gender	-.06	.10	-.04	.00	-.58	

Note. *$p < .05$, **$p < .01$, ***$p < .0001$

A review of the significance tests (*t*-tests) indicated a main effect of gender on internalizing behavior within the current sample. Specifically, gender accounted for 6% of the unique variance in the presence of internalizing symptoms. Females reported higher levels of internalizing symptomatology, which is consistent with previous research (Leadbeater, Blatt, & Quinlan, 1995). However, there were no significant interaction effects between gender and any of the social support variables. Thus, within the current sample, gender did not moderate the relationship between social support and any of the mental health outcomes examined (specifically, life satisfaction, internalizing problems, and externalizing problems). These findings suggest that the influence of social support on mental health is similar for boys and girls.

Achievement . To determine if achievement differentially affected how social support related to mental health outcomes in middle school students, an additional series of multiple regression analyses were conducted that included interaction terms between each source of social support and achievement (i.e., achievement*parent support, achievement*teacher support, achievement*classmate support). Once again, to test for moderation, three separate regression analyses were conducted using the indicators of mental health (i.e., life satisfaction and psychopathology) as the dependent/criterion variable, and achievement, social support source, and the interaction between achievement and social support as the predictors/independent variables. All variables were first centered by subtracting the group mean from each predictor variable. An alpha level of .05 was used to identify statistically significant interaction terms. A summary of

the regression analyses results (with achievement conceptualized as a moderator variable) are presented in Table 6.

Table 6

Student Mental Health Predicted by Support Source, Achievement, and Interactions

	Parameter Estimates			Uniqueness Indices		
	B	*SE B*	ß	sr^2	*t*	R^2
Internalizing Behavior						
Model						.16
1.Teacher Support	.20	.49	.02	.00	.41	
2. Parent Support	-2.10	.44	-.29	.06	-4.72***	
3. Classmate Support	-1.18	.39	-.17	.02	-3.04**	
4. Achievement	-1.12	.46	-.12	.01	-2.43**	
5. Parent Support x Achieve	-.07	.51	-.01	.00	-.13	
6. Classmate Support x Achieve	.01	.45	.00	.00	.03	
7. Teacher Support x Achieve	-25	.56	.03	.00	.44	
Externalizing Behavior						
Model						.34
1.Teacher Support	-1.03	.40	-.14	.01	-2.58**	
2. Parent Support	-2.30	.36	-.34	.07	-6.32***	
3. Classmate Support	-.24	.31	-.04	.00	-.76	
4. Achievement	-1.90	.38	-.22	.04	-5.01***	
5. Parent Support x Achieve	1.18	.42	.15	.01	2.84**	
6. Classmate Support x Achieve	-.75	.36	-.11	.01	-2.05*	
7. Teacher Support x Achieve	-.39	.46	-.05	.00	-.87	
Life Satisfaction						
Model						.47
1.Teacher Support	.01	.05	.01	.00	.18	
2. Parent Support	.53	.04	.57	.20	11.91***	
3. Classmate Support	.11	.04	.12	.01	2.77**	
4. Achievement	.19	.05	.16	.02	4.07***	
5. Parent Support x Achieve	.00	.05	.00	.00	.00	
6. Classmate Support x Achieve	.04	.04	.04	.00	.83	
7. Teacher Support x Achieve	.01	.06	.01	.00	.19	

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

To interpret the interaction effect, two graphs were constructed to depict the relationship between social support source (parent, classmate) and externalizing psychopathology for students with three different achievement levels (i.e., low achievement, average achievement, and high achievement). Guidelines advanced by Cohen and Cohen (1983) suggest that researches define "low," "moderate/average," and "high" levels of a given continuous moderator variable by using values of the moderator variable that correspond to one standard deviation below the sample mean, at the sample mean, and one standard deviation above the sample mean. Thus, in the current study, a prototypical "low achiever" possessed a standardized achievement score of -.86 (i.e., one standard deviation below the sample mean). A prototypical average achievement score corresponded to a standardized achievement score of zero (i.e., the mean achievement score for the sample). Finally, a prototypical "high achiever" possessed a standardized achievement score of .86 (i.e., one standard deviation above the sample mean).

Next, the moderating effect of achievement was clarified by using the regression equation obtained in the moderator analysis (i.e., externalizing behavior = parent support + teacher support + classmate support + achievement + parent support x achievement + teacher support x achievement + classmate support x achievement) to calculate predicted values of externalizing behavior for students with low, average, and high levels of achievement. The specific equation used was as follows: predicted externalizing behavior = 9.78 – (1.03 x teacher support) – (2.30 x parent support) – (.24 x classmate support) – (1.90 x achievement) + (1.18 x parent support x achievement) – (.75 x classmate support x achievement) – (.39 x teacher support x achievement). Using that

equation, values of externalizing behavior were obtained for the range of possible scores (i.e., -2.5 to 2.5, which represent the values that are possible when the original 1 to 6 likert scale is centered) on the parent support scale and classmate support scale, respectively, for hypothetical students with low, average, and high achievement levels (as previously defined). Next, these obtained predicted values of externalizing problems (by student achievement level) were plotted to examine the influence of both parent and peer support on adolescent externalizing problems for a typical low-, average-, and high-achieving student. Figures 1 and 2 visually depict how the relationships between social support and adolescent externalizing problems differ as a function of student level of achievement.

Classmate support. As shown in Figure 1, the direction of the relationship between students' perceptions of classmate social support and their levels of externalizing problems differs according to achievement level. For students with low achievement, the trend in the data shows students who perceived higher levels of social support from their classmates also reported more externalizing symptomatology. On the other hand, among students with average and high achievement, the inverse trend was observed, such that higher levels of classmate support were associated with fewer externalizing symptoms of psychopathology.

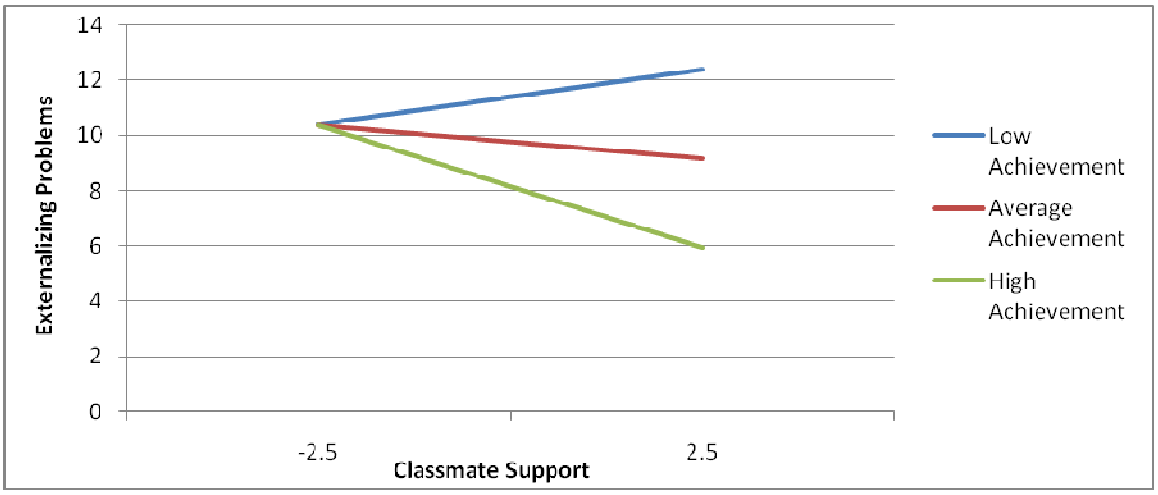

Figure 1. Predicted externalizing behavior from classmate support for low-, average-, and high-achieving students.

Parent support. As shown in Figure 2, the influence of perceived parent support on externalizing psychopathology appears most influential with lower achievement groups. Specifically, the slopes of the regression lines for students with different achievement levels indicated that parent support is particularly salient for low-achieving students. Although the trend in the data show that increasing levels of perceived parent support are associated with fewer externalizing symptoms for all achievement levels, the magnitude of this relationship weakens with increasing levels of achievement such that low-achieving students who perceive low parental support are more at-risk for manifesting additional symptoms of externalizing symptoms than students who perceive the same level of parent support but who have average or high achievement. Similarly, students with high achievement appear to be the least at-risk for manifesting externalizing psychopathology in the face of low perceptions of social support from parents.

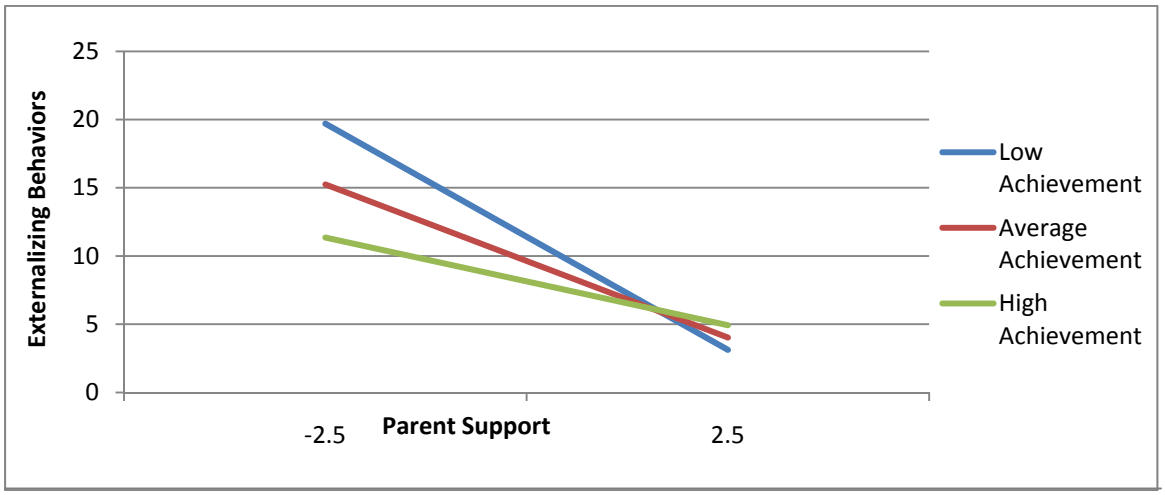

Figure 2. Predicted externalizing behavior from parent support for low-, average-, and high-achieving students.

Chapter 5

Discussion

The current study examined relationships among social support, mental health, and academic achievement in a sample of middle school students. Specifically, research questions addressed (1) the bivariate relationships among the variables of interest (i.e., social support from parents, teachers, and classmates, life satisfaction, externalizing symptoms, internalizing symptoms, and academic achievement), (2) the degree to which specific sources of social support were most predictive of the aforementioned outcomes, and finally, (3) the moderating role of gender and achievement (independently) in the relationship between social support and each mental health outcome. The following discussion addresses the findings of this study in relation to posited research questions as presented in Chapter 2. Also included is a discussion of the implications the present study holds for the field of school psychology. The chapter concludes with a consideration of the limitations of the current study followed by directions for future research.

Associations between Social Support, Mental Health, and Academic Achievement

Bivariate associations between the social support variables (i.e., parent, teacher, classmate) and the mental health indicators (i.e., internalizing symptoms, externalizing symptoms, and life satisfaction) were consistent with extant literature findings (Appleyard, Egeland, & Byron, 2007; Huebner, Funk, & Gilman, 2000). Specifically, social support variables were inversely associated with both internalizing and

externalizing problems, and conversely, had a large positive relationship with life satisfaction. In other words, fewer symptoms of psychopathology and higher life satisfaction tended to co-occur with perceptions of higher levels of social support from parents, teachers, and classmates. Notably, of all of the social support variables, parent support yielded the strongest links with all three mental health variables. Thus, it appears that while adolescents may seek, and benefit from, the support of classmates and peers (Furman & Buhrmester, 1992), it is actually the perception of support from parents that is most related to students' mental health. This is consistent with findings from other studies that have examined the differential relationships among complete mental health (i.e., the absence of indicators of psychopathology and presence of indicators of wellness) and various sources of social support which have consistently indicated that support from parents is most often related to indicators of student adjustment and maladjustment. Specifically, in prior studies, parent support exerted a strong negative association with internalizing and externalizing problems (Cheng, 1997), and conversely, a strong positive association with subjective well-being (of which life satisfaction is a vital component), even above that predicted by other sources of support (Liebkind & Jasinskaja-Lahti, 2000). Such findings emphasize the saliency of parent support to adolescents' mental health and functioning.

Regarding achievement, both teacher and parent support evidenced positive, albeit small, associations with the construct comprised of students' grades and FCAT scores. The small magnitude of these relationships indicates that while perceptions of high levels of support from teachers and parents co-occur with higher academic

achievement, there are other more important factors that account for adolescent achievement levels that must be considered. Of note, classmate support did not yield a significant correlation with achievement scores. The literature pertaining to peer support and achievement has yielded mixed findings. For example, Chen (2008) obtained similar results in her study examining social support and achievement in a sample of adolescents from Hong Kong. However, Somer, Owens, and Piliawsky (2008) concluded that close friend and classmate support was mildly correlated with better grades in their study comprised of African-American students. One possible reason for such inconsistent findings is that previous studies have differed in how they defined supportive peer relationships. Some studies distinguished between "classmates" and "close friends" in their examination of peer relationships (e.g., Somer et al.), whereas others have assessed support from both classmates and close friends in a single peer category (e.g., Chen). Although this variation in how "peer" is defined is common within child and adolescent literature, research has shown that acquaintances or peers in general (i.e., classmates) exhibit different levels of social support that yield diverse outcomes for children and adolescents in comparison to close friends (Demaray & Malecki, 2002; Harter, 1990). Thus, it is plausible that differential findings could be attributed to inconsistencies in a conceptual definition of the term "peer." In addition, inconsistent findings may be due to unique features of the sample studied (as discussed in subsequent sections regarding the moderating role of student achievement).

As expected, achievement was negatively associated with internalizing and externalizing symptoms and positively associated with life satisfaction among

adolescents in the current study. The relationship between achievement and externalizing symptoms evidenced the strongest relationship. This finding is consistent with the positive relationship evidenced in earlier studies between early externalizing problems (e.g., non-compliance, aggression, rule-breaking behaviors) and indicators of poor academic performance (e.g., low grades and poor academic engagement; e.g., Austin & Agar, 2005; Efrati-Virtzer & Margalit, 2009; Gonzales et al., 2008). One plausible explanation for the strong association between externalizing behaviors and academic underachievement stems from research that shows high levels of externalizing behaviors predict higher rates of out-of-school suspension (Reinke, Herman, Petras, & Ialongo, 2007) and truancy (Hunt & Hopko, 2009). Thus, students are excluded from the learning environment and have fewer hours of instruction. This time away from academic instruction and stimulation may exacerbate academic underachievement. Moreover, the fact that externalizing behaviors (e.g., aggression, destruction of property) are often incongruent with academic tasks (e.g., academic engagement) might be also provide a plausible explanation for the observed relationship.

The current study's finding that high life satisfaction tended to co-occur with higher academic achievement among adolescents is also consistent with previous literature (i.e., Suldo et al., 2006). Interestingly, Suldo and colleagues refer to the "happy-productive worker hypothesis" as a plausible explanation for the trend, which contends that "happy" workers produce higher levels of job performance than "unhappy" workers (p. 569). This premise has received support within adult literature (e.g., Wright et al., 2002; Wright & Croanzano, 2002), and has been cited as a potential basis for the

association between life satisfaction and academic achievement due to the analogous relationship of adults and the workplace to students and schools (Suldo et al.).

Mental Health Outcomes Predicted by Sources of Social Support

Internalizing Problems

The current study found social support to be an important predictor of internalizing symptoms in youth, as it accounted for 16% of the variance in internalizing behavior. Consistent with previous literature (Christie-Mizelle et al., 2008; Rosario et al., 2008), higher perceptions of social support were indicative of lower internalizing symptoms within the current sample. While both classmate and parent support made unique contributions to this relationship, once again, parent support emerged as the most important predictor, after controlling for the commonality amongst other sources of social support sources in predicting internalizing symptoms. A recent longitudinal study examining the associations between adolescent adjustment and perceived parental support across the middle school years supports such findings as declining levels of parent support were found to accompany increases in symptoms of internalizing and externalizing problems (Hafen & Laursen, 2009). Inadequate feelings of self worth, which are often a prelude to internalizing difficulties (Laursen, Furman, & Mooney, 2006), may stem from low levels of parental support, which may explain the saliency of the supportive context of the family in mitigating internalizing symptoms.

Externalizing Problems

Similarly, students' perceived levels of social support yielded a significant linear relationship with externalizing behaviors. Specifically, higher perceptions of social

support predicted fewer symptoms of externalizing psychopathology within the current sample. Notably, social support yielded a stronger relationship with externalizing problems (in comparison to internalizing problems), as social support accounted for over a quarter of the variance in this outcome. It is unclear why the magnitude of the relationship between social support and psychopathology is stronger for externalizing symptoms. One plausible explanation might be due to the overt nature of externalizing symptomatology. Given that externalizing problems are more readily apparent to others, support and constructive feedback may be more likely to be offered (or withdrawn) by the available support sources in response to students' acting-out behaviors. Due to the covert nature of most internalizing symptoms, these "under-the-radar" behaviors are less likely to be observed and thus, may result in lower levels of received (and dually, perceived) support. Further research needs to be conducted in order to provide more definitive conclusions regarding these relationships.

Once again, the current study found that social support from parents made the largest unique contribution in mitigating externalizing problems, further underscoring the distinctive role parents play in predicting mental health outcomes for youth. These results are consistent with the notion that warm, supportive parent-child relationships may help to foster an environment that promotes constructive coping rather than disruptive behavior (Windle, 1992). Interestingly, teacher support also made a unique contribution in predicting students' externalizing psychopathology, although classmate support did not; the reverse trend was observed regarding internalizing psychopathology. There is a dearth of research in the literature pertinent to outcomes associated with adolescents'

perceptions of teacher support. However, research with children indicates that teacher support may be particularly salient for children who display early behavioral problems (Pianta et al., 1995). Such effects of supportive teacher-student relationships also remain evident among students from diverse cultures and minority populations, as evidenced in a study among aggressive African American and Hispanic students in which supportive student-teacher relationships were associated with declines in aggressive behavior between the second and third grade (Meehan et al., 2003). Additional research exploring a potential causal link between teacher support and externalizing symptoms would help to provide more evidence for the importance of healthy student-teacher relationships.

Life Satisfaction

Results indicated that social support explained 45% of the variance in global life satisfaction, which is almost double that explained in students' symptoms of psychopathology. Such a finding indicates that perceived social relationship variables share a much stronger relationship with wellness than psychopathology, a premise which is beginning to receive support in adolescent literature. A recent study examined the impact of bullying on elementary and middle school students' well-being (i.e., life satisfaction; Flaspohler, Elfstrom, Vanderzee, & Sink, 2009). Results indicated that students who were victimized were less satisfied with their lives. Follow-up analyses determined that social support served as a moderator in the link between victimization and life satisfaction. In other words, various levels of perceived social support from peers and teachers affected the relationships between victimization and life satisfaction differentially, such that students who perceived high levels of both peer and teacher

social support exhibited the weakest association between victimization and life satisfaction, which suggests social support provides a strong buffer against the negative effects of bullying. This study is important as it is one of few to highlight the importance of social support to child and adolescent life satisfaction, albeit in the context resilience to bullying.

Both classmate and parent support were also found to uniquely contribute to the variance explained in life satisfaction, though parent support was overwhelmingly the larger contributor accounting for 25% of the variance (vs. 1% explained by classmate support). Consistent with extant research, these findings indicate that higher perceptions of support from parents (Danielson, Samdal, Hetland, & Wold, 2009; Suldo & Huebner, 2004) and classmates (Danielson et al.) predict higher ratings of global life satisfaction. A recent study, representing one of the first to examine the unique contributions of perceived social support from parents, teachers, and peers in adolescents' life satisfaction, supports this trend and further delineates this relationship (Danielson et al.). Specifically, Danielson and colleagues found direct and indirect effects between the aforementioned constructs in their sample of 13-and 15-year-old Norwegian students. While parent and classmate support had direct effects on students' life satisfaction (consistent with the findings of the current study), social support from teachers, classmates, and parents also had indirect effects on life satisfaction through scholastic competence, school satisfaction, and general self-efficacy.

Although teacher support was not a unique predictor of students' life satisfaction within the current study, the importance of teacher support to students' wellness should

not be discounted. Prior research (e.g., Suldo et al., 2009) has demonstrated a strong relationship between students' perceptions of teacher support and their subjective-well being (of which, life satisfaction is a component). Such findings were also consistent with results indicating a strong bivariate relationship between perceived teacher support and life satisfaction within the current study. It is only when teacher support is examined in combination with both parent and teacher support that its significance is greatly diminished. Thus, while teacher support is an important predictor of wellness in adolescents, its significance is not above and beyond the influence of perceived support from classmates and teachers.

Moderators of Social Support and Mental Health

Gender

Within the current sample, gender was found to be associated with internalizing psychopathology such that females reported higher levels of internalizing symptoms, which is consistent with available research within adolescent literature (see Nolen-Hoeksema, 1990, for a review). However, gender did not moderate the relationship between social support and the examined mental health outcomes for students within the current study. In other words, social support appears to play a consistent role in predicting mental health outcomes, regardless of gender. Given the relative inconsistency observed within the literature regarding the mediating and/or moderating role of gender in adolescent mental health, this finding is not a surprise. Moreover, research examining social support in relation to self-esteem and depression also found equivalence between

both males and females regarding the saliency of specific sources of support to the aforementioned outcomes (Colarassi & Eccles, 2003).

Achievement

Within the current sample, achievement was a consistent determinant of students' psychological functioning. As expected, there was an inverse relationship between academic achievement and psychopathology, such that high levels of academic achievement tended to co-occur with fewer symptoms of internalizing and externalizing behavior, even after the influence of social support was taken into account. Conversely, there was a positive relationship between achievement and life satisfaction, indicating that high achievement predicted high life satisfaction. As aforementioned, the strongest relationship was evidenced between academic achievement and externalizing behaviors.

Regarding moderation, academic achievement played an important role in the relationship between (1) classmate support and externalizing behavior and (2) parent support and externalizing behavior. In other words, the magnitude and/or direction of the relationship between students' perceptions of social support from classmates and parents and corresponding levels of externalizing problems differed according to varying levels of achievement. For students with low achievement, the trend in the data showed students who perceived higher levels of social support from their classmates also reported more externalizing symptomatology, which was inconsistent with the hypothesized trend. On the other hand, among students with average and high achievement, the inverse trend was observed, such that higher levels of peer support were associated with fewer externalizing

symptoms of psychopathology. Thus, classmate support emerged as adaptive for average- and high-achieving students only.

At first glance, this relationship might appear to be counterintuitive. However, when broad characterizations of low- vs. middle- and high-achieving students are utilized to aid interpretation, the nature of the relationship begins to make more sense. Within the school from which the current sample of students was drawn, it is common practice to group students in classrooms by achievement level; the specific tracks are termed gifted (i.e., highest achievement students, including those identified as intellectually gifted), advanced (high-achieving students), and regular (low- to moderate- achieving students). Thus, social norms and teacher expectations for classroom and academic behavior may vary as a function of student achievement level. The current study found that achievement yielded a significant, inverse relationship with symptoms of externalizing, such that low academic achievement is related to more externalizing problems. Within a middle school classroom, it is not uncommon for the kids who are "acting out" (e.g., class clown) to receive the most attention from their peers, which may possibly be interpreted as a *perception* of social support. Conversely, the average- and high-achieving students are likely to be exhibiting the least amount of externalizing behaviors. Due to their failure to elicit the attention of their peers through overt behavioral distractions, these students may perceive low support from their classmates. A second hypothesis involves classmates' acceptance of students' academic underachievement and acting out behaviors. Specifically, acting out behaviors may be accepted and reinforced socially within less academically-focused environments, whereas classrooms comprised

predominantly of high-achieving students are often more studious and academically-focused, and a disruption of the learning environment as a result of student acting out behaviors may not be viewed favorably (and thus not socially reinforced) by classmates. These hypotheses for why social support from classmates is related to more externalizing behaviors among low-achieving students but less externalizing problems among higher-achieving students need to be tested empirically in order to assert more definitive conclusions.

Regarding parent support and externalizing problems, a similar directional effect amongst students with varying levels of achievement was observed, but differences in magnitude were noted. Specifically, the influence of perceived parent support on externalizing psychopathology appeared most influential within lower achievement groups. Although increasing levels of perceived parent support were associated with fewer externalizing symptoms for all achievement levels, the magnitude of this relationship weakened with increasing levels of achievement such that low-achieving students who perceive low parental support are more at-risk for manifesting additional symptoms of externalizing symptoms than students who perceive the same level of parent support but who have average or high achievement. Similarly, students with high achievement appear to be the least at-risk for manifesting externalizing psychopathology in the face of low perceptions of social support from parents. These findings are consistent with literature that has demonstrated the buffering effects of achievement among various psychological outcomes (Carlton et al., 2008). Such a relationship highlights the importance of parental support for mitigating against externalizing

symptomatology, particularly with low achieving students who are already at an increased risk for developing these types of issues.

Implications for School Psychologists

Early adolescence is a time of tremendous growth and change. It can also be a time of stress and uncertainty that can lead to increasing levels of both internalizing and externalizing distress for some adolescents. Findings from this study are consistent with findings from available literature that exemplify the saliency of supportive relationships to student mental health (e.g., Armstrong & Boothroyd, 2008; Suldo et al., 2009). Not only are supportive relationships an important predictor of decreased psychopathology, but such relationships are also associated with elevations in students' life satisfaction and hold true regardless of gender. Students who present with low levels of psychopathology but are high on positive indicators of self-perceived wellness (i.e., SWB) have been shown to demonstrate superior functioning within the areas of achievement, perceived academic abilities, motivation, social functioning, and overall physical health when compared to their peers with similar perceptions of wellness, but higher symptoms of psychological distress (Suldo & Schaffer, 2008). Such findings underscore the importance of fostering complete mental health in students. Relevant to the current study's findings that highlight the importance of supportive social relationships in cultivating complete mental health within students, school psychologists have a unique role in promoting such positive, supportive relationships within the school setting.

Prevention

Given the strong association between perceived social support and life satisfaction (in comparison to internalizing and externalizing symptomatology), in combination with important academic correlates of life satisfaction (e.g., achievement and appraisals of school satisfaction; Suldo et al., 2006), promoting positive, supportive relationships in school may serve to prevent both mental health and school-related problems. Moreover, given that calls have been made for educators and psychologists to attend to strengths and overall wellness in students (Maddux et al., 2004; NASP, 2006), school psychologists have a responsibility to help cultivate positive social relationships due to their links with increased wellness (and not just simply diminished psychopathology). School psychologists have been charged with promoting such wellness in students in order to inform prevention efforts for parents and educators.

Such prevention efforts might begin with school- and/or classroom-wide screenings to assess students' levels of perceived support from classmates and teachers, which would be a helpful early identification tool for students with less than optimal levels of perceived support (i.e., failure to demonstrate a perfect score of '6' on scales measuring the aforementioned support sources). Next steps should include organizing trainings and in-services targeted at increasing teachers' awareness of the importance of providing high levels of social support within their classrooms, as well as outlining general strategies for increasing students' levels of perceived support may also be an important role for school-based practitioners.

Additionally, given the particular importance of parent support in relation to positive student mental health outcomes, communicating the importance of the presence of supportive relationships in the home environment (namely, from parents) is also an important preventative step. Initial communication can be accomplished by utilizing pre-existing school-parent-community linkages, but should eventually be supplemented with targeted opportunities addressing ways for parents to enhance parent-child relationships (to be discussed in subsequent section). Such linkages may include, but are not limited to, newsletters from parent-teacher organizations, parent-teacher conferences, open school board meetings, school newspapers, in-service training for parents, and school web sites.

Intervention

Regarding intervention, school psychologists should aim to provide recommendations (and potentially, ongoing support via trainings, observations, and feedback) for increasing social support within classrooms and/or identified target peer groups in which support was perceived to be low. Such interventions can occur at either the universal (e.g., school), secondary (e.g., targeted classroom or peer group), or tertiary (e.g., individual student's needs and perceptions) levels of a Response to Intervention (RTI) service delivery model. With regard to intervening to effect changes in teachers' level of social support, Suldo and colleague's (2009) qualitative study of behaviors perceived to communicate teacher support (e.g., eliciting student feedback about teaching style and students' understanding of academic material, using diverse teaching strategies, conveying an interest in student wellness, and taking action to improve students' moods and emotional states) serves as a helpful resource for planning such interventions.

To date, there are no published studies describing specific behaviors students perceive as supportive from their classmates. Thus, school psychologists have little direction as to how teachers can cultivate supportive peer relationships within their classrooms. One suggestion stems from research conducted by Carter and colleagues (2005) which found that students engage in social interactions much more frequently when working with two classmates as compared to one. Such findings are consistent with research on cooperative learning environments. Cooperative learning exists when students work together to achieve joint learning groups (Johnson, Johnson, & Holubec, 1992). Such an environment encourages student interaction and facilitates students' tendency to (1) give and receive help and feedback (i.e., appraisal support), (2) exchange resources and information (i.e., instrumental and informational support), (3) engage in effective teamwork, and (4) create and maintain positive interpersonal relationships (i.e., emotional support; Johnson & Johnson, 1989; Johnson & Johnson, 1997). As such, it may be beneficial for school psychologists to encourage teachers to create cooperative learning environments within their classrooms. This can be done by physically arranging student desks into learning groups or by creating student "teams" that students must work with for a specified period of time or activity. Importantly, teachers must be advised to carefully monitor groups to ensure that *positive* student-student interactions are occurring. Modeling supportive interactions should also be an important component of classroom prevention/intervention efforts. Warm, positive supportive behaviors can be modeled by the teacher, but may have the most impact when performed by students

themselves (such as within, and as a result of, group counseling sessions targeting social skills).

Of note, practitioners must be cognizant of the deleterious influence classmate support apparently has on externalizing behaviors in low-achieving students. Sharing such information with teachers and collaborating to problem-solve classmate attention (potentially perceived as support) for acting out behaviors in low-achieving classrooms is essential to help mitigate the positive trend between classmate support and externalizing behaviors in this population.

While a supportive relationship between students and their teachers and classmates is central to promoting and ensuring positive school outcomes (e.g., Rosenfeld, Richman, and Bowen, 2000) and diminished psychopathology, results from this study also underscored the significance of parental support, above and beyond that of support perceived from teachers and classmates, in student mental health problems and mental wellness. As such, practitioners must work to create strong family connections in order to help ensure that parents and guardians understand the important implications of fostering positive social relationships with their children. Such connections could be facilitated by parent trainings and/or support groups, led by school psychologists, in which parents would receive specific strategies for fostering healthy, supportive relationships with their children.

Positive parent-child relationships can be enhanced when parents help their families to achieve a good balance between work, play, and love (Patterson & Forgatch, 2005). Parents can inadvertently miss out on opportunities to forge closer relationships

by not allowing their child to help them with various tasks and chores (i.e., work experiences). Unloading groceries after going to the store is a specific example of something that adolescents can and should assist with. Further, providing adolescents with household chores or recommending jobs outside the home are ways to improve work-related skills and cultivate responsibility.

Playtime fosters positive, happy relationships and gives an opportunity for both parents and adolescents to have fun and relax during interaction. Examples of play-related activities might include incorporating a family game night into the weekly schedule, or exposing one-another to particular music genres or dance steps of interest. School psychologists should remind parents that the type of play is not of crucial importance, rather the emphasis should be placed on enjoying the company of one-another.

Supportive relationships can also be enhanced when parents teach and model how to build positive relationships in which love can grow. This includes demonstrations of verbal (e.g., "I love you") and non-verbal (e.g., a hug or warm smile) expressions of love and care. Parents can also communicate love by taking time out of their busy schedules to spend one-on-one time with their children. Whether such time is spent taking a walk around the neighborhood or setting aside a movie night, it is important that psychologists encourage parents to spend uninterrupted, quality time with their children.

Limitations

There are a few internal and external limitations of the current study that warrant discussion at this time. First, the majority of variables within the current study were

assessed via self-report only. While self-reports are the predominant source of data in the social and behavioral sciences, issues related to instrument structure, setting, and face validity undermine their integrity (Schwarz, 1999; Vaughn & Howard, 2005). Nonetheless, cost–benefit analyses support the use of self-report measures as the most efficient measurement approach available (Huizinga, 1991).

Another limitation that is noteworthy pertains to the sources of support that were analyzed in this study. Specifically, this study neglected to address an important source of social support identified by the literature—namely school support. While teachers are an important source of school support, other influences such as school policies, school resources, and support from non-instructional staff have been shown to lead to beneficial outcomes (e.g., higher GPA and lower drop-out rates) for youth (DeGarmo & Martinez, 2006; Markward, McMillan, & Markward, 2003). Thus, it would have been desirable to include other important school-based sources of support within the current study. However, information regarding perceived school-level support was not collected by the research team that created the now-archival dataset, and thus, school support could not be analyzed within the current study.

A third set of limitations relate to the fact that participants were only selected from one middle school in one school district. Regarding external validity, the population and ecological transferability of the research is thus minimized (Tashakkori & Teddlie, 2003). Population validity concerns generalizing results from the sample to the population from which it was drawn (Gall, Borg, & Gall, 2006). Within the current study, characteristics unique to the sample population have limited the extent that conclusions

drawn can be transferred to the school population as a whole. Ecological validity refers to the researcher's ability to generalize the results of a study across diverse situations, settings, or conditions (Gall et al., 2006). When ecological validity is threatened, the researcher must be careful to specify the setting from which participants were drawn so that erroneous conclusions are not made. Generalizations of results to lower SES areas or more rural communities may not be appropriate, as this middle school is located in a relatively middle-to-high SES, urban school district.

Future Directions

The current study has added to the literature by helping to delineate the complex relationships among social support and indicators of student mental health. Specifically, this study has expanded upon extant literature which has primarily focused on how social support contributes to psychopathology by broadening the scope of mental health to include an indicator of wellness (i.e., life satisfaction). Moreover, the current study has identified important trends in the relationship between social support and externalizing behaviors by varying levels of achievement. Specifically, findings support the moderating role of achievement in the relationship between both parent and classmate support and adolescent externalizing behavior. Additional studies examining the associations between perceived social support, mental health, and achievement will assist in providing a more complete picture of psychological functioning and buffers against the negative effects of deficits within students' social environment(s).

There are several logical directions for future inquiry. First, there have been suggestions that early adolescence could be an ideal time to prevent the development of

negative mental health outcomes in later adolescence, and facilitate a healthy trajectory of psychological development (Colarossi & Eccles, 2003). Thus, continuing in the quest to understand the role of social support on various outcomes in this developmental time period will be especially important as the literature begins to inform prevention efforts in schools as well as clinical settings. However, before such prevention (and subsequent intervention efforts) can be outlined, future research must first, establish a causal link between social support and mental health. Specifically, longitudinal studies that permit researchers to determine if specific social support sources predict changes in student mental health over time must be conducted. Preliminary research addressing such relationships found that initial levels of mother and child reports of externalizing symptoms in Norwegian adolescents predicted subsequent changes in perceived support from parents, but mother and child reports of parent support did not predict changes in early adolescent externalizing behaviors (Danielson et al., 2009). Such findings suggest that adolescent behavior problems drive changes in the quality of parent–adolescent relationships but that parent support does not drive changes in early adolescent behavior problems. Further research should attempt to replicate these findings with American adolescents, as well as examine these relationships within the context of both classmate and teacher support, as well.

Further, to help clarify the inconsistent findings regarding the moderating role of gender, it may be of interest for researchers to separate parent support by male and female caregiver, and then, reexamine the relationships among perceptions of social support and mental health outcomes. Support for such an undertaking includes a recent

mixed-methods study on teacher support in which gender differences were observed regarding the types of teacher behaviors that students' perceived as supportive when unique methodologies were employed (Suldo et al., 2009). Specifically, within the qualitative portion, boys and girls often emphasized different teacher behaviors as conveying low and high levels of support (although such conclusions were not reflected within the quantitative portion of the same study). These findings indicate there might be important, albeit subtle, differences that might be elucidated with more precise methods of inquiry. Such an explanation would help to eliminate the potential confound mixed-parent groups may be contributing to the relationship, which could be masking moderating effects.

Finally, the literature would benefit from further research examining how perceptions of social support are derived. Such clarification would help to determine exactly where prevention and intervention efforts might be targeted (e.g., the child him or herself, or the potential source of support). Research on temperament (i.e., aspects of an individual's personality, which are often regarded as innate rather than learned; Goldsmith, Buss, & Lemery, 1997) suggests that biological factors inherent to children may influence their levels of perceived social support. Specifically, children with a difficult temperament (e.g., high in impulsivity, neuroticism, and introversion) may elicit less social support from caregivers and peers than youth with an easier temperament (e.g., high in agreeableness and conscientiousness). Additionally, some children's cognitive styles may contribute to a propensity to perceive higher (or lower) levels of support, regardless of the amount of support that is actually available to them. Along the same

lines, it would be worthwhile to examine how mental health problems affect students' perceptions of support, given the fact that mental health problems (e.g., depression) have been shown to negatively influence adolescents' perceptions about themselves, their world, and their future (Beck, 1976). If perceptions of support indeed have a biological component, or are negatively influenced by mental health problems, implications would indicate that interventions should be targeted at modifying faulty student perceptions and aversive behaviors, rather than intervening at the social support level to increase supportive behaviors. Such a delineation would help to inform whether efforts should be directed at (a) actually increasing parent, teacher, and classmate support (although students may not perceive such behaviors as supportive due to biological predispositions or cognitive distortions), (b) improving children's behavior in such a way that social support is elicited and provided more readily from caregivers and/or peers, or (c) whether students would most benefit from interventions designed to modify perceptions of the various available sources of support and the behaviors they perceive to be supportive to include a more accurate appraisal of received social support.

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Appendices

Appendix A: Demographics Form

ID # _____Spring 2006

Birthdate _____(month)- _____(day)- _____(year)

PLEASE READ EACH QUESTION AND CIRCLE **ONE** ANSWER PER QUESTION:

1. I am in grade: 6 7 8

2. My gender is: Male Female

3. Do you receive free or reduced lunch? Yes No

4. My race/ethnic identity is:
   a. American Indian or Alaska Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White
   g. Multi-racial (please specify):_____
   h. Other (please specify):_____

5. My biological parents are:
   a. Married
   b. Divorced
   c. Separated
   d. Never married
   e. Never married but living together
   f. Widowed

6. On average, how much time <u>per week</u> do you spend doing your homework:
   a. Less than 1 hour
   b. From 1 hour to less than 3 hours
   c. From 3 hours to less than 5 hours
   d. From 5 hours to less than 10 hours
   e. From 10 hours to less than 15 hours
   f. From 15 hours to less than 20 hours
   g. From 20 hours to less than 25 hours
   h. 25 hours or more

Appendix A: (Continued)

Sample Questions:

	Never	Almost Never	Sometimes	Fairly Often	Very Often
1. I go to the beach	1	2	3	4	5

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
2. Going to the beach is fun	1	2	3	4	5

Appendix B: Child and Adolescent Social Support Scale
(CASSS, Malecki, Demaray, & Elliot, 2000)

On this page, please respond to sentences about some form of support or help that you might get from either a parent, a teacher, or classmates. Read each sentence carefully and respond to them honestly. **Rate how often you receive the support described**. Do not skip any sentences. Thank you!

	My Parent(s)	Never	Almost Never	Some of the Time	Most of the Time	Almost Always	Always
1	… show they are proud of me.	1	2	3	4	5	6
2	… understand me.	1	2	3	4	5	6
3	… listen to me when I need to talk.	1	2	3	4	5	6
4	… make suggestions when I don't know what to do.	1	2	3	4	5	6
5	… give me good advice.	1	2	3	4	5	6
6	… help me solve problems by giving me information.	1	2	3	4	5	6
7	… tell me I did a good job when I do something well.	1	2	3	4	5	6
8	… nicely tell me when I make mistakes.	1	2	3	4	5	6
9	… reward me when I've done something well.	1	2	3	4	5	6
10	… help me practice my activities.	1	2	3	4	5	6
11	… take time to help me decide things.	1	2	3	4	5	6
12	… get me many of the things I need.	1	2	3	4	5	6
	My Teacher(s)	Never	Almost Never	Some of the	Most of the	Almost Always	Always
13	… cares about me.	1	2	3	4	5	6
14	… treats me fairly.	1	2	3	4	5	6
15	… makes it okay to ask questions.	1	2	3	4	5	6
16	… explains things that I don't understand.	1	2	3	4	5	6
17	… shows me how to do things.	1	2	3	4	5	6
18	… helps me solve problems by giving me information.	1	2	3	4	5	6
19	… tells me I did a good job when I've done something well.	1	2	3	4	5	6
20	… nicely tells me when I make mistakes.	1	2	3	4	5	6
21	… tells me how well I do on tasks.	1	2	3	4	5	6
22	… makes sure I have what I need for school.	1	2	3	4	5	6

23	… takes time to help me learn to do something well.	1	2	3	4	5	6
24	… spends time with me when I need help.	1	2	3	4	5	6
	My Classmates	Never	Almost Never	Some of the	Most of the	Almost Always	Always
25	… treat me nicely.	1	2	3	4	5	6
26	… like most of my ideas and opinions.	1	2	3	4	5	6
27	… pay attention to me.	1	2	3	4	5	6
28	… give me ideas when I don't know what to do.	1	2	3	4	5	6
29	… give me information so I can learn new things.	1	2	3	4	5	6
30	… give me good advice.	1	2	3	4	5	6
31	… tell me I did a good job when I've done something well.	1	2	3	4	5	6
32	… nicely tell me when I make mistakes.	1	2	3	4	5	6
33	… notice when I have worked hard.	1	2	3	4	5	6
34	… ask me to join activities.	1	2	3	4	5	6
35	… spend time doing things with me.	1	2	3	4	5	6
36	… help me with projects in class.	1	2	3	4	5	6

Appendix C: Students' Life Satisfaction Scale (Huebner, 1991b)

We would like to know what thoughts about life you've had during the past several weeks. Think about how you spend each day and night and then think about how your life has been during most of this time. Here are some questions that ask you to indicate your satisfaction with life. In answering each statement, circle a number from (**1**) to (**6**) where (**1**) indicates you **strongly disagree** with the statement and (**6**) indicates you **strongly agree** with the statement.

	Strongly Disagree	**Mostly Disagree**	**Mildly Disagree**	**Mildly Agree**	**Mostly Agree**	**Strongly Agree**
1. My life is going well	**1**	**2**	**3**	**4**	**5**	**6**
2. My life is just right	**1**	**2**	**3**	**4**	**5**	**6**
3. I would like to change many things in my life	**1**	**2**	**3**	**4**	**5**	**6**
4. I wish I had a different kind of life	**1**	**2**	**3**	**4**	**5**	**6**
5. I have a good life	**1**	**2**	**3**	**4**	**5**	**6**
6. I have what I want in life	**1**	**2**	**3**	**4**	**5**	**6**
7. My life is better than most kids'	**1**	**2**	**3**	**4**	**5**	**6**

Appendix D: Parent Consent Form

Dear Parent or Caregiver:

This letter provides information about a research study that will be conducted at Liberty Middle School by investigators from the University of South Florida. Our goal in conducting the study is to determine the effect of students' psychological wellness on their school performance, physical health, and social relationships.

- ✓ Who We Are: The research team consists of Shannon Suldo, Ph.D., a professor in the School Psychology Program at the University of South Florida (USF), and several doctoral students in the USF College of Education. We are planning the study in cooperation with the principal of Liberty Middle School (LMS) to make sure that the study provides information that will be useful to the school.
- ✓ Why We are Requesting Your Child's Participation: This study is being conducted as part of a project entitled, "Subjective Well-Being of Middle School Students." Your child is being asked to participate because he or she is a student at Liberty.
- ✓ Why Your Child Should Participate: We need to learn more about what leads to happiness and health during the pre-teen years! The information that we collect from students may help increase our overall awareness of the importance of monitoring students' happiness during adolescence. In addition, group-level results of the study will be shared with the teachers and administrators at LMS in order to increase their knowledge of the relationship between specific school experiences and psychological wellness in students. Please note neither you nor your child will be paid for your child's participation in the study. However, all students who participate in the study will be entered into a drawing for one of several gift certificates.
- ✓ What Participation Requires: If your child is given permission to participate in the study, he or she will be asked to complete several paper-and-pencil questionnaires. These surveys will ask about your child's thoughts, behaviors, and attitudes towards school, teachers, classmates, family, and life in general. The surveys will also ask about your child's physical health. Completion is expected to take your child between 45 and 60 minutes. We will personally administer the questionnaires at LMS, during regular school hours, to large groups of students who have parent permission to participate. Participation will occur during one class period this school year. If your child is at LMS next year, your child will be asked to complete the same surveys again so that we can examine change over time. In total, participation will take about one hour of your child's time each year. Another part of participation involves a review of your child's school records. Under the supervision of school administrators, we will retrieve the following information about your child: grade point average, FCAT scores, attendance, and history of discipline referrals. Finally, one of your child's teachers will be asked to complete a brief rating scale about your child's behavior at school.

- ✓ Please Note: Your decision to allow your child to participate in this research study must be completely voluntary. You are free to allow your child to participate in this research study or to withdraw him or her at any time. Your decision to participate, not to participate, or to withdraw participation at any point during the study will in no way affect your child's student status, his or her grades, or your relationship with LMS, USF, or any other party.
- ✓ Confidentiality of Your Child's Responses: There is minimal risk to your child for participating in this research. We will be present during administration of the questionnaires in order to provide assistance to your child if he or she has any questions or concerns. Additionally, school guidance counselors will be available to students in the unlikely event that your child becomes emotionally distressed while completing the measures. Your child's privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, the USF Institutional Review Board and its staff, and other individuals acting on behalf of USF may inspect the records from this research project, but your child's individual responses will not be shared with school system personnel or anyone other than us and our research assistants. Your child's completed questionnaires will be assigned a code number to protect the confidentiality of his or her responses. Only we will have access to the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to participants' names, and 2) all information gathered from school records. All records from the study (completed surveys, information from school records) will be destroyed in four years. Please note that although your child's specific responses on the questionnaires will not be shared with school staff, if your child indicates that he or she intends to harm him or herself, we will contact district mental health counselors to ensure your child's safety.
- ✓ What We'll Do With Your Child's Responses: We plan to use the information from this study to inform educators and psychologists about the relationship between students' psychological wellness (particularly their subjective well-being, also referred to as happiness) and their school performance, physical health, and social relationships. The results of this study may be published. However, the data obtained from your child will be combined with data from other people in the publication. The published results will not include your child's name or any other information that would in any way personally identify your child.
- ✓ Questions? If you have any questions about this research study, please contact Dr. Suldo at (813) 974-2223. If you have questions about your child's rights as a person who is taking part in a research study, you may contact a member of the Division of Research Compliance of the USF at (813) 974-9343.
- ✓ Want Your Child to Participate? To permit your child to participate in this study, please complete the attached consent form and have your child turn it in to his or her homeroom teacher.

Sincerely,

Shannon Suldo, Ph.D.

Assistant Professor of School Psychology

Department of Psychological and Social Foundations

Consent for Child to Take Part in this Research Study

I freely give my permission to let my child take part in this study. I understand that this is research. I have received a copy of this letter and consent form for my records.

_____	_____
Printed name of child	Grade level of child
_____	_____
Signature of parent of child taking part in the study	Printed name of parent
_____	_____
Date	Date

Statement of Person Obtaining Informed Consent

I certify that participants have been provided with an informed consent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

_____	_____
Signature of person obtaining consent	Printed name of person obtaining consent
_____	_____
Date	Date

Appendix E: Student Assent Form

Hello!

Today you will be asked to take part in a research study by filling out several surveys. Our goal in conducting the study is to determine the effect of students' mental health on their school performance, physical health, and social relationships.

- ✓ Who We Are: The research team is led by Shannon Suldo, Ph.D., a professor in the School Psychology Program at the University of South Florida (USF). Several doctoral students in the USF College of Education are on the team. We are working with your principal to make sure this study will be helpful to your school.
- ✓ Why We Are Asking You to Take Part in the Study: This study is part of a project called, "Subjective Well-Being of Middle School Students." You are being asked to take part because you are a student at Liberty Middle School (LMS).
- ✓ Why You Should Take Part in the Study: We need to learn more about what leads to happiness and health during the pre-teen years! The information that we collect may help us better understand why we should monitor students' happiness. In addition, results from the study will be shared with LMS to show them how happiness is related to school grades and behavior, physical health, and social relationships. You will not be paid for taking part in the study.
- ✓ Filling Out the Surveys: These surveys will ask you about your thoughts, behaviors, and attitudes towards school, family, and life in general. The surveys will also ask about your physical health. It will probably take between 45 and 60 minutes to fill out the surveys. We will also ask you to complete these surveys again one year from now.
- ✓ What Else Will Happen if You Are in the Study: If you choose to take part in the study, we will look at some of your school records- grades, discipline record, attendance, and FCAT scores. We will gather this information under the guidance of school administrators.
- ✓ Please Note: Your involvement in this study is voluntary (your choice). By signing this form, you are agreeing to take part in this study. Your decision to take part, not to take part, or to stop taking part in the study at any time will not affect your student status or your grades; you will not be punished in any way. If you choose not to take part, it will not affect your relationship with LMS, USF, or anyone else.
- ✓ Privacy of Your Responses: Your school guidance counselors are also on hand in case you become upset. Your privacy and research records will be kept confidential (private, secret) to the extent of the law. People approved to do research at USF, people who work for the Department of Health and Human Services, the USF Institutional Review Board, and its staff, and other individuals acting on behalf of USF may look at the records from this research project. However, your individual

responses will not be shared with people in the school system or anyone other than us and our research assistants. Your completed surveys will be given a code number to protect the privacy of your responses. Only we will have the ability to open the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to names, and 2) all information gathered from school records. All records from the study (completed surveys, information from school records) will be destroyed in four years. Again, your specific responses will not be shared with school staff. However, if you respond on the surveys that you plan to harm yourself, we will let district counselors know in order to make sure you are safe.

- ✓ What We'll Do With Your Responses: We plan to use the information from this study to let others know about how students' happiness is related to school grades, physical health, and social relationships. The results of this study may be published. However, your responses will be combined with other students' responses in the publication. The published results will not include your name or any other information that would in any way identify you.
- ✓ Questions? If you have any questions about this research study, please raise your hand now or at any point during the study. Also, you may contact us later at (813) 974-2223 (Dr. Suldo). If you have questions about your rights as a person who is taking part in a research study, contact a member of the Division of Research Compliance of the USF at (813) 974-9343. Also call the Florida Department of Health, Review Council for Human Subjects at 1-850-245-4585 or toll free at 1-866-433-2775.

Thank you for taking the time to take part in this study.

Sincerely,

Shannon Suldo, Ph.D.
Assistant Professor of School Psychology
Department of Psychological and Social Foundations

Assent to Take Part in this Research Study

I give my permission to take part in this study. I understand that this is research. I have received a copy of this letter and assent form.

_____	_____
Signature of child taking part in the study	Printed name of child
_____	_____
Date	Date

Statement of Person Obtaining Informed Consent

I certify that participants have been provided with an informed consent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

_____	_____
Signature of person obtaining consent	Printed name of person obtaining consent
_____	_____
Date	Date

About the Author

Tiffany White is a doctoral student in the School Psychology program at the University of South Florida. Her interests pertain to promoting children's wellness through school-based mental health services. Particularly, she is interested in how school psychologists can effectively develop and maintain collaborative relationships between home, school, and community agencies to address the mental health and school success of children and adolescents. It is her belief this can be most effectively done through the promotion of expanded school mental health programs and services. Her research focuses on how to promote and enhance the healthy psychological development of school-aged students and reduce mental health barriers to learning using a positive psychology framework—a shift from the traditional disease model toward strengths and wellness promotion. Appropriately, this asset-based approach to youth promotion aligns well with the goals of the positive psychology movement and best practice recommendations for the field of school psychology.