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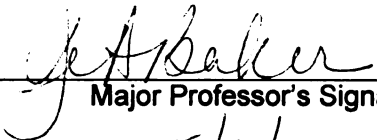
THE OPTIMAL MATCHING
OF PERCEIVED TEACHER SOCIAL SUPPORT
TO STUDENTS' DAILY SCHOOL STRESSORS

presented by

Laura Jane Dilly

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of the requirements for the

Ph.D. degree in School Psychology


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**THE OPTIMAL MATCHING OF PERCEIVED TEACHER SOCIAL SUPPORT TO
STUDENTS' DAILY SCHOOL STRESSORS**

By

Laura Jane Dilly

A DISSERTATION

**Submitted to
Michigan State University
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ABSTRACT

THE OPTIMAL MATCHING OF PERCEIVED TEACHER SOCIAL SUPPORT TO STUDENTS' DAILY SCHOOL STRESSORS

By

Laura Jane Dilly

Students' subjective experiences of daily stressors in school can negatively impact their development and wellness. However, the social support that teachers provide for students can be an important factor in promoting children's wellness and buffering the effects of stress. This study examined the optimal matching theory, which states that specific types of social support are differentially effective at buffering the effects of specific stressors, within a sample of upper elementary students. Students completed self-report measures of daily school stressors, perceived teacher social support, academic self-concept, and classroom climate. It was predicted that certain types of support (Emotional and Instrumental) would buffer the effects of academic stressors and social stressors on academic self-competence and peer self-esteem. Results did not support the optimal matching theory. Teacher provided social support buffered the effects of daily stressors on peer self-esteem. In addition, emotional support was a significant predictor of academic self-concept, as were emotional support and instrumental support for peer self-esteem.

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Introduction

There is an increasing interest in positive psychology, or the psychology of wellness (Cowen, 1994). The field of positive psychology emphasizes factors that enhance development and positive adjustment in contrast to deficit orientations that emphasize the study of maladjustment (Albee, 2000; Cowen, 2000). This focus on adjustment offers a more hopeful perspective on children's development. As the processes involved in supporting children's development are better understood, children's environments can be tailored to support development and prevent future problems.

Within positive psychology, a number of conceptual models explaining developmental phenomena have arisen, namely resilience, competencies, and stress and coping models (Compas, Connor-Smith, Altzman, Thomsen, & Wadsworth, 2001; Masten & Coatsworth, 1998). All of the models are similar, in that they concern children's adjustment. However, there are some distinctions between them. The term resilience refers to the developmental process of positive life adjustment despite stressors that place a child at risk (Doll & Lyon, 1998; Luthar, Cicchetti, & Becker, 2000). The literature concerning the stress and coping model is situated within the developmental psychopathology literature and emphasizes the process of adaptation. In contrast to the resilience and stress and coping models, the competencies based model focuses solely on the characteristics of an individual or environment that encourage positive adaptation. Compas and colleagues (2001) summarizes the relationships between these models stating, "Coping can be viewed as efforts to enact or mobilize competence or personal resources, and resilience can be viewed as the successful outcome of these actions" (p. 89).

In order to encourage children's positive development, the processes involved in supporting their development must be further examined. According to an ecological systems perspective, children develop within multiple, interacting contexts (Bronfenbrenner, 1992). As schools provide a significant context in which children develop, examining and understanding the processes that support children's development within schools is important. One of the most frequently cited protective factors, or processes supporting development, for children is a relationship with a caring adult and the social support provided within these relationships (Doll & Lyon, 1998; Masten & Coatsworth, 1998). Tietjen (1994) emphasizes that social support exists within relationships in various contexts. In addition, the importance of sources of social support may differ developmentally, with children relying on adults and adolescents relying increasingly more on peers (Gore & Aseltine, 1995). Therefore, elementary children likely rely heavily on adult-provided social support. Within schools, the social support that students receive within the teacher-student relationship may be of particular importance to students' positive development.

Rutter (1987) points out the importance of viewing social support not as a variable but as a process. Therefore, it is important to further understand how this process unfolds. Currently, within the resilience literature there is a call for greater attention to the psychological processes and mechanisms responsible for the positive adjustment of children and adolescents (Luthar et al., 2000). There have been a number of criticisms of the lack of explanations of how or why a particular process is effective in facilitating the adjustment of children within current literature on resilience (Pianta & Walsh, 1998; Rutter, 1987). At the same time, within the stress and coping literature, a discussion

about the importance of increasing the specificity of models is taking place (Cicchetti & Cohen, 1995; McMahon, Grant, Compas, Thurm, & Ey, 2003). Grant and his colleagues (2003) propose that “there is specificity in relations among particular stressors, moderators, mediators, and psychological outcomes” (p. 453). Therefore, understanding the types of teacher provided social support that are helpful within different situations can begin to answer some of these questions.

The purpose of this study was to add specificity to the theoretical model of stress and coping within the context of the daily stressors children experience in school. Specifically, this study tested the optimal matching theory that states that for specific stressors, specific types of support are most helpful. Teacher provided social support was considered as an important mechanism involved in children’s experiences of coping with daily school stressors.

Review of Literature

Major Theories of Social Support

There are several major theoretical perspectives of social support, namely the attachment model, the main effect model, and the stress buffering model. The first theoretical perspective of social support focuses on the personality-based aspects of social support. An individual's attachment style is one factor that is proposed to affect social support. According to perspectives of social support that draw on attachment theory, children's early relationships with their parents form enduring relational schemas that contribute to their ability to elicit and perceive support from others (Pierce, Baldwin, & Lydon, 1997). Therefore, social support is seen as an enduring personality characteristic. Children develop support schemas in the context of relationships, with their first relationship with their parents being particularly important. Support schemas influence an individual's expectations about the social environment's willingness and ability to meet future support needs (Pierce, Sarason, Sarason, Joseph, & Henderson, 1996). The support schemas that children develop in the context of their relationship with their parents may be carried over into their relationship with a teacher (Pianta, 1994). Pianta, Nimetz, and Bennett (1997) found that preschoolers' teacher-student relationship was related to their mother-child relationship, hypothesizing that this was due to relational schema rather than intelligence or temperament. Students may perceive the support that teachers provide differently based on their attachment styles.

There are two other major models of social support, the main-effect model and the stress-buffering model. In contrast to the personality view of social support, these models emphasize social support as an environmental provision. Therefore, these models

provide more direct implications for the provision of services to support children's development. Because the current study considers the importance of various types of teacher provided social support, an environmental provision, it is more closely aligned with this view of social support. Both the main-effect model and the stress-buffering model have been empirically supported (Cohen & Wills, 1985). The main-effect model of social support emphasizes the role of social support in promoting adjustment independent of the existence of stress. Therefore, the presence of social support is assumed to be important whether or not the individual is experiencing stress. For example, parental social support may positively affect school attendance for all children, independent of any stressors the child may be experiencing. The buffering model delineates a specific relationship between stress and social support in the adjustment process. Social support reduces the negative effect of the stressor on the adjustment process. For example, parental social support may buffer the effects of poverty on school attendance.

Mechanisms involved in social support. Two mechanisms have been proposed to explain the positive effects of social support. The first explanation focuses on individuals' cognitive appraisals and the second explanation is based on self-determination theory. The focus on cognitive appraisal process explanation is grounded in the stress and coping literature. The variations in people's ability to cope with stress are explained by the cognitive processes that occur between a person's encounter with stressors and their reaction (Lazarus & Folkman, 1984). In particular, an individual's cognitive appraisal, or evaluation of a situation, influences their reaction and ability to cope.

Social support may influence individuals' primary or secondary cognitive appraisals (Cohen, Gottlieb, & Underwood, 2000; Sandler, Miller, Short, & Wolchik, 1989). Primary appraisal refers to the cognitive processes involved in evaluating the significance of the situation for one's well-being. The perception that others will provide support may redefine the situation and reduce the perception of threat that the situation presents. For example, a student may perceive that their teacher will help them complete a math worksheet that is difficult. Therefore, the student may perceive less stress related to the task. Secondary appraisal refers to the cognitive processes involved in evaluating what can be done to manage threatening or challenging situations. Perceived or received social support may reduce the negative cognitive, emotional, physiological, and/or behavioral responses to a perceived stress. The social support "may alleviate these negative reactions by providing a solution to a problem, reducing the importance of the problem, or providing a distraction from the problem" (Cohen, Gottlieb, & Underwood, 2000, p. 14). For example, a student may be called a name by another student. A teacher may emotionally support the student by expressing that they care about the child, reducing the student's negative affective reaction to the stressful event.

A second mechanism for understanding social support derives from theories within human motivation. Self-determination theory assumes there are three essential psychological needs: relatedness, autonomy, and competence (Ryan, 1995). Sandler and his colleagues (1989) highlight three intervening processes through which stress and support may affect children's adjustment, namely sense of security of social relationships, perceptions of control, and self-esteem. Similarly, Ryan and Solky (1996) propose that social support can meet individuals' psychological needs, specifically the

needs for relatedness and autonomy. First, social support provided by teachers may allow students to feel more connected and cared for, fulfilling the need for relatedness. Osterman (2000) discusses the important role that teachers' support and relationships with students can play in fostering a sense of relatedness. Second, social support provided by teachers encourages students' autonomy, self-esteem, perceived competence, and internal motivation (Deci, Schwartz, Sheinman, & Ryan, 1981; Ryan & Grolnick, 1986).

Stressors in School for Children

There are a number of definitions of stress and stressors in relation to children. The most commonly cited definition of stress is the Lazarus and Folkman (1984) one stating, "Psychological stress involves a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well being" (p. 19). Grant and his colleagues (2003) suggest that because individual's cognitive appraisals of the stressfulness of situations are often not studied within stress research, stress could be defined as "environmental events or chronic conditions that objectively threaten the physical and/or psychological health or well-being of individuals of a particular age in a particular society" (p. 450). However, the current study is particularly interested in stress as defined by the first definition, specifically, children's subjective appraisals of environmental situations as stressful.

While the bulk of literature examining childhood stressors has focused on chronic or major stressors that children encounter such as poverty, chronic illness, parental divorce, and abuse, children also experience more minor life stressors (Grant et al.,

2003). Minor life stressors, or daily hassles, can include normative experiences of development such as being picked last for a team or having difficulty with a homework assignment (D'Aurora & Fimian, 1988; Elias, Ubrico, Reese, Gara, Rothbaum, & Haviland, 1992; Phillips, 1978). Within school, these daily hassles can exist within several domains including academic, personal, and social situations (Burnett & Fanshawe, 1997; Grannis, 1992; Phillips, 1978; Wenz-Gross, Siperstein, Untch, & Widaman, 1997).

Several studies have examined the frequency of school stressors and students' cognitive appraisals of the events. Phillips (1978) measured the stressful events in elementary students' experience of school. Overall, achievement stressors were greater than social stressors for these students. Sources of achievement stress included the teacher speaking too quickly, meeting teacher expectations, making a mistake while in front of the class, and taking tests. Sources of social stress included being teased by peers and being unpopular with peers. Grannis (1992) found that middle school students reported three domains of stressors: academic troubles, physical and personal assaults, and general school disrupters. General school disrupters were the most frequent stressors, followed by academic troubles, and physical and personal assaults. However, students reported that they were most upset by physical and personal stressors, followed by academic and general school disrupters. Within a group of middle school students, Elias and his colleagues (1992) found that daily stresses clustered around five areas: adaptation difficulty, substance abuse, peer relationships, conflict with authority, and academic pressures. Stressors related to adaptation, authorities, and peers were appraised as causing more distress than stressors related to academic pressures and substance abuse.

This is similar to the Grannis (1992) study in that social stressors were particularly distressing for middle school students.

There are relatively few studies that consider the perceptions of stressors between students of different genders. Few gender differences have been found in perceived number of stressors encountered in school (Elias et al., 1992; Phillips, 1978). However, Phillips (1978) found a difference in magnitude, with girls appraising stressors as being more stressful. Therefore while boys and girls may perceive the same number of stressors, girls may appraise these same stressors as more stressful.

Children in middle childhood experience a variety of situations which they appraise as exceeding their resources. These daily stressors exist within academic, social, and personal domains. Knowledge of children's subjective experience of these stressors provides an important step in understanding children's coping; however, the processes involved in children's coping must also be explored.

Multidimensional Aspects of Social Support

Social support is often viewed as a broad set of processes that can be broken down into functional types of social support. Each of these types of social support is hypothesized to serve a different function. There have been numerous attempts to categorize the different types of social support. Cobb (1976) conceived social support as information provided by others which fall into three classes. First, the information may provide emotional support, making an individual feel that they are cared for and loved. Second, the information may provide esteem support, encouraging an individual to feel that they are of value and worth. Third, the information may provide an individual with the sense that they belong to a social network that shares mutual obligation.

House (1981) surveyed the types of social support discussed within the literature and proposed four major types of supportive behavior or acts, namely emotional support, instrumental support, informational support, and appraisal support. Emotional support refers to the provision of empathy, care, and love. Instrumental support refers to behaviors that directly help an individual such as physical and monetary aid. Informational support refers to providing an individual with information to aid them in coping with personal and environmental difficulties. Finally, appraisal support refers to the provision of evaluative information related to an individual's worth.

Cutrona and Russell (1990) reviewed five multidimensional models of social support and found empirical support for five major functional dimensions of social support: emotional support, esteem support, tangible aid, information support, network support, and opportunity to provide nurturance to others. In this model, esteem support and tangible aid correspond to the House (1981) definitions of appraisal support and instrumental support, respectively. Network support refers to a person's sense that they part of a group of people that share common interests. The opportunity to provide nurturance to others was added as a sixth functional aspect of social support; however, the authors noted that the mechanisms involved might significantly differ from other types of social support.

Cutrona and Suhr (1994) divided the five major dimensions of social support into two broad categories: action-facilitating support and nurturant support. Action-facilitating support aims to help a stressed individual solve or eliminate the problem causing distress. It can include both informational and tangible support. In contrast, nurturant support does not aim to solve the problem but instead focuses on comforting the

individual. Nurturant support includes emotional support and network support. Esteem support can take the form of either action-facilitating or nurturant support. If the esteem support focuses on assuring the individual that they have the abilities and skills to solve the problem, this may support action. However, if the esteem support focuses on assuring the individual that they have value and worth in order to lessen the intensity of a distressed individual's negative emotions, this is more consistent with nurturant support.

Within the literature regarding children, Malecki, Demaray, and Elliott (2000) have adopted a four factor model of social support following the House (1981) social support typologies. The model features informational, emotional, instrumental, and appraisal support. In addition, Richman and colleagues (1998) proposed an 8 factor model of support children encounter including. They eight types of support were technical challenge, emotional challenge, listening, reality confirmation, personal assistance, confirmation, and technical appreciation.

Perceived and received social support

The social support literature distinguishes between available support and enacted social support (Tardy, 1985). Perceived support is the support that an individual subjectively feels is available or has been provided in the past for them. Received support examines the objective enactment of support. Dunkel-Schetter and Bennett (1990) reviewed empirical studies that included measures of both available and received support and found evidence for a conceptual distinction between the two. In the review of eight studies, correlations between measures of available and received support ranged from no relationship to a moderate relationship.

Overall, perceived support has more consistently been shown to be related to lower levels of psychological symptomatology than received support (Wills & Shinar, 2000). Perceived social support may be particularly important because the positive effects of social support are only possible when an individual appraises the support as available (House, 1981). Cohen and Wills (1985) add that it may be the perceived adequacy rather than the perceived availability of social support that is particularly important. Support perceived as available may not be judged as adequate and therefore not positively affect an individual. Wills and Shinar (2000) suggest that since perceived support measures have more extensive empirical support, the use of perceived support measures in studies is a solid, conservative choice. However, they encourage the simultaneous use of both perceived and received support to gain a better understanding of how the two constructs relate.

Some gender differences have been reported in perceived social support. Females tend to report significantly higher levels of perceived total support as well as emotional and informational support (Demaray & Malecki, 2002a; Dubow and Ullman, 1989; Malecki & Elliot, 1999). Jackson and Warren (2000) add that females are more likely to seek social support than males after exposure to stress. Therefore, females may perceive higher levels of social support because they seek out higher levels of social support.

Sources of Support

Children can receive social support from a number of different sources including parents, peers, close friends, and teachers. A number of studies have shown that children are able to distinguish among sources of support (Dubow & Ullman, 1989; Malecki & Demaray, 2002). In addition, children who tend to perceive higher levels of social

support from one source, tend to perceive higher levels of social support from other sources (Dubow & Ullman, 1989). Demaray and Elliot (2001) found that students' perceptions of support and their parents' and teachers' reported provision of support were moderately related. The importance of the various sources of support may differ also across a child's development. For example, the support from peers may become increasingly important as children move from middle childhood to adolescence (Malecki & Demaray, 2002; Malecki & Elliot, 1999).

Efficacy of Social Support

The efficacy of social support in buffering the effects of stress has been measured in a number of different ways. Several studies have measured the effects of social support on behavioral and social outcomes, such as behavioral problems, substance abuse, clinical adjustment, interpersonal adjustment, grades, and attendance (Demaray & Malecki, 2002b; Jackson & Warren, 2000; Lifrak, McKay, Rostain, Alterman, & O'Brien, 1997; Rosenfeld, Richman, & Bowen, 2000). However, outcome measures of subjective well-being may be of particular importance since the experience of stress is a subjective experience. In addition, measures of subjective well-being are also consistent with positive psychology in that they measure health rather than negative outcomes. Various studies have found that social support buffers the effects of stress on measures of subjective well-being, such as school satisfaction, self-concept, and self-efficacy (Rosenfeld, Richman, & Bowen, 2000; Wenz-Gross et al., 1997).

Empirical studies of social support

Several studies have empirically considered the relationship between perceived social support and outcomes for children and adolescents. Students who report receiving

lower levels of social support from their parents, friends, and teachers have poorer school outcomes than students who report higher levels of social support (Rosenfeld et al., 2000). While students who perceive support from teachers, parents, and peers show higher positive student outcomes including higher grades, school satisfaction, engagement, and self-efficacy (Rosenfeld et al., 2000).

Different sources of social support may be more important for different outcomes. Lifrak et al. (1997) found that higher levels of perceived teacher support, and to a lesser degree parent support, were significantly associated with lower levels of cigarette, alcohol, and marijuana use for middle school boys. For girls, higher levels of perceived peer support were significantly associated with lower levels of cigarette and marijuana use. Garnefski and Diekstra (1996) found that for high school students, negative perceptions of school support related to increased behavioral problems, negative perceptions of peer support was related to increased emotional problems, and negative perceptions of family support were associated with emotional and behavioral dysfunction. Parent, teacher, and school support has also been shown to be negatively correlated to school outcomes while parent and classmate support was related to clinical and interpersonal indicators (Demaray & Malecki, 2002b). Wenz-Gross et al. (1997) found that family support was more related to academic self-concept, whereas peer support was more related to social self-concept. Richman, Rosenfeld, and Bowen (1998) found teacher support was significantly related to two middle school outcomes, school satisfaction and school self-efficacy, as well as two high school outcomes, sense of coherence and time spent studying. Attendance, avoidance of problem behavior, grades, prosocial behavior, school satisfaction, school self-efficacy, sense of coherence, and time

spent studying were also related to adult caretaker and peer support. Therefore, teacher provided social support may play a particularly important role in school related outcomes.

The types of support that students perceive from their parents, teachers, peers, and friends differ. In a group of middle school students, informational support was most highly reported from teachers (Malecki & Demaray, 2003). In addition, emotional and information support were the most highly reported types of support from parents and emotional and instrumental support scores were the most highly reported from peers and friends.

Various types of social support have also been shown to be related to different outcomes. Richman and his colleagues (1998) found that different types of social support were related to different types of positive outcomes for at-risk students. Attendance was related to technical challenge and emotional challenge support; avoidance of problem behavior was related to technical challenge support; grades were related to listening support and reality confirmation support; prosocial behavior was related to personal assistance support; school satisfaction was related to emotional support, emotional challenge support, and reality confirmation support; school self-efficacy was related to confirmation support, listening support, and emotional support; sense of coherence was related to technical appreciation support and emotional support; and time spent studying was related to technical appreciation support, emotional support, emotional challenge support, and personal assistance support. Wenz-Gross and colleagues (1997) found that emotional support from family members moderated the relationship between peer stress and feelings of depression for adolescent students. In addition, problem-solving support

from adults other than parents (potential school staff) moderated the effect of teacher/rules stress on liking school.

The sufficiency and necessity of teacher social support for positive student outcomes is currently unclear. Rosenfeld and colleagues (2000) found that support from teachers was a necessary condition for many school outcomes but not a sufficient condition. While teacher support alone was not sufficient for positive school outcomes in this study, teacher support in combination with support from parents or peers was necessary. However, Malecki and Demaray (2003) report that emotional support perceived from teachers was the sole significant predictor of students' social skills and academic competence. In this sample, teacher support also predicted school maladjustment and parent support predicted personal adjustment.

Matching Theory

There are multiple models of stress and coping; however, this study is focused on the optimal matching theory. The optimal matching theory adds specificity to the stress and coping model, matching support to specific stressors. Jackson (1992) outlines two major versions of the matching hypothesis. The first suggests that the source of social support should be matched to the stressor and assumes that the source of support should match the source of the stressor. For example, work stressors would best be buffered by sources of support at work (House, 1981). Therefore, stressors at school could be potentially best buffered by sources of support at school, such as support provided by a teacher.

Cutrona and Russell (1990) propose a second version of the matching theory stating that "different kinds of social support are most useful in the context of different

kinds of stressful life events” (Cutrona & Suhr, 1992, p.168). Therefore, specific types of social support may differentially lead to more positive outcomes for individuals, depending upon the stressor. In addition, Cutrona and colleagues argued that the most beneficial type of support is related to the controllability of the stressor (Cutrona, 1990; Cutrona & Russell, 1990). When stressors are uncontrollable, there is nothing that can be done to lessen the consequences of the stressor, so the most important task for the individual is to recover from the negative emotions related to the stressor. However, when a stressor is controllable, action can be taken to decrease the occurrence or consequences of the stressor. Therefore, it was proposed that stressors that are uncontrollable require emotional support whereas stressors that are controllable require problem-focused support or instrumental support (Cutrona, 1990; Cutrona & Russell, 1990).

Studies of optimal matching within adult populations. Several studies have examined the optimal matching hypothesis with adult and college age populations. Cutrona and Suhr (1994) examined the controllability hypothesis with thirty married couples. One member of the couple discussed a stressful situation with their spouse. The interaction was coded for the frequency of support behaviors, type of support behaviors, and controllability of the stressful event. The spouses disclosing the stressful event also rated their satisfaction with the interaction. A significant positive correlation was found between the coded controllability of the stressful event and the number of information support behaviors offered by the spouse. In addition, when the stressful event was judged to be controllable by the support giver, information support positively predicted the support receiver’s satisfaction. When the stressful event was judged to be controllable by

the support receiver, information support negatively predicted the support receiver's satisfaction. In a second study, each member of the partnership was asked to rate his or her ability to control the event. In this study, a significant positive correlation was found between the support receiver's perceived controllability and the number of esteem support behaviors offered by the spouse. Therefore, when the support receiver perceives that they can decrease the occurrence or consequences of the stressor they are experiencing, their partner may respond with encouragement of capabilities and skills. In both studies, regardless of the controllability of the stressful event by either partner, emotional support was significantly related to higher satisfaction with the interaction.

Horowitz and colleagues (2001) further defined the optimal matching theory of social support to consider the type of problem experienced by the speaker, the speaker's goals, and the listener's provision of different types of support. Each of these factors within the interpersonal relationship can be considered with regards to the dimensions of communion and agency. The content of problems is defined as either agentic or communal. Agentic problems focused on action and implied a specific goal. Communal problems focused on the internal distress of an individual and imply a need to feel more connected and loved. For example, performance failures are agentic problems whereas romantic losses are communal problems. The speaker's goal is the type of support the speaker is attempting to elicit, either agentic or communal support. The listener can provide either agentic, problem-solving focused, or communal, empathetic focused, responses.

Horowitz and his colleagues (2001) conducted a series of studies to test aspects of the optimal-matching hypothesis. In the first study, college undergraduates were asked to

read a problem scenario such as a romantic loss or a performance failure. Then they were asked to imagine the scenario had just happened to them and they were going to talk to a close friend about the problem. They were then given a list of 19 possible responses that their friend could provide and rate the extent to which each response would make them feel worse or better using a Likert-type scale. The 19 responses loaded onto two factors corresponding to communal reactions and agentic reactions.

Horowitz and colleagues (2001) found that agentic problems evoked agentic support, whereas communal problems evoked communal support. In this study, undergraduates read stories focused on an academic performance failure, an agentic problem, and a breakup in a romantic relationship, a communal problem. Each participant was then instructed to write how they would provide support to their friend with each problem. The responses were coded for the type of response given. Overall, the undergraduates produced more agentic reactions to all stories. Results showed significant main effect for the type of reaction and a significant interaction effect. Performance failure scenarios generated relatively greater numbers of agentic reactions, whereas romantic breakup scenarios generated relatively greater numbers of communal reactions.

The way that a support seeker frames a request influences the type of support provided (Horowitz et al., 2001). Agentic frames containing statements such as “I don’t know what to do” were found to elicit significantly more agentic support whereas communal frames contained statements such as “I feel terrible” were found to elicit significantly more communal support. However, the magnitude of the frame effect was greater for communal problems. In addition, the support receiver and support provider

were both more satisfied with an interaction when the type of support elicited matched the type of support provided. For example, both the support receiver and the support provider were more satisfied if the receiver elicited communal support and the provider gave communal support.

Chen and Tang (1997) examined the optimal matching hypothesis within the context of the stresses and social support experienced by Chinese mothers of adult children with mental retardation. Overall, the mothers rated tangible support as more effective than emotional and informational support. In addition, for controllable stressors, tangible support was rated as more effective than informational support.

Finally, Tetzloff and Barrera (1987) tested the matching hypothesis within a group of divorcing mothers. The moderating effect of various types of social support on the relationship between various stressors and negative psychological outcomes was examined. Stressors included tangible stress, parenting stress, and social stress while the types of social support included parenting support, emotional support, and tangible support. Limited support was found for the matching hypothesis; however, the authors mention a number of methodological limitations that made detection of significant moderators difficult. Included were issues related to a lack of subjects for sufficient power and the use of support and stress typologies that had limited empirical support.

Therefore, several factors may influence the optimal match between stressors and support. First, an individual's appraisal of the controllability may influence the optimal type of support. When an individual judges the event as controllable, esteem support may be optimal. Whereas for events judged as uncontrollable, informational support may be optimal. Second, the type of stressor may influence the optimal match. For stressors

that involve a specific goal, problem-solving or informational support may be optimal. However, for stressors that are focused on an individual's internal distress, communal or emotional support may be optimal. Third, groups of individuals, such as mothers of children with disabilities, may experience unique stressors for which specific types of social support are most helpful. Finally, within studies of the optimal matching theory, careful attention must be paid to statistical issues related to power.

Studies of optimal matching hypothesis with child populations. There is currently a dearth of empirical evidence considering the optimal matching hypothesis within child populations. However, several studies have begun to test the matching hypothesis. Gore and Aseltine (1995) considered the match between various stressors and differing sources of social support. Family support was found to buffer the effects of family stressors on adolescent mood. Similarly, peer support was found to buffer the effects of peer stressors on mood. Therefore, the authors concluded that family and peer domains are fairly distinct during adolescence, causing stressors within each domain to best be buffered by supports within the same domain. For example, family stressors are best buffered by support within the family. Wenz-Gross and colleagues (1997) tested several models to consider whether differing types of stress and differing sources and types of social support were related to adjustment outcomes for middle school students. For academic self-concept, academics and peer relationships were sources of stress while family emotional support was an important source of support. For social acceptance, self-concept within the peer domain and teachers/rules were sources of stress while peer companionship support was an important source of support. For liking of school,

teachers/rules was a stressor and family emotional support was an important source of support.

Pre-dissertation Study

A pre-dissertation, exploratory study was conducted to explore 3rd, 4th, and 5th grade students' experiences of daily school stressors and teacher provided social support. UCHRIS approval was obtained prior to the start of the study. Parental consent and child assent was obtained. A total of 5 students currently residing at the Veterans of Foreign Wars National Home for Children were interviewed. Semi-structured interviews (Rubin & Rubin, 1995) focused on: a) the daily hassles that elementary students experience in school and b) the social support that teachers provide in these situations. A copy of the interview protocol is contained in Appendix A. Interviews were transcribed and analyzed. A cross case analysis was completed and as themes appeared, excerpts were labeled and organized into files, creating thematic connections (Merriam, 1998). This study helped to confirm the school stressors and support constructs to be utilized within the current study. Children identified academic and social stressors. In addition, they described examples of emotional, instrumental, informational, and appraisal support.

Summary

Children experience a number of daily stressors in schools. These stressors can involve both academic and social demands within the school environment that overburden children's resources. However, the social support that children receive from adults, including teachers, can buffer the potentially negative effects of the daily school stressors that students encounter and encourage positive development. Teachers can provide a variety of types of social support for students including instructional,

emotional, instrumental, and appraisal support. Of particular importance are children's subjective experiences of stress and social support, as these are more tied to outcomes than objectively rated stressors or received social support. Currently, our understanding of the buffering effects of social support lacks specificity. However, the optimal matching theory of social support adds specificity to the stress-buffering hypotheses, stating that for specific types of stressors, specific types of social support are more effective in buffering stress. Empirical studies of the optimal matching theory have shown supporting evidence for the model within adult populations and initial support within child populations.

Purpose of the Study

The positive psychology literature has consistently emphasized the protective effects of children's relationships with caring adults. Therefore, understanding the role that teachers play in providing social support for children, will further our understanding of this protective process. Specifically, the focus on this study was to test the optimal matching hypothesis by examining the relationship between various daily stressors and the type of teacher provided support of elementary students. This study addresses the question: Are different types of teacher provided social support differentially helpful in buffering the effects of different school stressors on positive school outcomes?

The hypotheses are based on self-determination theory. It is hypothesized that for academic stressors that may threaten the students' sense of competence, instrumental support will better buffer the effects of academic stressors on academic self-concept. Secondly, it is hypothesized that for social stressors that may threaten the students' sense

of relatedness, emotional support will better buffer the effects of social stressors on peer self-esteem.

Methods

Participants

The sample of third through fifth graders was drawn from two elementary schools in a Midwestern school district. A total of 134 students were recruited for participation, 68 from school one and 66 from school two. The school sent home permission forms to eligible students. Within this sample there were 71 boys and 63 girls. The participants were in grades three (n= 42), four (n=36), and five (n=56) and ranged in age from 8 to 12 years old. The sample included 42 3rd grade students, 36 4th grade students, and 56 5th grade students.

A total of 115 were White, 4 Asian, 2 Hispanic/Latino/Latina, 1 African American, 11 multi-racial, and 1 student omitted racial background. Further demographic information is presented in Table 1. During the 2002-2003 school year, the racial makeup of the district was 86% White, 5% Asian, 4% Hispanic/Latino/Latina, and 5% African American (National Center for Education Statistics, 2005). Information on students with multi-racial backgrounds was not available. White students composed 85% of study sample and composed 86% of the district population. Overall, 14% of the students in the district's population were from racial minority backgrounds and 13% of the students in the study sample were from racial minorities when students from multi-racial backgrounds are included in this percentage.

Procedure

Active informed consent was required for participation in the study. Permission forms were distributed to eligible students by the school and were returned to the school

by the students. The overall participation rate was 22%, with 23% at school 1 and 22% at school 2.

Data were collected during the spring quarter. Students completed a battery of self-report measures designed to assess perceived schools stressors, social support, academic self-concept, and peer self-esteem. The questionnaires were administered in small groups, ranging in size from 4-12 by trained university researchers. Protocols were read aloud to students to control for reading ability and administered in a counter-balanced order between groups to control for order effects.

Measures

School stressors. Daily school stressors were measured using two subscales of the Things That Happen in School (THIS; Grannis, 1992). The THIS consists of 15 items. Two aspects of daily school stresses were measured using child ratings: Academic Troubles, which measures stressors related to academic aspects of school, and Physical and Personal Assaults, which measures stressors related to interpersonal aspects of school. The Physical and Personal Assaults subscale was modified to include an additional 5 items taken from the Orpinas (1995) Victimization scale (Appendix C) in order to increase the validity of the construct. Children were asked to rate both the frequency of the items' occurrence and the stress appraisal. Frequency ratings consisted of a 3-point Likert-type scale, with scores ranging from 1 (hardly ever) to 3 (often). Stress appraisal ratings consist of a 5-point Likert-type scale, with scores ranging from 1 (very good) to 5 (very upset). In previous studies, internal consistency was reported to be .79 for Stressor Frequency and .87 for Stress Appraisal (Grannis, 1992). Within this sample, the internal consistency was .85 and .88 for the total Stress Frequency and Stress

Appraisal scales, respectively. The reliabilities for the Academic Stressors Frequency and Stress Appraisal Scales were .63 and .68, respectively. The reliabilities for the modified Physical and Personal Assaults Frequency and Stress Appraisal scales were .86 and .88, respectively.

Teacher social support. Perceived teacher social support was measured using the Teacher subscale of the Child and Adolescent Social Support Scale (Appendix D; Malecki, Demaray, & Elliot, 2000). This Teacher subscale measures 4 types of social support: emotional, informational, appraisal, and instrumental. The scale consists of 12 items, 3 items for each type of support. Students rated both the frequency and importance of each teacher supportive behavior. Frequency ratings consists of a 6-point Likert-type scale, with scores ranging from 1 (never) to 6 (always). Importance ratings consisted of a 3-point Likert-type scale, with scores ranging from 1 (not important) to 3 (very important). The factor structure and reliability of this scale are well established; in previous studies the internal consistency for the type scores range from .81 to .82 (Malecki & Demaray, 2003). For this sample, the reliability of the entire Frequency scale was .86 and the Importance scale was .80. Within this study, the four social support subscales were collapsed to form two social support scales due to low initial reliabilities of the four individual subscales. Emotional and appraisal support were collapsed to form a new emotional support variable. Informational and instrumental support were collapsed to form a new instrumental support variable. The reliabilities of subscales are reported in Table 2.

Academic self competence. Self-concept was assessed using a modified version of the Scholastic Competence subscale of the Self-Perception Profile for Children

(Appendix E; Harter, 1985). The subscale used a 4-point Likert-type scale, with scores ranging from 1 (never) to 4 (almost always). The Scholastic Competence consists of 6 items that measure children's perceptions of their ability within the realm of scholastic performance. Internal consistency reliabilities for the original scale range from .80 to .85 (Harter, 1985). Within this study, the internal consistency for the modified scale was .75.

Peer self-esteem. Children's self-esteem in relation to peers was measured with the Peer Subscale of the Self-Esteem Questionnaire (Appendix F; DuBois, Felner, Brand, Phillips, & Lease, 1996). The 8 item subscale used a 4-point Likert-type scale, with scores ranging from 1 (never) to 4 (almost always). The internal consistency reliabilities for the scale range from .85 to .86 (DuBois et al., 1996). Within this study, the internal reliability was .80.

Analyses plan

Descriptive statistics were used to describe the sample and measures. The internal consistency of each measure was calculated. In addition, Pearson product-moment correlations between variables were calculated.

Analyses examined potential differences by grade and gender on total stressors, total social support, scholastic competence, and social acceptance. ANOVAs were utilized for analyses involving potential grade differences and t-tests for gender differences.

Analyses to test the optimal matching theory followed a model described by Tetzloff and Barrera (1987). Regression analyses consisted of predictors entered in the following order: stress appraisal scale, social support importance scale, and the product of the stress and support scale. A significant interaction term indicates a moderating

effect of social support (Holmbeck, 1997). A moderator is “a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (Barron & Kenny, 1986, p. 1174). Therefore, social support may change the relationship between daily school stressors and children’s self-concept if it acts as a moderator. Support for the optimal matching hypothesis would be indicated if one interaction term (e.g., academic stress x emotional support) was significantly greater than other potential stress x type of social support interactions (e.g., academic stress x instrumental support).

Two analyses were run, one for each of the dependent variables (academic self-competence and peer self-esteem). For scholastic competence, academic stressors, emotional support, instrumental support, and interaction terms (academic stressors x emotional support and academic stressors x instrumental support) were entered. For peer self-esteem, social stressors, emotional support, instrumental support, and interaction terms (social stressors x emotional support and social stressors x instrumental support) were entered. In order to eliminate problems of multicollinearity between the two main effect terms and the interaction term, the independent variables, scholastic competence and peer social acceptance, and the moderators, types of social support, were centered. Sufficient statistical power to detect medium effect sizes was expected with the proposed number of subjects and the proposed analyses (Green, 1991).

Results

Means and standard deviations for each of the variables are presented in Table 3 and Table 4. Because the scores reflecting total stress appraisal, academic stress appraisal, social stress appraisal, total support frequency, were based on the combination of individual scores, scaling procedures were employed to assess the reliability or internal consistency of these summed scores. The reliability coefficients are reported in Table 2. Due to the low reliabilities for the individual teacher social support scales, emotional and appraisal support were combined to form a new emotional support scale and informational and instrumental support were combined to form a new instrumental support scale. The formation of these two scales is consistent with a number of studies that have failed to identify several types of social support, but instead find a more clear distinction between emotional support and instrumental support (Cutrona & Suhr, 1994; Rook & Underwood, 2000).

Intercorrelations are presented in Table 5. Correlations between total support and total stressors were significant ($r = .291, p < .01$). Correlations between total support, emotional support, and instrumental support were significant ($r = .479, p < .01$; $r = .444, p < .01$; $r = .439, p < .01$). However, correlations between measures of stress and the outcome measures, academic self-competence and peer self-esteem, were not significant. The two outcome measures, academic self-competence and peer self-esteem, were also significantly correlated ($r = .352, p < .01$). The magnitudes of the correlations were not indicative of a multicollinearity problem.

Independent t-test analyses were calculated to determine if there were group differences across gender on the total stress appraisal, academic stress appraisal, social stress appraisal, total social support frequency, emotional support frequency, instrumental support frequency, scholastic competence, and peer self-esteem. Cases with missing data were excluded analysis by analysis. Results revealed that there were no significant differences for gender on social stress appraisal, total social support frequency, emotional support frequency, instrumental support frequency, scholastic competence, and peer self-esteem. Results revealed significant differences for gender on total stress appraisal ($t_{132} = -2.09$, $p = .04$, $d = .36$) and academic stress appraisal ($t_{132} = -2.35$, $p = .02$, $d = .46$), with females reporting higher levels of stress.

ANOVA analyses were conducted to determine if there were group differences across grade on the total stress appraisal, academic stress appraisal, social stress appraisal, total social support frequency, emotional support frequency, instrumental support frequency, scholastic competence, and peer self-esteem. Cases with missing data were excluded analysis by analysis. Overall, the amount of missing data was negligible. Results showed no significant differences for grade on academic stress appraisal, instrumental support frequency, scholastic competence, and peer self-esteem. Results revealed significant differences for grade on social stress appraisal ($F_{2,131} = 3.845$, $p = .024$, Eta-squared = .02), total stress appraisal ($F_{2,131} = 3.097$, $p = .049$, Eta squared = .05), and total support frequency ($F_{2,131} = 3.172$, $p = .045$, Eta squared = .05). Tukey's post-hoc tests were used to further examine differences by grade. On social stress appraisal, 4th graders reported significantly higher levels than 5th graders ($p = .019$, $d = .60$). On total stress appraisal, 4th graders reported significantly higher levels than 5th

graders ($p = .037$, $d = .56$). On total support frequency, 4th graders reported significantly higher levels than 5th graders ($p = .036$, $d = .55$). Since moderate effect sizes were detected for gender and grade, gender and grade were treated as potential covariates within regression equations and entered as the first two steps of the regression equations. Dummy codes were created for gender and grade. In order to code for grade, two separate dummy variables were created.

Data was visually examined and diagnostic tests were conducted to assess for violations of regression assumptions. Regression analyses were then completed to assess interaction effects. Missing data were eliminated pairwise.

In order to test the first hypothesis, which stated that for academic stressors instrumental support will better buffer the effects of academic stressors on academic self-concept, a multiple regression was used. The regression analysis assessed the interaction between academic stress and emotional support as well as the interaction between academic stress and instrumental support with academic self-competence as the dependent variable. Gender was entered in the first step, grade was entered in the second step, and academic stressors, emotional support, instrumental support, academic stressors x emotional support, and academic stressors x instrumental support were entered in the third step. The first two steps which included gender ($F(1,132) = .03$, $p = .854$) and grade ($F(3,130) = .46$, $p = .714$) were not significant. Therefore, gender and grade were removed and the regression was rerun with the remaining variables. The F for the overall regression model was significant $F(5,128) = 8.13$, $p < .001$, and $\underline{R}^2 = .241$, adjusted $\underline{R}^2 = .211$. Emotional support ($\beta = .511$, $p < .001$) was a significant predictor of academic self-

competence. Academic stressors, instrumental support, and the interaction terms were not significant. Table 6 summarizes the results, including standardized β values.

In order to test the second hypothesis, which stated that for social stressors emotional support will better buffer the effects of social stressors on peer self-esteem, a multiple regression analysis was used. The regression analysis assessed the interaction between social stress and emotional support as well as the interaction between social stress and instrumental support with peer self-esteem as the dependent variable. Gender was entered in the first step, grade was entered in the second step, and social stressors, emotional support, instrumental support, social stress x emotional support, and social stressors x instrumental support were entered in the third step. The first two steps which included gender ($F(1,132) = 1.07, p=.303$) and grade $F(3,130) = 1.34, p=.263$) were not significant. Therefore, gender and grade were removed and the regression was rerun with the remaining variables. The F for the regression model was significant $F(5, 128) = 9.48, p<.001$, and $R^2 = .270$, adjusted $R^2 = .241$. Emotional support ($\beta = .347, p = .002$) and instrumental support ($\beta = .220, p = .041$) were significant predictors of peer self-esteem. Social stressors and the interaction terms were not significant. Table 7 summarizes the results.

In order to assess the general stress-buffering hypothesis, two regressions were then conducted to assess the interaction of total stressors and total support on both dependent variables, academic self-competence and peer self-esteem. Tables 6 and 7 summarize these results. Gender was entered in the first step, grade was entered in the second step, and total stressors, total support, and total stressors x total support were entered as the independent variables and academic self-esteem were entered in the third

step. The first two steps for gender ($F(1,132) = .03, p=.854$) and grade ($F(3,130) = .46, p=.714$) were not significant. Therefore, gender and grade were removed and the regression was rerun with the remaining variables. The F for the regression was significant ($F(3,130) = 8.18, p<.001$), and $R^2 = .159$, adjusted $R^2 = .139$. Total support ($\beta = .389, p <.001$) was a significant predictor. Total stressors and the interaction term were not significant.

For the second analyses, gender was entered in the first step, grade was entered in the second step, and total stressors, total support, and total stressors x total support were entered in the third step. Peer self-esteem was entered as the dependent variable. The first two steps for gender ($F(1,132) = .107, p=.303$) and grade ($F(3,130) = .134, p=.263$) were not significant. Therefore, gender and grade were removed and the regression was rerun with the remaining variables. The F for the regression was significant ($F(3,130) = 15.46, p<.001$), and $R^2 = .263$, adjusted $R^2 = .246$. Total Support ($\beta = .523, p <.001$) and Total Stressors x Total Support ($\beta = .154, p = .046$) were significant predictors.

In order to examine the interaction effect, the interaction was plotted following procedures suggested by Aiken and West (1991). The regression equation was recast as the regression of the criterion, peer self-esteem, on one predictor, total support. This regression equation was $\hat{Y} = (.23 + .01(\text{Stress}))\text{Support} + (-.05(\text{Stress}) + (-.17))$. Low, medium, and high values of total stress were calculated. These values corresponded to one standard deviation below the mean of stress, the mean of stress, and one standard deviation above the mean of stress. These values of stress were then substituted into the equation above, creating a series of three simple regression equations. Plots of these regression lines revealed a cross-over interaction effect. The plot is shown in Figure 1.

On inspection of the interaction graph, it appears that when stress is moderate, social support functions differently. Under conditions of medium stress, social support is less predictive of peer self-esteem than when stress is low or high.

Discussion

Teacher provided social support is an important factor leading to children's positive adjustment. The overall amount of support provided by children's teachers predicts both their academic self-competence and peer self-esteem. This is consistent with other studies that have found that teacher provided social support is a significant predictor of academic and social competencies (Malecki & Demaray, 2003; Rosenfeld et al., 2000). In particular, the emotional support provided by teachers predicts children's academic self-competence and peer self-esteem. Teacher's instrumental support is also predictive of students' peer self-esteem.

The study failed to find support for the optimal matching hypothesis. There was no evidence that specific forms of social support were more effective in buffering the effects of academic and social stressors on academic self-competence and peer self-esteem. The interactions between specific stressors and particular forms of social support were not significant. Several other studies examining the optimal matching hypothesis have also failed to support the hypothesis. At this time, there is no conclusive support for the optimal matching theory in the child or adult literature. In a review of empirical research, Cutrona and Russell (1990) found two-thirds of studies added support to the optimal matching hypothesis, while one-third did not.

An individual's perceived controllability of a stressor may dictate the type of social support that is most effective in buffering the effects of the stressor (Cutrona, 1990; Cutrona & Russell, 1990). For stressors perceived as uncontrollable, emotional support is most beneficial whereas for stressors perceived as controllable, instrumental support is most beneficial. Within this study, while emotional support was not shown to

buffer the effects of stressors, emotional support was a significant predictor of both academic self-competence and peer self-esteem. Therefore, emotional support may be particularly important for children's development. According to the optimal matching theory, this may be because children perceive that they have less control within their environment and therefore benefit from emotional support more than instrumental support. The provision of emotional support may further encourage their sense of self-determination, including their sense that they are competent and able to make changes within their environment.

There are several plausible reasons for the lack of support of the matching hypothesis. First, students may vary too much individually for there to be a match between a specific stressor and a specific type of social support within a population. While an individual student may consistently appraise specific stressors as more stressful and find specific types of teacher support most helpful, there may not be patterns of matching within an entire population of students. However, there may be specificity of stressors and support for specific groups of children. For example, children with difficulties learning versus those with behavioral difficulties may require different teacher provided support. Baker, Davis, Dilly, Aupperlee, & Patil (2002) found that students at low, moderate, and high levels of risk differed in the teacher provided social support that predicted school satisfaction. In addition, specificity of stressors and support by gender may exist. The current study found higher levels of both perceived stress and perceived support for girls. This is consistent with previous research (Demaray & Malecki, 2002a; Dubow and Ullman, 1989; Malecki & Elliot, 1999; Phillips, 1978). These differences may be attributable to differences in girls' perceptions of stress and support or they may

be attributable to objective differences in the frequency of stressors and support girls receive. This study did not support differing specificity patterns for boys and girls; however, larger samples may find that specificity patterns may vary by gender.

A second explanation for the failure to find support for the optimal matching theory may be that daily stressors rarely affect a child in only one way. Rook and Underwood (2000) note that social interactions often have multiple, simultaneous goals. Therefore, teachers may be responding to stressors by providing multiple forms of social support to facilitate the child's coping with a single stressor that affects the child in multiple ways. For example, a student who does not understand an assignment may benefit from informational support, (i.e. illustrating how to complete the assignment) as well as emotional support (i.e. encouraging them to continue). The preliminary study for the current study found that 3-5 grade students spontaneously recalled multiple types of support teachers provided for a single academic or social stressor. For example, one student described that when she did not understand schoolwork, an academic stressor, she thought the teacher's emotional support (i.e. stating good job) and instrumental support (i.e. explaining the instructions better) would be helpful.

A third potential reason for the failure to support the matching hypothesis may be that the function of teacher provided social support may not be best explained by a stress and coping model. The stress and coping model assumes that social support buffers the effects of existing stressors. However, social support may serve a preventative role, decreasing the likelihood of stressful events, and/or a counteractive role, directly increasing the variables leading to adjustment but being unrelated to stress (Sandler, et al., 1989). Teacher provided social support may be best explained by a main-effects

model which is consistent with a counteractive role. The main-effects model proposes that the presence of social support promotes the positive adjustment independent of the existence of stress. Social support acts to increase positive adjustment at all levels of stress. In this study, social support acted similarly for students reporting low and high levels of stress, predicting higher levels of academic self-competence and peer self-esteem. Luthar, Cicchetti, and Becker (2000) suggest referring to attributes with direct ameliorative effects at high and low levels risk conditions as “protective” factors. Viewing social support from this perspective, as a protective factor, is consistent with positive psychology and resilience literature because it emphasizes building student wellness. Further, self-determination theory, emphasizing the need for belonging, autonomy, and competence, may explain the mechanism involved in relationship between teacher social support and increased positive outcomes. Perceived social support increases students’ feelings of belonging, autonomy, and competence (Deci et al., 1981; Ryan & Grolnick, 1986), which may reduce students’ perceptions of future events as stressors.

Surprisingly, the correlations were not significant between measures of stress and the two outcomes, academic self-competence and peer self-esteem. While the main effects model could explain this finding, the lack of correlation may also be due to some measurement problems. On the measure of stress, the inclusion of some items that may not be true daily stressors such as “I was warned that I might not pass a subject or pass to the next grade” may have affected this correlation. However while correlations were not significant between measures of stress and the two outcomes; correlations were significant between measures of support and the two outcomes. Attachment theory offers

one possible reason for the moderate correlation between measures of perceived teacher social support and peer self-esteem. According to attachment theory, students form enduring relational schemas that influence their expectations within all of their relationships. Therefore, students who perceive a strong, supportive relationship between themselves and their teachers may be more likely to also perceive a positive relationship between themselves and their peers.

The significant interaction of stress and social support on peer self-esteem signifies that for various levels of stress, social support functions differently on peer self-esteem. Inspection of the interaction graph indicates that when stress is moderate, social support functions differently. Students perceiving moderate levels of stress and low teacher support, had the highest peer self-esteem. There are several possible explanations. First, students with moderate levels of stress may have an optimal facilitative level of stress. Anxiety performance research has shown that individuals perform best when there is a moderate level of stress (Kirkland, 1971; Yerkes & Dodson, 1908). At low levels of stress, students may not be aroused enough to perform at higher levels; however, at high levels of stress students have difficulty functioning. Therefore moderate levels of daily stressors may encourage students' development, including their sense of peer self-esteem. Students perceiving moderate levels of stress and low teacher social support may rely more heavily on peer support, increasing their interactions with peers and possibly providing opportunities to increase their peer self-esteem.

Limitations

Several methodological limitations may have contributed to finding non-significant moderating effects. In general, moderating effects are extremely difficult to

detect in field based research due to several factors (McClelland & Judd, 1993). First, while the power was estimated to be at moderate, additional subjects within the study could have increased the statistical power, increasing the likely of detecting a moderating effect. In addition, McClelland and Judd (1993) also suggest over sampling extreme cases increase the likelihood of detecting a moderating effect. Second, the measure of academic stressors had an acceptable but low reliability ($\alpha = .63$). Therefore, this increased the general error within the regression equations and made detecting a true moderating effect more difficult. Third, the moderately high correlation between the emotional support and instrumental support may have masked some effects. Fourth, combining emotional, instrumental, informational, and appraisal support into two broad areas of support may have obscured matching effects.

Several theoretical limitations may influence the study. In addition to the measure of academic daily stressors having a low reliability, this measure also may not have fully captured the construct of academic daily stress. For example, it included fairly infrequent daily stressors such as failing a grade while neglecting to include stressors such as not understanding class work. Second, in the preliminary study, several students mentioned environmental changes, including changes to the task or physical environment, that teachers make within the classroom to support them. For example, students stated that teachers can support them by shortening a spelling test or moving their desk. While the measure of teacher provided social support used in this study did measure instrumental support which is similar to environmental support, there were not any specific items that measured environmental support from teachers such as the students described in the preliminary study.

Finally, the relatively low participation rate, 22%, may have affected the representativeness of the study sample. Research within schools that utilizes active parental consent typically reach participation rates of 30-60% (Esbensen, Miller, Taylor, He, & Freng, 1999; Tigges, 2003). The rates within this study were slightly lower than these estimates. Children whose parents provide active consent tend to be white, younger, females, exhibit more prosocial behavior, and be from intact families (Esbensen et al., 1999; Tigges, 2003). Therefore, this study may have underrepresented students experiencing greater daily stressors.

Implications for Practice

This study holds several implications for practice. First, this study found teacher social support was a better predictor of students' positive outcomes than the daily stressors that they encounter. Therefore, it may be more important to pay attention to providing social support within classrooms than exclusively focusing on reducing risks for students. This emphasizes a more proactive approach, focused on increasing student wellness. This proactive focus on the social-emotional wellness of students is consistent with positive psychology. There are several universal prevention programs that emphasize the development of strong teacher-student relationships and supportive classroom environments. For example, the Responsive Classroom developed by the Northwest Foundation for Children is an approach to creating a positive classroom environment for academic and social-emotional learning (Northeast Foundation for Children, 2005).

In addition, support can be provided for teachers to enable them to increase the social support that they provide for students. Cutrona and Cole (2000) suggest a number

of techniques for increasing support within a natural support network. These suggestions can be adapted to specifically address the support teachers provide for students.

Therefore, the support teachers provide for students could potentially be increased by 1) increasing teachers' understanding of the specific stressors students encounter, 2) modeling, rehearsing, and providing feedback for teachers regarding the behaviors involved in providing support for students, 3) changing teachers' attitudes that interfere with the provision of support, such as feeling that providing social support is not central to their role as teacher, 4) coordinating the staff within the school to provide specific support responsibilities and avoid overwhelming the classroom teacher, and 5) offering support to teachers to help them sustain their efforts.

Future research

This study holds several implications for future research related to teacher provided social support and its impact on positive student adjustment. While support for the optimal matching theory was not found in this study, optimal matching theories should not be abandoned. Specificity could provide important information in meeting the needs of students and maximizing positive adjustment. Future students may benefit from considering how social support acts for various student groups such as students with learning difficulties and behavioral problems. Considering entire student populations may mask specificity that exists within smaller subgroups of students.

Alternatively, future research may focus on considering teacher provided social support from a main effects model. Teacher provided social support may function independently of stress and may benefit children at any level of stress. Further, differentiating how social support functions to promote positive adjustment of children

would be beneficial in developing specificity to social support models and in developing wellness in children.

In addition, while this study focused on students' subjective experiences of stress and support, future studies may examine received support through the use of observational data or provided support as measured by teacher report. Comparisons of perceived and received social support could be made. These comparisons may illuminate differences in how students or perhaps different groups of students perceive teacher provided social support.

Summary

This study tested the optimal matching theory by examining the relationship between various daily stressors and the type of teacher provided support of elementary students. No support was found for the optimal matching theory. Teacher provided social support was a significant predictor of both academic self-competence and peer self-esteem, emphasizing the importance that teachers play in supporting students' positive adjustment. In addition, some evidence was found for the buffering effects of teacher provided social support on the relationship between daily school stressors and peer self-esteem. As schools serve as an influential environment for children's development and teachers as important adults within children's lives, continued efforts to understand the functioning of social support is essential to further develop children's positive adjustment within schools.

APPENDICES

Appendix A: Social Support Interview Protocol

Intro: I am a student at Michigan State University and I want to find out some more about what it is like to be a [3rd, 4th, or 5th] grader. To find out more, I am interviewing some experts like you. So you'll need to put on your expert cap and think real hard to help me out. Ok? If there are any questions that I ask that don't make sense, just tell me?

Demographic information

- 1) Age?
- 2) Grade Level?
- 3) Sex?

Student Perceptions of Support from Teachers

- 1) What types of things make a teacher helpful?

Student Perceptions of Stressors in School (Refer to expert status again.)

- 1) What kinds of things stress out kids in school?

Alternative: What kinds of problems do kids your age have in school?

What kinds of things bother kids in school?

What kind of hassles do kids have in school?

Annoy? Bother?

Probes:

- I. Having trouble with friends? (i.e. getting in a fight on the playground)
- II. Having trouble with other people in the class?
- III. Having trouble with school work? (ie. not having enough time?, when the teacher is telling you what to do?, forgetting homework, during reading?, during math?, not having materials?)
- IV. Projects?
- V. Having trouble with teachers? (teacher getting mad, getting in trouble)

- 2) How much does this bother kids?

Teacher Social Support

- 1) What things do teachers do to help kids with this problem? (*Pose in terms of situations generated by student. Complete questions 1-6 for entire situation and then move to next generated stressful situation.*)

Probes:

- Do teachers ever talk to kids to help them? What do they say?
- What would you see teachers doing if they were helping someone?
- Do teachers ever give kids things to help them? What do they give them?
- What do teachers do if it isn't that big of a problem?

2) What could teachers do that would be more helpful (more supportive)?

Alternative: Are there other things that teachers could do to help kids?

Probe: Talking to kids (emotional support)?

Helping kids solve the problem (instructional support)?

Giving kids more materials or more time (tangible support)?

Helping kids realize that it is not that big of a problem (appraisal support)?

3) How helpful are the things teachers do?

Probe:

- What is the most helpful thing a teacher could do?

4) If the teacher did that, how would kids feel?

Conclusion of Interview

1) Is there anything else you think I should know?

Appendix B

Things that Happen at School (Grannis, 1992)

Academic Troubles Subscale

1. I couldn't get an answer to a question I asked.
2. I was warned that I might not pass a subject or pass to the next grade.
3. I or one of my friends was moved to a different class.
4. Someone tried to pressure me to skip class.
5. I could not finish my work in class.
6. I didn't have a pen or paper or my book to do my work in class.
7. I did worse on a test than I should have.
8. There was a change of teachers in one or more of my classes.

Physical and Personal Assaults Subscale

1. Someone tried to copy my work when I didn't want them to.
2. Someone hit me, or kicked or pushed me.
3. Someone made fun of something I said in class.
4. Someone shouted or screamed at me.
5. Somebody treated me like I always do wrong.
6. Someone was picking on me in the hall.
7. Someone took something from me.

Appendix C

Items from Victimization Scale (Orpinas, 1995)

1. A student teased me to make me angry.
2. A student said things about me to make other students laugh.
3. A student called me bad names.
4. A student tried to hurt my feelings.
5. Other students did not want to spend recess or lunch with me.

Appendix D

Child and Adolescent Social Support Scale (Malecki, Demaray, & Elliot, 2000)

Teacher Subscale

Emotional Support

1. My teacher cares about me.
2. My teacher treats me fairly.
3. My teacher makes it okay to ask questions.

Informational Support

1. My teacher explains things that I don't understand.
2. My teacher shows me how to do things.
3. My teacher helps me solve problems by giving me information.

Appraisal Support

1. My teacher tells me I did a good job when I've done something well.
2. My teacher nicely tells me when I make mistakes.

3. My teacher tells me how well I do on tasks.

Instrumental Support

1. My teacher makes sure I have what I need for school.
2. My teacher takes time to help me learn to do something well.
3. My teacher spends time with me when I need help.

Appendix E

Self-Perception Profile for Children (Harter, 1985)

Scholastic Competence

1. I am very good at my school work.
2. I am smart enough to do my school work.
3. I am slow in finishing my school work.*
4. I often forget what I learn.*
5. I do very well at my school work.
6. I can figure out the answers to school work.

* Reverse keyed.

Appendix F

Self-Esteem Questionnaire (DuBois, Felner, Brand, Phillips, & Lease, 1996)

Peers Subscale

1. I am as popular with kids my own age as I want to be.
2. I am as good as I want to be at making new friends.
3. I have as many close friends as I would like to have.
4. I am as well liked by other kids as I want to be.
5. I feel good about how well I get along with other kids.
6. I wish my friends liked me more than they do.
7. I feel good about how much my friends like my ideas.
8. I feel OK about how much other kids like doing things with me.

Table 1

Race and Sex Demographics of Participants

	Race						Total
	Caucasian	African	Hispanic/	Asian/	Multi-	Missing	
		American	Latino/	Pacific	Racial		
	Sex		Latina	Islander			
Girls	52	1	1	2	6	1	63
Boys	63	0	1	2	5	0	71
Total	115	1	2	4	11	1	134

Table 2

Scale Reliabilities.

Variable	Alpha Coefficient
Total Stressors- Appraisal	.89
Academic Stressors – Appraisal	.68
Social Stressors – Appraisal	.88
Total Stressors- Frequency	.85
Academic Stressors – Frequency	.63
Social Stressors – Frequency	.86
Total Teacher Social Support – Frequency	.86
Emotional – Frequency	.74
Informational – Frequency	.55
Appraisal – Frequency	.77
Instrumental – Frequency	.72
Emotional* – Frequency	.83
Instrumental** – Frequency	.78
Total Teacher Social Support – Importance	.80
Emotional – Importance	.50
Informational – Importance	.32
Appraisal – Importance	.60
Instrumental – Importance	.58
Emotional* – Importance	.69

Instrumental** – Importance	.78
Scholastic Competence	.80
Peer Self-Esteem	.75
* Combined scale – Emotional and Appraisal Support	
** Combined scale – Informational and Instrumental Support	

Table 3

Descriptive Statistics: Means and Standard Deviation by Sex

Variables	Full Sample		Male		Female	
	N = 134		n = 71		n = 63	
	M	SD	M	SD	M	SD
Total Stressors- Appraisal	80.84	8.95	79.34	9.12	82.54	8.51
Academic Stressors – Appraisal	30.84	3.66	30.15	3.89	31.62	2.23
Social Stressors – Appraisal	50.00	6.14	49.18	6.18	50.92	6.01
Total Stressors- Frequency	37.76	8.42	37.94	8.48	37.57	8.44
Academic Stressors – Frequency	13.63	2.98	13.63	3.01	13.62	2.96
Social Stressors – Frequency	24.14	6.70	24.42	6.55	23.84	6.90
Total Teacher Social Support – Frequency	55.34	10.66	54.86	9.93	55.87	11.49
Emotional – Frequency	15.12	2.78	14.96	2.78	15.30	2.80
Informational – Frequency	13.77	2.90	13.76	2.82	13.78	3.02
Appraisal – Frequency	13.79	3.46	13.80	3.21	13.78	3.74
Instrumental – Frequency	12.66	3.75	12.34	3.44	13.02	4.07
Emotional* – Frequency	28.91	5.63	28.76	5.37	29.08	5.94
Instrumental** – Frequency	26.43	5.94	26.10	5.66	26.79	6.27
Total Teacher Social Support – Importance	28.01	4.21	27.29	4.13	28.88	4.18
Emotional – Importance	7.20	1.26	7.06	1.22	7.37	1.30

Informational – Importance	7.13	1.17	7.04	1.20	7.24	1.13
Appraisal – Importance	6.69	1.57	6.45	1.47	6.97	1.65
Instrumental – Importance	6.93	1.45	6.79	1.52	7.08	1.36
Emotional* – Importance	13.90	2.44	13.51	2.24	14.33	2.59
Instrumental** – Importance	14.06	2.24	13.83	2.32	14.32	2.12
Scholastic Competence	20.24	2.86	20.28	2.81	20.19	2.92
Peer Self-Esteem	25.34	4.66	24.94	4.61	25.78	4.71

* Combined scale – Emotional and Appraisal Support

** Combined scale – Informational and Instrumental Support

Table 4

Descriptive Statistics: Means and Standard Deviation by Grade

	3 rd Grade		4 th Grade		5 th Grade	
	n = 42		n = 56		n = 36	
Variables	M	SD	M	SD	M	SD
Total Stressors- Appraisal	80.95	9.75	82.63	8.01	77.94	8.85
Academic Stressors – Appraisal	30.67	3.82	31.38	3.80	30.22	3.18
Social Stressors – Appraisal	50.29	6.53	51.25	5.394	47.72	6.28
Total Stressors- Frequency	39.13	8.10	36.74	8.89	37.79	8.05
Academic Stressors – Frequency	13.98	2.75	13.30	3.12	13.72	3.04
Social Stressors – Frequency	25.10	6.73	23.49	6.86	24.03	6.50
Total Teacher Social Support – Frequency	54.93	11.26	57.71	10.05	52.11	10.23
Emotional – Frequency	15.45	2.60	15.27	2.66	14.50	3.13
Informational – Frequency	13.24	3.09	14.23	2.89	13.67	2.64
Appraisal – Frequency	13.67	3.69	14.68	3.13	12.56	3.34
Instrumental – Frequency	12.57	3.91	13.54	3.77	11.39	3.21
Emotional* – Frequency	29.12	5.89	29.95	4.91	27.06	6.05
Instrumental** – Frequency	25.81	6.25	27.77	6.07	25.06	5.01
Total Teacher Social Support – Importance	28.00	4.22	28.75	4.22	26.85	4.05
Emotional – Importance	7.12	1.27	7.43	1.14	6.94	1.39

Informational – Importance	7.31	1.16	7.18	1.25	6.86	1.02
Appraisal – Importance	6.55	1.63	7.02	1.51	6.36	1.55
Instrumental – Importance	6.93	1.30	7.05	1.54	6.72	1.49
Emotional* – Importance	13.67	2.46	14.45	2.32	13.31	2.48
Instrumental** – Importance	14.24	2.14	14.23	2.42	13.58	2.03
Scholastic Competence	20.36	2.98	20.45	2.50	19.78	3.24
Peer Self-Esteem	24.29	4.57	25.80	4.52	25.83	4.90

* Combined scale – Emotional and Appraisal Support

** Combined scale – Informational and Instrumental Support

Table 5

Inter-correlations between Variables

Variables	Variables							
	1	2	3	4	5	6	7	8
1. Total Stress – Appraisal	--	.853**	.950**	.291**	.313**	.227**	.140	.042
2. Academic Stress- Appraisal			.648**	.253**	.265**	.202*	.163	.044
3. Social Stress- Appraisal				.274**	.299**	.210*	.107	.034
4. Total Support – Frequency					.917**	.926**	.398**	.479**
5. Emotional Support – Frequency						.699**	.463**	.444**
6. Instrumental Support – Frequency							.275**	.439**
7. Scholastic Competence								.352**
8. Peer Self-Esteem								--

*p<.05

**p<.01

Table 6

Summary of Regression Analyses Predicting Academic Self-competence

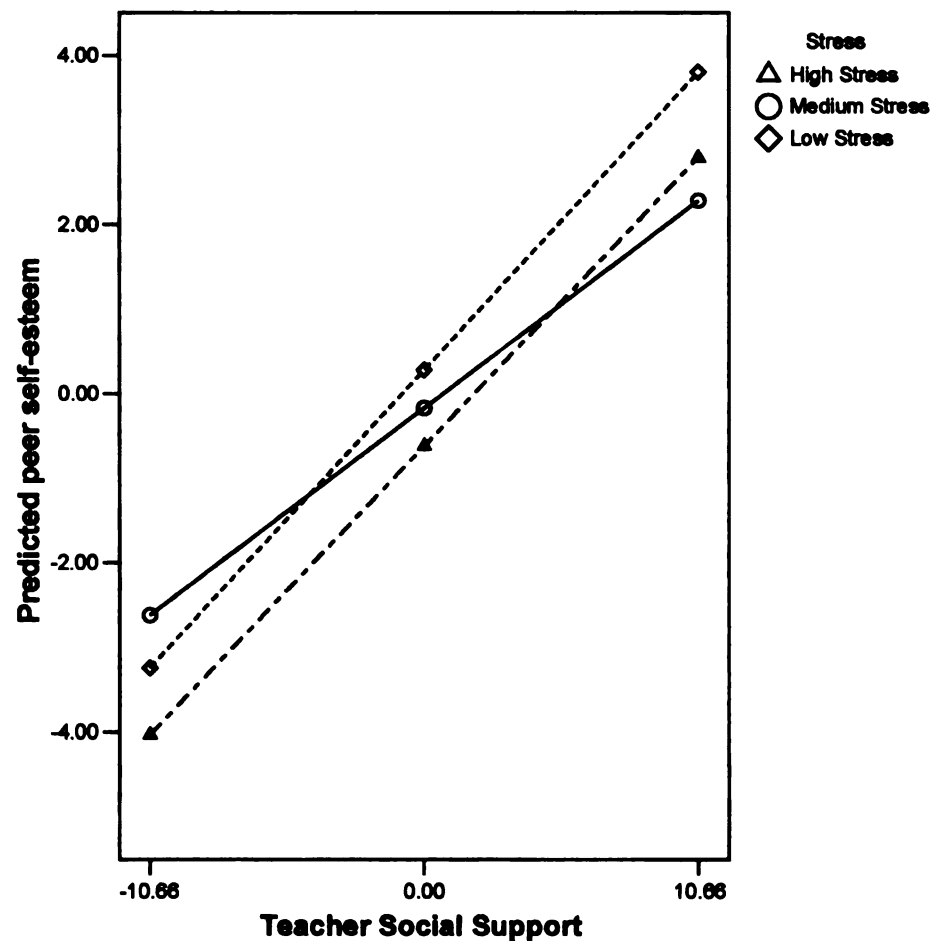
Variable	Adjusted R^2	$F_{(df)}$	p value	β	p value
Model 1	.211	8.13_(5,128)	<.001		
Academic Stressors				-.002	.978
Emotional Support				.511	<.001
Instrumental Support				-.090	.425
Academic Stressors x Emotional Support				-.070	.549
Academic Stressors x Instrumental Support				1.661	.099
Model 2	.139	8.18_(3,130)	<.001		
Total Stress				.025	.767
Total Support				4.608	<.001
Stress x Support				-.011	.894

Table 7

Summary of Regression Analyses Predicting Peer Self-esteem

Variable	Adjusted R^2	$F_{(df)}$	p value	β	p value
Model 1	.241	9.48 _(5,128)	<.001		
Social Stressors				-.089	.284
Emotional Support				.347	.002
Instrumental Support				.220	.041
Social Stressors x Emotional Support				.046	.743
Social Stressors x Instrumental Support				.138	.295
Model 2	.246	15.46 _(3,130)	<.001		
Total Stress				-.088	.271
Total Support				.523	<.001
Stress x Support				.154	.046

Figure 1. Graph of Interaction of Stress and Social Support on Peer Self-Esteem.



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