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# Impacts of Adolescents' Emotional and Behavioral Concerns and Social Skills on Parenting Stress

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IMPACTS OF ADOLESCENTS' EMOTIONAL AND BEHAVIORAL CONCERNS AND  
SOCIAL SKILLS ON PARENTING STRESS

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## ABSTRACT

Minimal literature has examined predictors of parenting stress for parents of adolescents and what may contribute to the impact of these predictors, particularly those regarding adolescent behavior. The current study sought to evaluate whether adolescents' internalizing and externalizing behaviors significantly predicted parenting stress and whether adolescent social skills moderated the relationship. Covariates of gender, age, ethnicity, and socioeconomic status were entered first into a multiple regression moderation model and followed by internalizing and externalizing behaviors, social skills, and interaction terms, respectively.

The overall model explained 19 percent of the variance in parenting stress. While internalizing behaviors significantly predicted parenting stress, externalizing behaviors were not a significant predictor and social skills did not moderate the relationship. Future research should investigate other contributors to parenting stress and compare more specific components of the broad constructs of internalizing and externalizing behaviors (e.g. symptoms of anxiety, depression, inattention/hyperactivity, and aggression).

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## CHAPTER 1

### INTRODUCTION

Stress is a normative component of parenting (Crnic & Greenberg, 1990), particularly when the child is an adolescent. Generally speaking, stress is “an individual’s emotional and behavioral response to some unpleasant event [and] involves some live of distress that adversely affects subsequent behavior and functioning” (p. 243). The uniqueness of *parenting stress*, which is specific to parenting and involves the parent’s sense of their parenting role being a stressful one (Levendosky & Graham-Bermann, 1998), arises in that it affects not only the parent’s well-being, but the child’s as well (Deater-Deckard, 1998). Deater-Deckard (1998) posited that parenting stress affects parent behaviors, which are then related to children’s behavior, which grows more negative as parent behaviors are negatively impacted by parenting stress. Thus, parenting stress can be a critical point for intervention in child and family therapy as it may be part of a negative cycle involving internalizing, externalizing, and other maladaptive adolescent behaviors as well as parenting stress.

The following sections explore: 1) The definition and various domains of parenting stress, 2) the literature that has both evaluated the relationship between these domains and child and adolescent behavior, 3) domains of adolescent behavior which may be linked to parenting stress (i.e. internalizing and externalizing behavior),

and 4) identifies potential moderators of the relationship between adolescent behaviors and parenting stress in the development of a model predicting parenting stress.

### **Domains of Parenting Stress**

For such purposes, Abidin (1992) further notes that parenting stress can be divided into two domains: “parent domain” and “child [or adolescent] domain.” The parent domain consists of such factors as parent personality, parent health, and stressful life events, while the adolescent domain includes emotional and behavioral characteristics.

**Child/Adolescent Domain of Parenting Stress.** The child domain of parenting stress as described by the Parenting Stress Index (PSI; Abidin, 1990) is of particular interest as it focuses on characteristics of a child that may make parenting him or her more difficult; specifically, the child’s adaptability, acceptability, demandingness, mood, hyperactivity/distractability, and parent reinforcement (Abidin, 1992). Similarly, the adolescent domain, an upward extension of the PSI’s child domain described in the Stress Index for Parents of Adolescents (SIPA; Sheras, 1998) focuses more specifically on behaviors unique to adolescence, such as moodiness/emotional lability, social isolation/withdrawal, delinquency/antisocial, and failure to achieve or persevere (Sheras, 1998). While the adolescent domain provides more developmentally appropriate information regarding adolescents, the SIPA has been underutilized in literature investigating effects of youths’ behavior on parenting stress; thus many of the extant observations of links between behavior and parenting stress have utilized the child domain, which still provides critical information regarding relationships between youths and their parents.

Externalizing symptoms have been linked to the child domain (Costa, Weems, Pellerin, & Dalton, 2006). Indeed, mothers of children demonstrating hyperactivity reported significantly more stress, particularly in child and parent-child relationship domains (rather than parent-domain items such as marital relationship and parent health) than mothers of children without those characteristics (Mash & Johnston, 1983). In one study consisting largely of boys with Attention-Deficit Hyperactivity Disorder, child behavior problems explained 57% of the variance in parenting stress (Solem, Christophersen, & Martinussen, 2011).

Indeed, while effects of child externalizing behaviors or disorders have been frequently evaluated as contributors to parenting stress through the adolescent domain, less has been investigated regarding the contribution of internalizing disorders, such as anxiety and depression, to parenting stress. One study of young children and their mothers noted that difficulties related to child temperament were linked to parenting stress (Östberg & Hagekull, 2000) and others noted that parenting stress in the child domain predicted externalizing *and* internalizing symptoms (Costa et al., 2006), but adolescents with internalizing disorders or concerns present a unique set of characteristics that may contribute to parenting stress.

**Parent Domain of Parenting Stress.** The parent domain of parenting stress incorporates parental attachment, parental sense of competence, restriction of parental role, depression, social support, and health concerns (Abidin, 1992). Perhaps because increased internalizing behaviors such as anxiety and depression in parents can be linked to the presence of internalizing behaviors in their children (Biederman et al., 2001; Downey & Coyne, 1990; Turner, Beidel, & Costello, 1987; Woodruff-Borden, Morrow,

Bourland, & Cambron, 2002), internalizing behaviors in youths are hypothesized to be more related to parental and parent-child dysfunctional interactions domains than to the adolescent domain of parenting stress (Rodriguez, 2011). Indeed, the genetic or behavioral influence of parents may link similar internalizing behaviors in their child to the parent domain, raising a question of whether parent symptomatology and parenting stress are distinct (Deater-Deckard, 1998). However, as measured by the SIPA, the parent domain of parenting stress extends beyond parent mental health to include characteristics such as restrictions on parents' life roles due to their role as a parent (Sheras et al., 1998).

**Adolescent-Parent Relationship Domain of Parenting Stress.** The adolescent-parent relationship domain focuses on interactions between parents and children and parents' resulting satisfaction and feelings from those interactions. Costa and colleagues (2006) noted in their investigation of the specificity of domains of parenting stress to child behaviors that the domain related to the relationship between parent and child is related to internalizing behaviors, making parenting stress in parents of children and adolescents with internalizing disorders a particularly important target for intervention. The literature is otherwise very limited regarding the relationship between domain and child/adolescent behavior.

### **Internalizing and Externalizing Behaviors in Adolescents**

The adolescent behaviors that Sheras, Abidin, and Konold (1998) noted as contributing to parenting stress (failure to achieve or persevere, social isolation/withdrawal, moodiness/emotional lability, and delinquency/antisocial behavior) may be particularly common in children and adolescents with internalizing or

externalizing behaviors, which feature “disordered mood or emotion” (Kovacs & Devlin, 1998, p. 47) and negative interactions with the environment (Hinshaw, 1987), respectively. Increased levels of the behaviors delineated by Sheras and colleagues may then, in the context of internalizing and externalizing behaviors, be linked to increased levels of parenting stress.

**Internalizing Behaviors in Adolescents.** Despite these hypotheses, the role of internalizing behaviors’ role in parenting stress is relatively under-discussed considering the degree to which internalizing disorders are present in adolescents. As described above, internalizing disorders include “conditions whose central feature is disordered mood or emotion,” such as anxiety and mood disorders, which often co-occur (Kovacs & Devlin, 1998, p. 47) and were identified in 46.1% of 13- to 18-year-olds in a sample of adolescents in the continental United States (Merikangas et al., 2010). Internalizing disorders can be categorized both broadly (Seeley, Kosty, Farmer, & Lewinsohn, 2011) or with several points of distinction between types of internalizing disorders such as “anxiety” versus “depressive” disorders as is the case in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013; see Watson, 2009).

Children’s experience of behavioral and/or mental health concerns has been previously linked to parental psychological functioning, and specifically parenting stress, for externalizing disorders such as Attention Deficit Hyperactivity Disorder (Johnston & Mash, 2001; Whalen et al., 2006), perhaps because of the impact of the negative interactions present in externalizing behaviors. However, it is of note that the factors contributing to parenting stress in these situations are not necessarily exclusive to the

external and direct effects of disorder symptoms, but rather involve corollary effects as repeated phone calls from teachers, missing work for appointments, needing to explain their child's behavior to other parents, and worrying about child's health related to their behavior (Johnson & Reader, 2002), which may occur in families with children with internalizing behaviors as well. Indeed, parents of children with internalizing disorders report needing to spend time working to avoid anxiety triggers and accommodating their child's needs (Lebowitz et al., 2013). This increases the parent's experience of time-consuming daily hassles, which, depending on the consistency, frequency, and intensity of child behavior, may begin to occur outside of the normal range of hassles experienced by all parents (Crnic & Low, 2002). In one study focusing on children with an average age of 10 years old ( $SD = 2.78$ ), 97.3 percent of parents with children with various anxiety disorders noted making at least some accommodations for the child and 70.7 percent noted parental distress due to making these accommodations, which included modifying family routine and personal leisure activities and doing things that were typically the child's responsibility (Lebowitz et al., 2013).

While much of the research investigating the relationships between internalizing behaviors and parenting stress has been done with children, these characteristics may also occur in adolescents. For instance, preadolescent levels of anxiety, which consists of internalizing behaviors, may be stable (Cole, Peeke, Martin, Truglio, & Seroczynski, 1998) or increased (Roza, Hofstra, van der Ende, & Verhulst, 2003) as the child ages into adolescence, indicating that the behaviors impacting parent stress persist over time. In addition to this consistency, internalizing behaviors are highly co-morbid with other internalizing behaviors (Rapee, Schniering, & Hudson, 2009; Seligman & Ollendick,

1998), which perhaps increases the severity and intensity of these emotional challenges and relatedly, their impact on parents.

**Externalizing Behaviors in Adolescents.** Externalizing behaviors are those that are manifested outwardly through negative interactions with the external environment; specifically through disruptive, hyperactive, and aggressive behaviors (Hinshaw, 1987). Among the most commonly referenced externalizing disorders are Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD). Hinshaw (1987) argued that inattention and hyperactivity compose a distinct factor of child mental health concerns, the severity of which may contribute to parenting stress (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992; Harrison & Sofronoff, 2002). Inattention involves a lack of observable attentive behavior and covert cognitive processes that often co-occur with hyperactivity, which is “an enduring disposition to behave in an inattentive, overactive, impulsive, and disorganized manner” (Warner-Rogers, Taylor, Taylor, & Sandberg, 2000, p. 521). For example, hyperactivity and inattention symptoms were predictive of lower academic performance and failure to graduate from secondary school (Galéra, Melchior, Chastang, Bouvard, & Fombonne, 2009). The behaviors also mediated the effects of other mental health concerns (e.g. anxiety/depression, social problems, somatic complaints, etc.) on academic achievement (Barriga et al., 2002). Inattention and hyperactivity were also linked to more frequent involvement in traffic crashes (Nada-Raja et al., 1997) and increased cigarette smoking (Galéra, Fombonne, Chastang, & Bouvard, 2005).

As was the case with internalizing behaviors, such negative interactions with the environment may increase daily parenting hassles, then having implications for levels of

parenting stress (Crnic & Low, 2002). For example, parents with children rated as hyperactive and inattentive reported higher levels of stress than parents of children with fewer of these characteristics (Theule, Wiener, Tannock, & Jenkins, 2010; Whalen, Odgers, Reed, & Henker, 2011). In another study, characteristics such as the distractability and degree of bother of children with hyperactivity significantly distinguished between the parenting stress levels of parents with and without children with hyperactive behaviors (Mash & Johnston, 1983).

However, given that these studies were largely descriptive (i.e., focusing on the relationship among variables), there are still unexplained components of the link between adolescent behavior and parenting stress, particularly when considering the direction of these effects. A better understanding of the reciprocal nature of parent-child interactions may inform the discussion of this relationship, which I review in the next section.

### **The Multifaceted Relationship of Parenting Stress and Internalizing and Externalizing Behaviors**

Research investigating contributors to parenting stress when the child is in adolescence has to date primarily evaluated links between parenting stress and physiological concerns such as gastrointestinal disorder (Wu, Franciosi, Rothenberg, & Hommel, 2012), obesity (Guilfoyle, Zeller, & Modi, 2010), and rheumatoid arthritis (Ross et al., 1993). In the area of child behavior, links between the presence of autism in an adolescent and parenting stress have been noted (Karst & Van Hecke, 2012; Rao & Beidel, 2009), but minimal research is dedicated to the link between internalizing or externalizing behaviors and parenting stress.



However, the limited studies that have focused on internalizing and externalizing behaviors in children have reported that parenting stress predicted such behaviors in children (Costa et al., 2006; Rodriguez, 2011). While this is in accord with the environmental, and more specifically, microsystem influences of Bronfenbrenner's ecological model (Bronfenbrenner & Morris, 2006), the psychological individuality, temperament, and behavioral and other characteristics of children and adolescents, as well as the application of these characteristics in varying contexts, generate differing reactions from those in their environment (e.g. parents) (Lerner, 1993; Thomas & Chess, 1977). As Darling (2007) notes, the core of the Bronfenbrenner model focuses on the child or adolescent in the center of the model; "the central force in development is the active person: shaping environments, evoking responses from them, and reacting to them" (p. 204). Thus levels of parenting stress may rise as a reaction to child internalizing and externalizing behaviors, creating a bi-directional effect given previous suggestions that child behaviors worsen as a result of parenting stress (Deater-Deckard, 2004). An understanding of both components of these bidirectional effects contributes to a more comprehensive understanding of the relationship between parents and children (Karraker & Coleman, 2005; Patterson & Fisher, 2002).

Thus despite some knowledge of the impact of parenting stress on child or adolescent behavior, the literature is more inconclusive regarding the reverse: child or adolescent internalizing and externalizing behaviors' prediction of parenting stress. Additionally, there remains a dearth of literature relating to the prediction of parenting stress by *adolescent*, rather than child, behaviors. However, when behaviors in children were noted to predict changes in parenting stress (Anastopoulos et al, 1992; Anderson,

2008; Baker, 1994; Biondic, 2011; Jackson, 2000; McStay, Dissanayake, Scheeren, Koot, & Begeer, 2013; Neece & Baker, 2008; Williford, Calkins, & Keane, 2006), the prediction occurred with varying effect sizes, which may be indicative of the presence of a moderating variable, which would affect the strength of the relationship of behaviors and parenting stress (Baron & Kenny, 1986). Several variables have been evaluated as potentially acting as a buffer of adolescent behaviors for a variety of outcomes.

**Moderators of adolescent behavior and parenting stress.** Crnic and Low (2002) noted that “buffer or moderator effects are not ubiquitous in stress research... they are often less than routine in the literature” (p. 261). Still, previous literature has considered a few of potential moderators of child behavior and parenting stress in an attempt to understand these varied effects. In one study, social support significantly predicted parenting stress in parents of young children (McConnell, Breitzkreuz, & Savage, 2011; Östberg & Hagekull, 2000), but in general this is a limited literature, without clear conclusions about the significance of social stress (Breevaart & Bakker, 2011; McConnell et al., 2011; Suarez & Baker, 1997).

Parental coping (Abbeduto et al., 2004) and self-efficacy (Jackson, 2000) have also been evaluated as moderators of the relationship between child behavior and parenting stress or factors related to parenting stress; however, neither was significant in these two studies. Still, it is of note that the literature has focused largely on *parent* characteristics as moderators. While parent participation in their child or adolescent’s intervention is often ideal (Barmish & Kendall, 2005; Connell, Dishion, Yasui, & Kavanagh, 2007), parents may display limited engagement in their child’s therapeutic interventions due to a variety of factors and barriers (e.g. differing expectations) (Karver,

Handelsman, Fields, & Bickman, 2006; Morrissey-Kane & Prinz, 1999; Nock & Ferriter, 2005). This phenomenon has specifically been noted to occur among parents with higher parenting stress (Patterson & Chamberlain, 1994). Further, many of the covariates and moderators evaluated (e.g. age of the child, life stressors, etc.) may not be possible to change through intervention or are linked to inconclusive literature regarding interventions' effectiveness for specific concerns (Hogan, Linden, & Najarian, 2002). Thus, for the goal of practical application, it is helpful to consider what characteristics of adolescents that may respond to intervention uniquely contribute to or affect levels of parenting stress. Adolescent social skills, which have been successfully targeted in intervention both with and without parental involvement (Pfiffner & McBurnett, 1997; Quinn, Kavale, Mathur, Rutherford, & Forness, 1999; Spence, 2003; Spence, Donovan, & Brechman-Toussaint, 2000) and have been linked to internalizing and externalizing behaviors as well as parenting stress (Neece & Baker, 2008), constitute an ideal characteristic to evaluate as a moderator. In the next section, I provide a focused review of adolescent social skills.

### **Adolescent Social Skills**

Gresham (2002) described social skills as “specific behaviors that an individual exhibits to perform competently on a social task” (p. 406). These specific behaviors have been observed to typically develop on a non-linear trajectory in which the period from Kindergarten to 2<sup>nd</sup>/3<sup>rd</sup> and the period from 3<sup>rd</sup> to 5<sup>th</sup> are peak times of normative social skill development, with far less growth occurring between 2<sup>nd</sup> and 3<sup>rd</sup> (Berry & O'Connor, 2010; Chan, Ramey, Ramey, & Schmitt, 2000). Individuals who develop or utilize social skills at a slower pace than their normative peers are at risk for a number of

negative outcomes; however, early social skill interventions may lessen or circumvent these issues before problem behaviors arise (Lamont & Van Horn, 2013).

In some cases, social skill concerns arise from a lack of social interaction (i.e. performance; e.g. social withdrawal, social anxiety). In other instances, social interaction is present, but is not appropriate for the positive development of positive peer interactions and relationships (i.e. accuracy and fluency; e.g. aggression, a lack of social competence). Relatedly, when children fail to interact with peers, they may miss the opportunity to form positive and reciprocated friendships, which are linked to numerous important outcomes, including decreases in internalizing and externalizing problems, improved emotional well-being and psychosocial development (Vitaro, Boivin, & Bukowski, 2009). Alternatively, negative social interactions such as peer victimization can be similarly isolating. For instance, while some children display internalizing or externalizing behaviors prior to experiencing peer victimization, even higher levels of these behaviors may occur after the victimization along with other concerns, such as suicide, associated with being victimized by peers (Ladd, 2005). Relatedly, Lopez and Dubois (2005) developed a conceptual model in which negative peer self-evaluation contributes to global self-derogation, which contributes to emotional, behavioral, and academic problems.

In some instances, social skills deficits contribute to a negative degenerative cycle that includes internalizing disorders such as social anxiety and depression at its peak (Coplan, Findlay, and Nelson, 2004); in others, social skill deficits are a function of an already-existing disorder which impacts an individual's ability to interact well with peers, teachers, family members, and others (e.g. acting impulsively and thus, in some social

situations, inappropriately as a result of ADHD [Landau & Moore, 1991] or making errors in the interpretation of social information). For example, boys with ADHD were rated significantly lower than boys without hyperactive and inattentive characteristics when others were asked how much they would like to have that boy as a friend (Erhardt & Hinshaw, 1994).

**Links between adolescent social skills and parenting stress.** Perhaps as a result of contributing to concerns such as a lack of positive peer relationships, academic achievement, and other positive outcomes, adolescent social skill deficits may potentially contribute to parenting stress. Social skills were related to a variety of emotional and behavioral outcomes in earlier stages of childhood, when the development and use of social skills is integral to child development and avoidance of mental health concerns (Coplan, Findlay, & Nelson, 2004; Vitaro, Boivin, & Bukowski, 2009). Higher levels of social skills may also elicit more positive reactions from individuals in the child's environment, including their parents (Buss & Plomin, 1986). Relatedly, levels of sociability in young children were significantly correlated with the parent-child interaction domain of parenting stress in fathers (McBride, Schoppe, & Rane, 2002).

In a sample with slightly older children, Neece and Baker (2008) reported that eight-year-olds' social skills explained unique variance in maternal parenting stress, which decreased .28 units for every standard deviation increase in social skills. The authors noted that these results suggested that targeting social skills in child interventions may decrease parenting stress. However, the oldest children in the Neece and Baker study were eight years old, again pointing to a need to move this research up to focus on adolescents.

Elaborating on this point, as children age into adolescence, the literature grows less conclusive. For example, in one study, Caucasian adolescents' self-rated social acceptance (such as being accepted by peers, being popular, and being likeable) was not related to parenting stress (Putnick et al., 2008). In another study, children and adolescents with clinical levels of inattention/hyperactivity tended to have poorer social skills than youths without these elevated behavior levels (Klimkeit et al. 2006; also see Segrin & Flora, 2000).

Thus, given the knowledge of the impact of social skills in earlier childhood, the stability or increase of inattention/hyperactivity (Jester et al., 2005) and internalizing behaviors (Leve, Kim, & Pears, 2005) over time and into adolescence, and the psychosocial vulnerability created by low social skills, the prediction of parenting stress by adolescent behavior in relation to social skills may persist.

### **Current Study**

Given the scarcity and inconsistency of literature regarding the relationship between internalizing and externalizing behaviors and parenting stress in general, and with adolescent social skills as an influencing variable, the current study aimed to answer the following two major research questions:

- 1) Do adolescent internalizing behaviors significantly predict parenting stress and do adolescent social skills moderate the relationship between adolescent internalizing behaviors and parenting stress?

2) Do adolescent externalizing behaviors significantly predict parenting stress and do adolescent social skills moderate the relationship between adolescent externalizing behaviors and parenting stress?

The current study uniquely examines the role of adolescent social skills in contributing to the relationship between adolescent emotional and behavioral concerns and parenting stress. The sequence of regression models includes investigation of parenting stress as predicted by adolescent demographic covariates, adolescent behaviors, adolescent social skills, and interaction terms among adolescent behaviors and social skills. Next, the methodology of the current study, including descriptions of adolescent and parent participants and measures is described. Results are presented and interpreted, followed by a discussion of limitations of the current study and potential future directions of research to advance the understanding of adolescent emotional and behavioral concerns on parenting stress.

## CHAPTER 2

### METHOD

**Participants.** Participants were 647 high school students at 50 schools in five states (Kansas, Missouri, Ohio, Pennsylvania, and South Carolina) as part of a five-year research study through the Center for Adolescent Research in Schools (CARS) project funded by the Institute of Education Sciences from 2008-2013 (Principal Investigator (PI) Lee Kern, Lehigh University; Site PI in SC, Mark Weist). CARS aimed to develop and deliver a multi-component, evidence based intervention for youth with emotional, behavioral, and academic concerns through collaborations between school personnel, mental health professionals, and families.

Teachers, administrators, and other school personnel were asked to identify up to 20 students fitting specific criteria for the CARS study at each school. Criteria included: 1) Students were required to be in the 8<sup>th</sup>, 9<sup>th</sup>, or 10<sup>th</sup> grade during the 2010-2011 school year and must plan to attend one of the participating high schools in the fall of 2011; 2) Students presented social, emotional, or behavioral problems, as indicated by parent reports on a broad band rating scale or student self-report on measures of anxiety and depression; 3) Students demonstrated impairment at school as indicated by at least five absences other than illness and/or tardies in any month during the current semester, four or more office referrals/behavioral infractions over the course of a single semester, two or more in school suspensions (ISS) or out of school suspensions (OSS) in the current



academic year; and/or having one or more Fs or two or more Ds in any core academic subject in one of the most recent grading periods; 4) Students diagnosed with a Pervasive Developmental Disorder (e.g. Autism) or “Mental Handicap” (e.g. Intellectual Disability) were not eligible to participate; 5) Students’ cognitive ability must have been in the average range (IQ equal to or above 75); and 6) Students and at least one parent/guardian needed to speak English fluently. Of the 647 participants meeting these criteria, 228 did not complete all questions on measures related to covariates, predictors, or the outcome in the present analyses and were removed from analyses.

The final sample consisted of 419 13- to 18-year-old students. The adolescent sample was largely male (65%) and primarily identified as White/Caucasian (52%) and Black/African American (39%). Parents of 47% of students reported that the adolescent had ADHD, 27% had depression, and 25% had anxiety. 43% of the adolescent sample received special education and 56% had received counseling.

Parent/guardian reporters were primarily parents (95%), but stepparents, grandparents, legal guardians, and other relatives reported as well. Parent reporters were primarily female (91%). More than half of the parents had never been married (51%) or were separated (6%), divorced (15%), widowed (3%); 24% of parent reporters were married.

After an initial sample was identified using the criteria described above, school personnel contacted parents/guardians of identified students for permission for the CARS staff to initiate contact. Students that failed to return permission slips within a week were

offered a \$5 gift card as an incentive for returning the form, regardless of whether permission was granted for participation in the program.

**Procedures.** Parents/guardians and students participated in an initial meeting in which goals and procedures of the project were described to the parent(s) and the student, along with the risks and benefits (e.g. monetary compensation) of participation. Informed consent was obtained from the parent/guardian and assent was obtained from the student. Following consent/assent, many families chose to complete the initial surveys during the same meeting. The approximately two-hour survey included a battery of psychosocial assessments of student functioning in school, social, and family contexts, as well as interviews about previous experience with services. Parents and students received \$50 for completion of the surveys. Surveys that were not completed during the initial meeting were administered to students and their parents/guardians either before or during the fall semester of 2011 in their home, school, or another agreed-upon location.

Institutional review board approval was obtained at the CARS-affiliated university in each of the five states (Kansas, Missouri, Ohio, Pennsylvania, and South Carolina) as well as in collaborating school districts. The study adhered to all ethical principles of research using human subjects. Respondents were identified by assigned numbers only prior to data analysis in order to exclude identifying information.

**Measures.** The *Parent Demographic Questionnaire* was used to gather information regarding parent and child demographics such as family history of physical and mental health concerns, socioeconomic status, reporter relation to the adolescent, reporter marital status, and parents' occupation and highest level of education.

The *Stress Index for Parents of Adolescents (SIPA)* (Sheras, Abidin, & Konold, 1998) was used as a measure of parenting stress in parents of adolescents aged 11 to 19. The SIPA consists of 112 items, 90 of which parents rate on a five-point Likert scale (Strongly Disagree, Disagree, Not Sure, Agree, and Strongly Agree) and 22 of which parents rate on a “Yes” or “No” scale regarding stressful life events. The SIPA uses three domains, Adolescent, Parent, Adolescent-Parent Relationship, which create an Index of Total Parenting Stress; it also includes a Life Stressors scale. The outcome variable in the current study (parenting stress) is the sum of the three domains; Life Stressors, though a component of Total Parenting Stress on the SIPA, is evaluated as a covariate in the current study. The adolescent domain inquires specifically about adolescent characteristics including moodiness/emotional lability, social isolation/withdrawal, and delinquency/antisocial, which are particularly informative for the present study.

The SIPA is highly reliable; test-retest reliability for the Adolescent, Parent, and Adolescent/Parent Relationships Domains, and the Index of Total Parenting Stress ranged from .87 to .93, indicating that parent responses on the SIPA remain stable over a period of time. Internal consistency for the total parenting stress index used in the study, which utilized all items from all three domains but excluded Life Stressors, was good at .89.

The literature is mixed regarding parent and child report of externalizing behaviors. Some note that agreement is higher for externalizing than internalizing disorders (De Los Reyes & Kazdin, 2005; Stanger & Lewis, 1993; Youngstrom, Loeber, & Stouthamer-Loeber, 2000), while others noted larger discrepancies for externalizing than internalizing behaviors (Verhulst & van der Ende). However, as the current study also evaluates parenting stress, it is of note that caregiver stress has been related to parent

report of child behavior problems, with caregiver stress potentially linked to negative perceptions of the child (Renk, Roddenberry, Oliveros, & Sieger, 2007) that may then skew parent ratings of adolescent externalizing behavior. Thus in a study of effects on parenting stress, adolescent self-report, rather than parent-report, of behavioral problems may avoid this potential bias.

The *Behavior Assessment System for Children for Children, Second Edition Self Report of Personality- Adolescent Version (BASC-2 SRP-A*; Reynolds & Kamphaus, 2004) uses a comprehensive behavior rating scale to measure internalizing and externalizing behaviors. Test-retest reliability for composites and scales on the BASC-2 SRP-A ranged from the .70s to the .80s (Reynolds & Kamphaus, 2004). The measure's internal consistency for the sample was excellent at .94. Standard scores, or T-scores, which are used to indicate behavioral levels, have a mean of 50 and standard deviation of 10. For the clinical scales (e.g. Internalizing, Inattention/Hyperactivity), T-scores of 70 and above are considered "clinically significant" with T-scores from 60 to 69 considered "at risk." For the adaptive scales (e.g. Interpersonal Relations), T-scores of 30 or lower are considered "clinically significant," with T-scores from 31 to 40 considered "at risk." Specific BASC-2 subscales were utilized to measure students' levels of internalizing problems, externalizing problems, and social skills.

***Adolescent Internalizing Behaviors.*** The BASC-2 SRP-A Internalizing Problems composite was used to measure levels of internalizing concerns in adolescents. The Internalizing Problems composite exhibits strong reliability with a test-retest reliability of .81 (Reynolds & Kamphaus, 2004). Internal consistency for the current sample was greater than .95. The composite contains the Atypicality, Locus of Control, Social Stress,

Anxiety, Depression, Sense of Inadequacy, and Somatization scales of the BASC-2 SRP-A and converts the combination of raw scores to a *T* score that is then used to evaluate whether the adolescent's score falls in the normal, at-risk, or clinical ranges. For the current study, *T* scores were evaluated on a continuous scale.

***Adolescent Externalizing Behaviors.*** The BASC-2 SRP-A Inattention/Hyperactivity composite was used to measure levels of externalizing concerns in adolescents. Though the Inattention/Hyperactivity composite is less reliable than the Internalizing Composite, it still demonstrated good reliability with internal consistency of .77 in the sample and test-retest reliability of .79 (Reynolds & Kamphaus, 2004). The Inattention/Hyperactivity composite includes scores from the BASC-2 SRP-A Attention Problems and Hyperactivity scales.

***Adolescent Social Skills.*** The BASC-2 SRP-A Self-Report (Adolescent) Interpersonal Relationships scale was used to measure adolescent social skills. The scale has a test-retest reliability of .75 and an internal consistency of nearly .8 for adolescents. Due to the small number of items on the scale (i.e. seven items), alpha may not be a good representation of the scale's internal consistency as alpha increases with the number of items.

### **Data Analysis Plan**

The primary regression equation of interest for the prediction of parenting stress by internalizing and externalizing behaviors with social skills as a moderator, considering covariates, was represented by the following equation:

$$\text{ParentingStress} = i + a(\text{Gender}) + b(\text{Ethnicity}) + c(\text{Age}) + d(\text{SES}) + e(\text{LifeStressors}) \\ + f(\text{InternalizingBehaviors}) + g(\text{ExternalizingBehaviors}) + h(\text{SocialSkills}) + \\ i(\text{InternalizingxSocialSkills}) + j(\text{ExternalizingxSocialSkills}).$$

where a, b, c, d, and e represented the effects of the covariates on parenting stress, f was in the increase in parenting stress for every one standard deviation increase in internalizing behaviors, g was in the increase in parenting stress for every one standard deviation increase in externalizing behaviors, h was in the increase in parenting stress for every one standard deviation increase in social skills, i was in the increase in parenting stress for every one standard one standard deviation increase in the interaction term of internalizing behaviors and social skills, and j was the increase in parenting stress for every one standard deviation increase in the interaction term of externalizing behaviors and social skills (see Figure 2.1). A sequence of models was examined. The covariates were jointly entered into the model first, followed by internalizing and externalizing behaviors second, social skills third, and the interaction terms fourth. This sequence of model testing allowed for examination of the significance in the change between the first, second, and third models to provide understanding of the indicated main effects of the covariates and predictors on parenting stress. The significance of the change in variance explained by the fourth model was used to determine whether social skills significantly moderated the relationship between internalizing and externalizing behaviors and parenting stress.

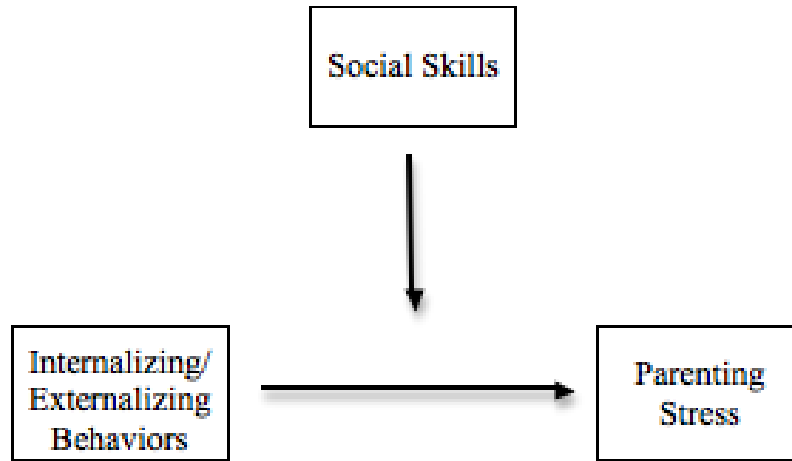


Figure 2.1 Model of moderating effect of social skills on the relationship between internalizing and externalizing behaviors and parenting stress.

## CHAPTER 3

### RESULTS

#### **Descriptive Analysis**

All primary study variables were examined for violations of assumptions of normality. Adolescent social skills was a negatively skewed variable; a square root reflection transformation was used to approximate a normal distribution. The frequency of reports, and means and standard deviations where relevant for study variables are reported in Table 3.1. The average total parenting stress score was 223.85 (SD = 50.48, Range = 90 - 360). The average internalizing behaviors T-score was 55.70 (11.57), which fell into the average range on the BASC. The average externalizing behaviors T-score was 60.95 (SD = 10.76), which fell into the at-risk range. The mean social skills T-score also fell into the average range (M = 48.54, SD = 11.85).

Assumptions of multiple regression in the model were evaluated and yielded a non-linear relationship between the interaction terms and parenting stress, indicating that this equation may not be best fit by a linear model. However, there was independence of residuals, as assessed by a Durbin-Watson statistic of 2.060. There was homoscedasticity (see Figure 3.1). There was no multicollinearity, as assessed by tolerance statistics no smaller than .547. No points were highly influential, as all Cook's d values were below 1. Lastly, the P-P plot indicated that residuals were normally distributed (see Figure 3.2).



Correlations among study variables indicated that parenting stress decreased as adolescent age increased ( $r = -.133, p = .003$ ). Parenting stress also increased as life stressors increased ( $r = .329, p = .000$ ) and as all three main predictors increased: internalizing behaviors ( $r = .235, p = .000$ ), externalizing behaviors ( $r = .118, p = .008$ ), and social skills ( $r = .184, p = .000$ ). Notably, parenting stress was not significantly correlated with adolescent demographic covariates (correlations among all study variables can be seen in Table 3.2).

### **Regression Analysis**

Primary analyses examining the relationship between adolescent internalizing and externalizing and parenting stress utilized a multiple regression model to examine main effects and interaction effects contributing to parenting stress. Demographic variables were entered into the model first as covariates, followed by the main effects of adolescent internalizing and externalizing behaviors, as well as social skills, lastly followed by the two two-way interaction effects of adolescent behaviors and social skills as predictor variables.

The overall model significantly predicted 19 percent of the variance in parenting stress ( $F(10, 418) = 9.535, p < .05, R^2 = .189$ ) using the following equation:

$$\text{ParentingStress} = i + .068\text{Gender} - .079\text{Ethnicity} - .113\text{Age} - .008\text{SES} + .318\text{LifeStressors} + .200\text{InternalizingBehaviors} - .000\text{ExternalizingBehaviors} + .086\text{SocialSkills} - .043\text{Internalizing} \times \text{SocialSkills} + .066\text{Externalizing} \times \text{SocialSkills}$$

Neither two-way interaction terms were significant, indicating that social skills did not significantly moderate the relationship between internalizing ( $\beta = -.043$ ; see

Figure 3.1) or externalizing behaviors ( $\beta = .066$ ; see Figure 3.2) and parenting stress. Additionally, the interaction terms collectively explained only .3% of the variance in parenting stress ( $\Delta R^2 = .003$ ,  $\Delta F = 2.358$ ,  $p = .125$ ; see Table 3.3). Hypotheses were not supported, social skills and externalizing behaviors alone did not significantly contribute to the model; indeed, change in externalizing behaviors predicted no change in parenting stress ( $\beta = .000$ ). However, internalizing behaviors significantly predicted parenting stress ( $\beta = .200$ ,  $p < .05$ ), as did the covariates of age ( $B = -5.821$ ,  $p < .05$ ) and life stressors ( $\beta = .318$ ,  $p < .05$ ). This suggests that for every standard deviation increase in internalizing behaviors, parenting stress increases by .200 units. Additionally, for each one-year increase in age, parenting stress decreases by 5.821 units, but increases .318 units for every standard deviation increase in life stressors.

Because of associations in the literature of internalizing and externalizing behaviors with specific domains of parenting stress, each domain was evaluated as an outcome variable in separate analyses. The model, in which covariates were again entered first, followed by internalizing and externalizing behaviors, social skills, and the interactions of internalizing and externalizing behaviors and social skills, respectively, predicted 12.9% of the variance in the adolescent domain of parenting stress, 16.2% of the variance in the parent domain, and 7.8% of the variance in the adolescent-parent relationship domain. Life stressors, age, and internalizing behaviors significantly predicted the adolescent and parent domains of parenting stress. Ethnicity also significantly predicted the parent domain of parenting stress, but only life stressors and internalizing behaviors significantly predicted the adolescent-parent relationship domain of parenting stress. Beta weights and other parameters for the adolescent, parent, and

adolescent-parent relationship domains are reported in Tables 3.4, 3.5, and 3.6, respectively.

Table 3.1 Descriptive Statistics.

	n	%	Mean	SD
<b>Gender</b>	<b>647</b>			
Male	430	66.5		
Female	217	33.5		
<b>Age</b>	<b>419</b>		<b>15.31</b>	<b>.98</b>
<b>Ethnicity</b>	<b>647</b>			
White/Caucasian	337	52.1		
Black/African American	250	38.6		
Hispanic/Latino	34	5.3		
Black/White	14	2.2		
Asian	3	.5		
Other	9	1.3		
<b>Socioeconomic Status</b>	<b>521</b>			
\$0 – \$20,000	226	43.4		
\$20,001 - \$40,000	200	38.4		
\$40,001 +	95	18.2		
<b>Life Stressors</b>	<b>419</b>		<b>4.06</b>	<b>2.76</b>
<b>Internalizing Behaviors</b>	<b>419</b>		<b>55.70</b>	<b>11.57</b>
<b>Externalizing Behaviors</b>	<b>419</b>		<b>60.95</b>	<b>10.76</b>
<b>Social Skills</b>	<b>419</b>		<b>48.54</b>	<b>11.85</b>
<b>Internalizing*Social Skills</b>	<b>419</b>		<b>9.29</b>	<b>21.11</b>
<b>Externalizing*Social Skills</b>	<b>419</b>		<b>3.49</b>	<b>18.29</b>

Table 3.2 Intercorrelations of Model Predictors and Outcomes.

	1	2	3	4	5	6	7	8	9	10	11
1. Gender		.120*	-.019	.109*	.038	-.184*	-.149	-.110*	-.061	-.027	.022
2. Age			.067	-.043	-.070	-.010	-.0791	-.005	-.017	.002	-.133*
3. Ethnicity				-.087*	.108*	-.005	-.098*	-.011	.058	.084*	-.052
4. SES					-.112*	.069	.076	.122*	.109*	.065	-.001
5. Life Stressors						.026	-.018	.025	-.040	-.004	.329*
6. Internalizing Behaviors							.516	.522*	.237*	.065	.235*
7. Externalizing Behaviors								.212*	.062	-.008	.118*
8. Social Skills									.283*	.080	.184*
9. Internalizing x Social Skills										.573*	.046
10. Externalizing x Social Skills											.152
11. Total PS											

Note: An asterisk (\*) indicates  $p < .05$ .

Table 3.3 The Impact of Internalizing and Externalizing Behaviors and Social Skills on Total Parenting Stress.

	$\beta$	$\Delta R^2$	$\Delta F$	p
<b>Model 1</b>		.128	12.110	.000
Gender	.068			
Age	-.113			
Ethnicity	-.079			
SES	-.008			
Life Stressors	.318			
<b>Model 2</b>		.054	13.571	.000
Internalizing Behaviors	.200			
Externalizing Behaviors	.000			
<b>Model 3</b>		.005	2.358	.125
Social Skills	.086			
<b>Model 4</b>		.003	.720	.487
Internalizing*Social	-.043			
Externalizing*Social	.066			

Table 3.4 The Impact of Internalizing and Externalizing Behaviors and Social Skills on the Adolescent Domain of Parenting Stress.

	$\beta$	$\Delta R^2$	$\Delta F$	p
<b>Model 1</b>		.096	10.829	.000
Gender	.073			
Age	-.107			
Ethnicity	-.051			
SES	.054			
Life Stressors	.264			
<b>Model 2</b>		.027	7.854	.000
Internalizing Behaviors	.145			
Externalizing Behaviors	-.037			
<b>Model 3</b>		.005	2.884	.090
Social Skills	.088			
<b>Model 4</b>		.001	.390	.677
Internalizing*Social	-.040			
Externalizing*Social	.041			

Table 3.5 The Impact of Internalizing and Externalizing Behaviors and Social Skills on the Parent Domain of Parenting Stress.

	$\beta$	$\Delta R^2$	$\Delta F$	p
<b>Model 1</b>		.118	11.102	.000
Gender	.046			
Age	-.090			
Ethnicity	-.112			
SES	-.030			
Life Stressors	.308			
<b>Model 2</b>		.052	12.761	.000
Internalizing Behaviors	.166			
Externalizing Behaviors	.031			
<b>Model 3</b>		.006	2.934	.087
Social Skills	.085			
<b>Model 4</b>		.006	1.565	.210
Internalizing*Social	.007			
Externalizing*Social	.076			



Table 3.6 The Impact of Internalizing and Externalizing Behaviors and Social Skills on the Adolescent-Parent Relationship Domain of Parenting Stress.

	$\beta$	$\Delta R^2$	$\Delta F$	$p$
<b>Model 1</b>		.049	5.228	.000
Gender	.020			
Age	-.029			
Ethnicity	-.017			
SES	-.009			
Life Stressors	.208			
<b>Model 2</b>		.021	5.727	.003
Internalizing Behaviors	.222			
Externalizing Behaviors	-.041			
<b>Model 3</b>		.006	3.446	.064
Social Skills	-.085			
<b>Model 4</b>		.002	.603	.548
Internalizing*Social	-.057			
Externalizing*Social	.046			

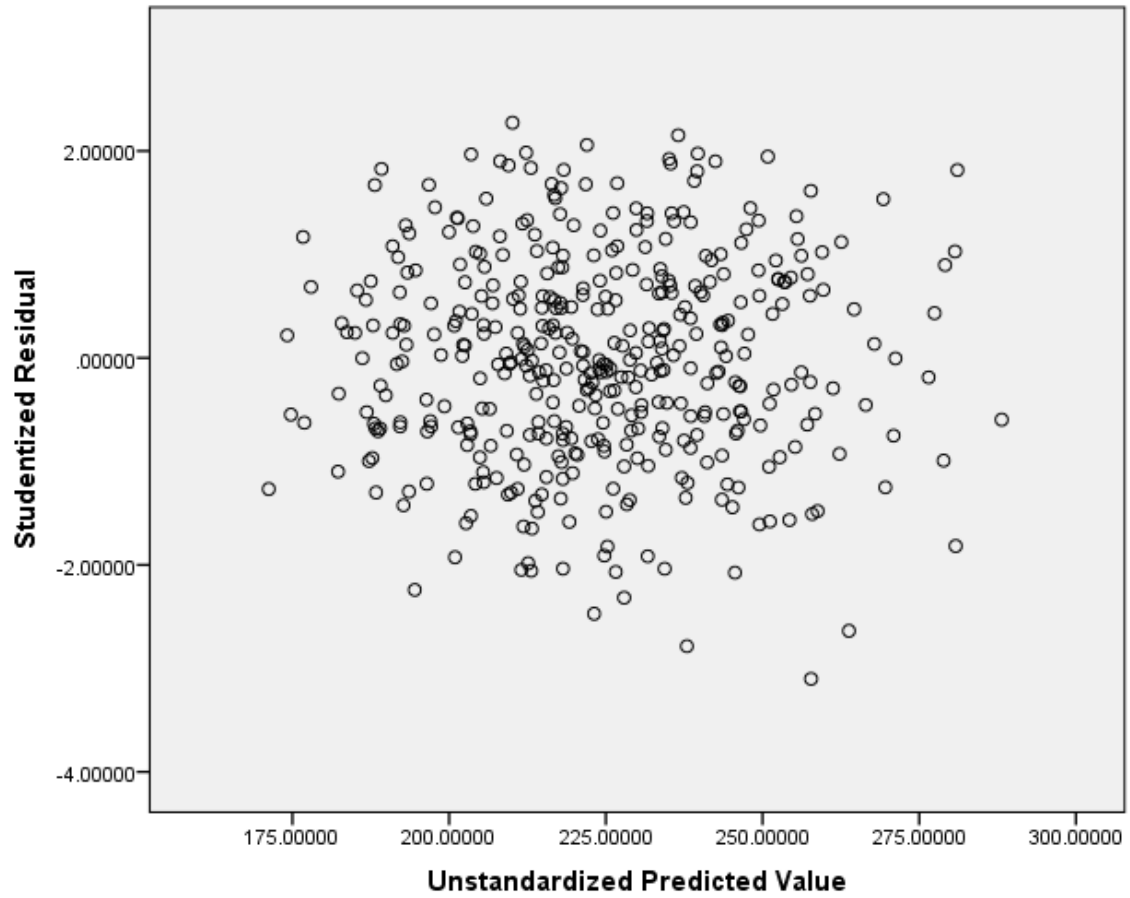


Figure 3.1 Homoscedasticity of residuals.

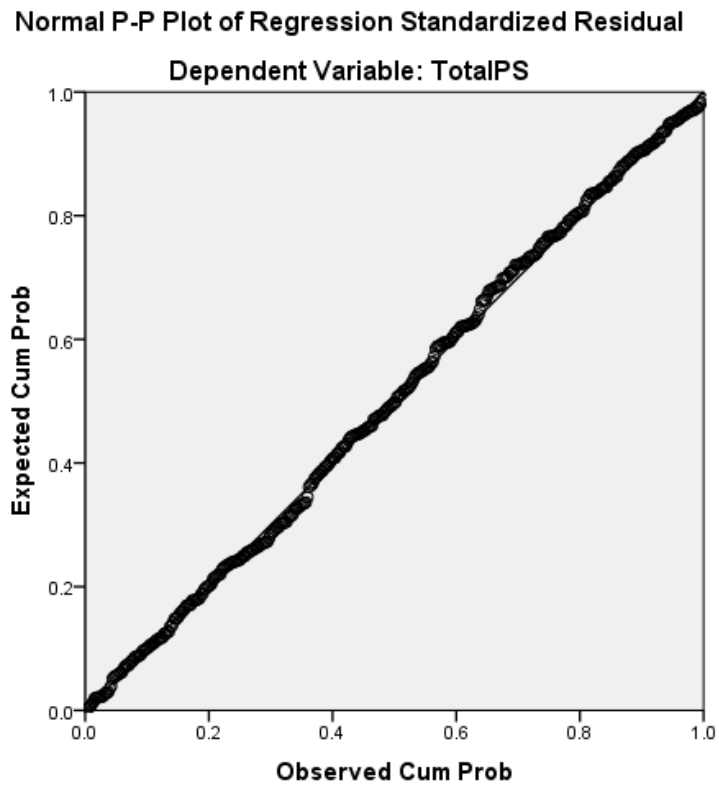


Figure 3.2. Normal distribution of residuals.

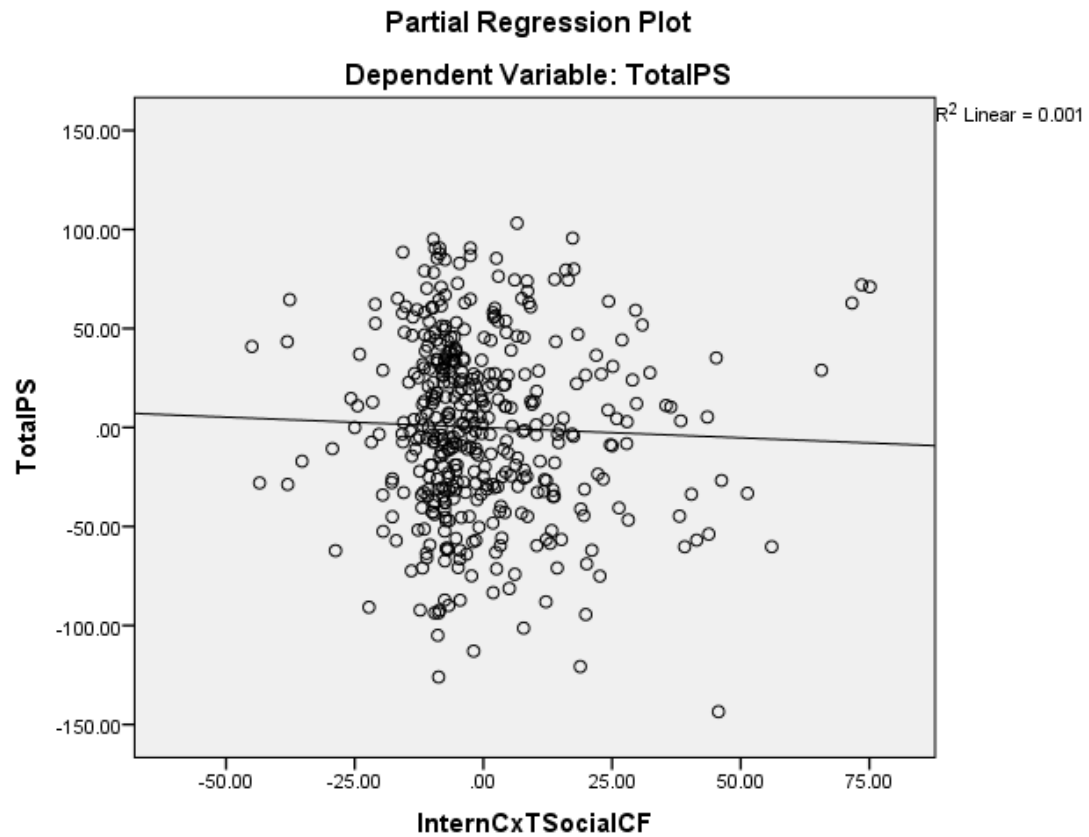


Figure 3.3 The moderating effect of social skills on the relationship between internalizing behaviors and parenting stress.

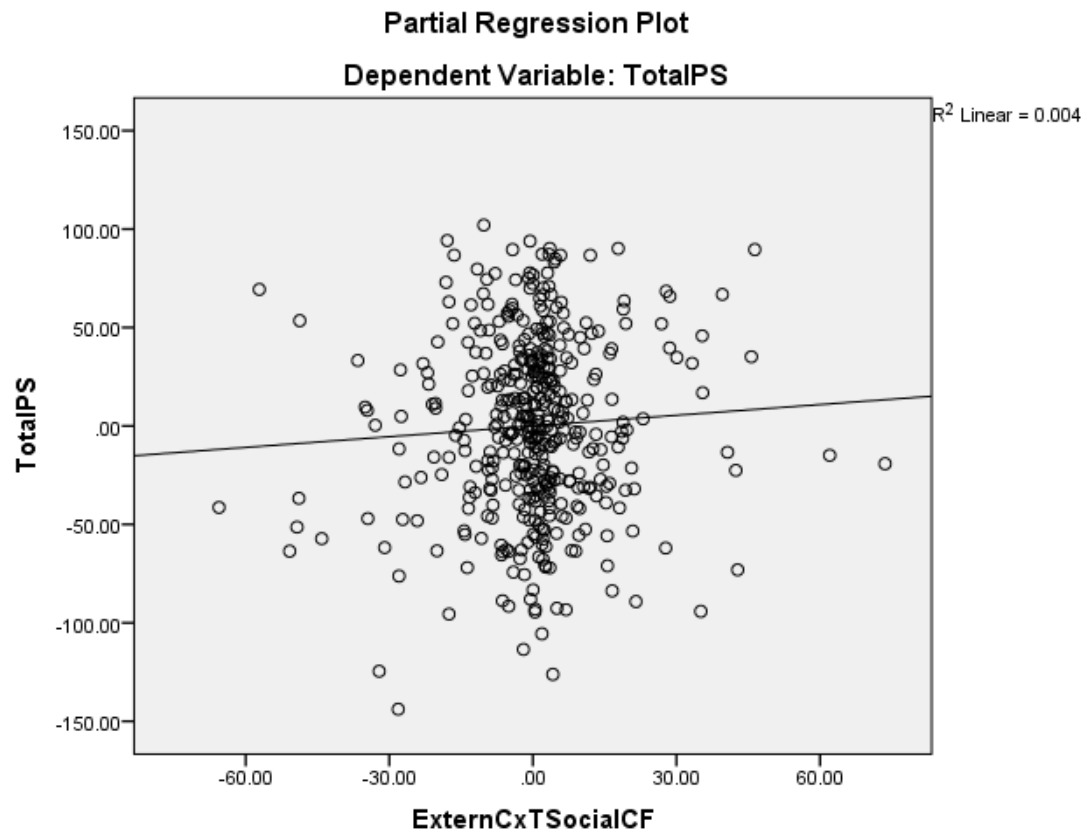


Figure 3.4 The moderating effect of social skills on the relationship between externalizing behaviors and parenting stress.

## CHAPTER 4

### DISCUSSION

The present study evaluated the extent to which internalizing and externalizing behaviors predicted parenting stress and the impact of social skills in moderating these relationships. Internalizing and externalizing behaviors significantly predicted total parenting stress, as was expected, but explained only a small percentage of the variance in parenting stress, indicating that there are other factors which may also contribute to parenting stress and provide ample opportunity for intervention. Social skills, contrary to our hypotheses, did not significantly moderate the relationship between internalizing or externalizing behaviors and parenting stress.

When looking more specifically at individual domains of parenting stress, which comprised the total parenting stress score, internalizing behaviors again significantly predicted parenting stress in the adolescent, parent, and adolescent-parent relationship domains though covariates also contributed significantly and differentially across domains. While differences among the specific domains were anticipated, these results contrasted with suggestions in the literature that externalizing behaviors would be linked to the parent domain (Baker, 1994; Morgan, Robinson, & Aldridge, 2002). As anticipated, internalizing behaviors predicted parenting stress in the parent and adolescent-parent relationship domains (Costa et al., 2006) but also significantly predicted parenting stress in the adolescent domain.

These results indicate that lower levels of internalizing behaviors are associated with less parenting stress. Intervention to reduce internalizing behaviors may then lessen parenting stress and limit the transactional effects of child and parent behaviors consistent with Deater-Deckard's (1998) model involving parenting stress, parenting behavior, and child behavior. However, because social skills did not moderate this relationship, it may not be a beneficial additional target of intervention. Similarly, externalizing behaviors were not a significant predictor of parenting stress and intervention in this area, though potentially beneficial for other outcomes, may not yield any change in parenting stress for parents of adolescents with inattention and hyperactivity. However, additional research is needed to understand the role that social skills may play in contributing to parenting stress for other populations of adolescents experiencing emotional and behavioral concerns.

However, as even the significant predictors of parenting stress at any level (total or within the domains) explained no more than 19 percent of the variance in parenting stress, considerable continued investigation into other predictors of parenting stress is necessary to better determine points for intervention. Relatedly, though evaluation of internalizing and externalizing behaviors' impact on parenting stress is valuable due to the prevalence and impact of both, Smith, Oliver, and Innocenti (2001) noted that factors other than child functioning (e.g. parents' available time for interaction, income, etc.) are better predictors of parenting stress. Intervention for such predictive factors may lessen parenting stress, in turn lessening child behavioral problems, which exert their own effect on parents.

Despite taking steps to investigate understudied components of this bidirectional relationship, such as relationships among variables in adolescence, the study faced a few limitations. First, while the use of the SIPA was primarily ideal when noting the age of the target adolescent population, some limitations of the measure arose when considering certain characteristics of the reporters, namely the parent sample. The SIPA instructions note that reporters that do not have a “spouse/partner” should leave blank items related to a spouse/partner, which contribute to the score on the parent domain of parenting stress. Because 74.4% of the sample identified as single, separated, divorced, widowed, or never been married, components unique to stress in single parenting in lieu of stress unique to spousal relationships may have been disregarded due to the design of this domain.

Second, the categorization of behaviors into “internalizing” and “externalizing” domains may disregard certain unique components of the types of behaviors that may fall into each category. In the case of externalizing behaviors, inattention/hyperactivity and aggression have been identified as unique constructs. Aggressive behaviors, which were not considered in the current study but are a unique construct within the category of externalizing behaviors, may significantly predict parenting stress in adolescents as such observations have been made in younger children (Anastopoulos et al., 1992) though inattention/hyperactivity did not do so on its own. In regard to internalizing behaviors, separate, though often co-morbid constructs of mood and anxiety disorders (Kovacs & Devlin, 1998) could be evaluated to observe their unique contributions to variance.

Third, as children and adolescents increase in age, their report of their own behavior grows increasingly discrepant from their parents’ report. Child and parent ratings of child internalizing behaviors often correspond minimally at best and are



significantly different at worst (De Los Reyes & Kazdin, 2005; Stanger & Lewis, 1993; Verhulst & van der Ende, 1992) and this gap may increase with age (Verhulst & van der Ende, 1992). Even when correlations between child and parent report of internalizing behaviors occurred, Hughes and Gullone (2010) noted that the distribution of mean discrepancies, though the overall discrepancies were low, indicated sizable differences between child and parent report. Indeed, because internalizing behaviors are less observable to individuals not immediately experiencing them, discrepancies may arise when parents report another individual's (i.e. their child's) internalizing behaviors (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). Self-report of internalizing behaviors, then, is expected to be a unique and accurate representation of adolescent behaviors, and was utilized in the current study, but only represents one perspective of adolescent behavior.

As is the case with internalizing behaviors, adolescents report their externalizing behaviors differently than their parents do (De Los Reyes & Kazdin, 2005; Stanger & Lewis, 1993) and this discrepancy increases as children age (Verhulst & van der Ende, 1992). However, because parenting stress may impact parent reporting of child behavior (Renk et al., 2007), child or adolescent report may be less biased than parent report (Rodriguez, 2011).

Regarding the report of adolescent social skills, the discrepancy between child and parent informants is perhaps less large than that occurring with adolescent internalizing and externalizing behaviors (Verhulst & van der Ende, 1992). However, because peers have been noted to have more concordant reports with other adolescents than parents, there may be a component of social competence or interaction that parents

may not recognize (Schneider & Byrne, 1989). Galejs and Stockdale (1982) note that this may be because of the “lens” through which parents view child behavior, focusing instead on child politeness or cooperativeness with adults, which is reflected in parent measures for adolescent social skills. For example, the BASC Parent Report Social Skills scale (Reynolds & Kamphaus, 2004) asks questions related to interpersonal issues such as whether the adolescent says “please and thank you,” while the adolescent self-report of Interpersonal Relations, also intended to be a measure of social skills focuses on interactions with peers. Thus, in using adolescent report of internalizing, externalizing, and social behavior, the current study evaluated only one reporter’s view of adolescent behavior; future research may benefit from including the perspective of parents, teachers, and other reporters.

Despite these limitations, the current study identified that adolescent internalizing behaviors and parenting stress are associated among adolescents with emotional and behavioral concerns. This has important implications for interventions working with adolescents with internalizing behaviors and suggested that decreasing parenting stress may be a needed component to target in support of youth and families, especially given that reducing parenting stress may in turn contribute to improved adolescent outcomes. However, further research is needed to explore these implications. Results of the current study indicate that a model containing covariates gender, age, ethnicity, socioeconomic status, and life stressors, as well as predictors internalizing behaviors, externalizing behaviors, social skills, and terms representing the interaction of adolescent behaviors and social skills explains nearly 20 percent of the variance in total parenting stress, with adolescent age predicting a decrease in parenting stress and parent-reported life stressors

and adolescent internalizing behaviors predicting an increase in parenting stress. Further analyses may continue to evaluate bidirectional effects between adolescent and parent behaviors, consider the perspective of multiple reporters regarding these behaviors, identify additional predictors of parenting stress, and implement and evaluate interventions that disrupt the cycle of parenting stress, parent behaviors, and child behaviors in order to promote positive outcomes for parents and adolescents.

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