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Relationships between Child Emotional and Behavioral Symptoms and Caregiver Strain and Parenting Stress

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Abstract

Children with emotional and behavioral disturbance often have difficulties in multiple symptom domains. This study investigates the relationships between child symptoms and caregiver strain and parenting stress among 177 youth and their caregivers participating in a school-based system of care. Youth were grouped by symptom domain and included those with low scores on both internalizing and externalizing symptoms, those with only high internalizing symptoms, those with only high externalizing symptoms, and those with high symptoms levels in both internalizing and externalizing domains. Results revealed significant group differences on measures of caregiver strain and parenting stress. Caregivers of youth with symptoms in both internalizing and externalizing domains reported the highest levels of strain and stress; however, there was some variation in group differences by caregiver outcome. The results of this study emphasize the importance of not only providing services for youth, but also providing support services for their caregivers.

Keywords

Caregiver strain; Parenting stress; Serious Emotional and Behavioral Disturbance

Providing care for a child with serious emotional or behavioral difficulties is a significant source of strain and stress for parents and caregivers (Angold, et al., 1998; Brannan & Heflinger, 2001; Taylor-Richardson, Heflinger, & Brown, 2006). Caregiver strain, briefly, refers to both the outwardly, observable impact of caring such as balancing work and family as well as the less observable, emotional impact of caring. Historically, the literature on caregiver strain has focused on caring for persons with dementia (Schulz & Martire, 2004), adult children with severe mental illness (Saunders, 2003), or children with developmental

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disabilities (Green, 2007). Research investigating the impact of child and adolescent emotional and behavioral difficulties on caregiver strain has also received considerable attention (Angold, et al, 1998; Sales, Greeno, Shear, & Anderson, 2004; Taylor-Richardson, et al., 2006). Parenting stress, another important parental outcome is the adverse impact of efforts to adapt to parenting tasks and roles. Studies investigating child symptomatology on parenting stress have largely focused on developmental disorders (Britner, Morog, Pianta, & Marvin, 2003; Long, Gurka, & Blackman, 2008), but also include studies of child mental health symptoms (Anderson, 2008; Deater-Deckard, 2004; McDonald, Gregoire, Poertner, & Early 1997; Tzang, Change, & Liu, 2009). Further, the stress and strain associated with caring for a child with emotional and behavioral difficulties may be compounded by a parent's own emotional functioning or substance use (American Academy of Pediatrics, 2003; Deater-Deckard, 2004).

Caregiver strain and parenting stress can extend to the life and functioning of a child by impacting the caregiver's ability to parent (American Academy of Pediatrics, 2003; Deater-Deckard, 2004). Family characteristics, behaviors, and ways of interacting have been linked to child mental and physical health outcomes (American Academy of Pediatrics, 2003; Hawkins, Catalano, & Miller 1992) and, the quality of a child's relationship with a parent is critical to healthy development (American Academy of Pediatrics, 2003). If the strain associated with caring for a child with emotional disturbance interferes with this relationship, the child is at risk for not only development of further symptoms, but also exacerbation of current symptoms. The potential costs to families impacted by caregiver strain are great and underscore the need for prevention efforts aimed at the caregivers of children with emotional and behavioral difficulties (Huang, et al., 2005). An important step in the development of successful prevention programs is the investigation of factors related to caregiver strain and parenting stress.

One factor that may contribute to the amount of caregiver strain or parenting stress is the type or severity of the child's emotional or behavioral symptoms (Angold, et al., 1998; Bussing, et al., 2003a; Bussing, et al., 2003b; McDonald, et al., 1997). Many children and adolescents with severe emotional and behavioral challenges are served by systems of care. A system of care was first defined in 1986 by Stroul and Friedman as "A comprehensive spectrum of mental health and other necessary services which are organized into a coordinated network to meet the multiple and changing needs of children and their families." Youth with emotional and behavioral challenges present to these systems of care with a variety of mental health diagnoses including externalizing disorders such as oppositional defiant disorder, conduct disorder, or substance use disorders and internalizing disorders like depression and anxiety (Liao, Manteuffel, Paulic, & Sondheimer, 2001). Further, children and adolescents frequently present with impairment in both internalizing and externalizing domains (Lewinsohn, Shankman, Gau, & Klein, 2004). The current study aims to investigate the relationship between patterns of child symptoms and caregiver strain and parenting stress among a sample of youth receiving services in a system of care. Such knowledge will help service providers develop individualized care plans that meet the specific needs of the child and his or her family. Our review of the literature will define each construct (caregiver strain and parenting stress) and follow with a review of the relevant literature.

Caregiver Strain

Brannan, Helflinger and Bickman's (1997) conceptualization of caregiver strain includes 3 dimensions: Objective Strain, Subjective Externalized Strain, and Subjective Internalized Strain. Objective Strain refers to the more outwardly visible strains such as balancing work and family or negative events related to the child's symptoms. The Subjective Strain

subscales of Caregiver Strain Questionnaire developed by Brannan and colleagues reflect a caregiver's feelings toward the child and measures the internal, unobserved impact of caring (i.e., emotional consequences). Subjective Internalized Strain includes caregivers' feelings of sadness or worry about the child while the Subjective Externalized Strain refers to feelings of anger or resentment toward the child.

Caring for children with serious emotional and behavioral difficulties can impact objective strain, and subjective internalized and externalized strain. Research on the impact of caring for children with emotional and behavioral difficulties clearly demonstrated that these parents are taking on an enormous amount of responsibility (e.g., coordinating care, increased supervision) and making life changing choices (e.g., quitting a job) in order to meet their child's needs (Huang, et al., 2005). The current study will investigate the relationship between patterns of child symptoms and caregiver strain.

The impact of a child's emotional and behavioral symptoms on parents and caregivers has been documented in the literature (Angold, et al., 1998; Bussing, et al., 2003a; Bussing et al., 2003b). Utilizing a global measure of strain, Angold and colleagues (1998) found that overall higher levels of child symptoms were related to greater perceptions of strain. Yatchmenoff and colleagues (1998) investigated both direct relationships between child symptoms and stress related to caring for a child with an emotional or behavior disorder as well as a set of proposed mediators of this relationship and found overall child symptoms to be most predictive of parent-reported stress. Further, several researchers have found that child symptoms in both externalizing and internalizing domains predicted caregiver strain, but to different degrees. Angold and colleagues found, that parents of children with internalizing disorders had lower levels of strain than parents whose children exhibited externalizing disorders. Similarly, Bussing and colleagues (2003a) found that having a child with externalizing symptoms (e.g., oppositional defiant disorder) predicted a higher level of caregiver strain in both the subjective and objective dimensions. These authors also found that more child internalizing symptoms (e.g., inattention or depression) predicted both objective strain and subjective internalized strain (e.g., feelings of worry about the child) for the parents. Conversely, Bussing and colleagues also found that higher symptoms of anxiety were related to lower parental levels of subjective internalized strain. Bussing and colleagues (2003b) also studied social networks, caregiver strain, and mental health utilization among youth at risk for Attention Deficit Hyperactivity Disorder (ADHD) and found important relationships between child symptoms and caregiver strain in three dimensions. Oppositional defiant disorder predicted each of the 3 dimensions of caregiver strain. ADHD predicted strain in objective and subjective internalized strain and depression predicted strain in both subjective internalized and subjective externalized strain. Sales and colleagues (2004) found that caregiver strain mediated the relation between child symptoms and maternal mental health, thus emphasizing the importance of caregiver strain in examining child mental health outcomes. Overall, these results suggest that different symptom presentations may predict different levels and dimensions of caregiver strain. A limitation to drawing conclusions about patterns of symptoms and strain is that research to date has not examined the impact of a child's co-occurring symptoms on the multiple dimensions on caregiver strain. That is, do parents with children who have symptoms in both internalizing and externalizing domains experience the same amount of caregiver strain as those parents whose children have symptoms in only one domain. The results of the aforementioned studies might suggest that parents caring for children with not just more symptoms, but symptoms in multiple domains may experience the most caregiver strain.

Parenting Stress

Parenting stress has emerged an important indicator of parental functioning and is often examined as an outcome in evaluations of programs for children with emotional and behavioral difficulties (Abidin, 1992; Webster-Stratton, 1990). Deater-Deckard (2004) defines parenting stress as, "a set of processes that lead to aversive psychological and physiological reactions arising from attempts to adapt to the demands of parenthood" (pp. 6). Clearly, parents whose children have emotional and behavioral challenges face additional care demands related to the child's symptoms. In turn, these additional care demands may hinder parents' adaptation to parenting. Abidin (1990; 1992) proposes a model of parenting stress that encompasses multiple sources of stress including parent factors, child factors, and characteristics of the parent-child relationship. Parent factors include the parent's experience of certain emotions related to parenting. Child factors include child behaviors that are the source of stress. Finally, characteristics of the parent-child relationship include stress related to the quality of the relationship; that is, stress stemming from the parent-child subsystem.

Primarily, the research on parenting stress has focused on the relationship between parenting stress and subsequent child psychopathology (Costa, et al., 2006; Abidin, Jenkins, & McGaughy, 1992; Nelson, Stage, Duppon-Hurley, Synhorst, & Epstein, 2007) and has demonstrated that higher levels of parenting stress are related to higher levels of child symptomatology. Research investigating the relationships between child symptoms and parenting stress has found that child symptoms also predict parenting stress (Anderson, 2008; Deater-Deckard, 2004; McDonald, et al., 1997; Tzang, Change, & Liu, 2009). McDonald and colleagues (1997) found a direct relationship between externalizing behaviors and caregiver reported stress; however, this research utilized a more global measure of stress rather than measuring stress specific to the role of parenting. Although Deater-Deckard's (2004) research demonstrated increased stress among parents caring for children with anxiety and depression in general, internalizing symptoms have received less attention with regard to their relationships to caregiver strain and parenting stress. Anderson (2008) investigated child, parent and contextual predictors of parenting stress and found that youth problem behaviors were related to more stress. However, this study did not investigate the extent to which problems in multiple symptoms domains contribute to parenting stress. Finally, Tzang and colleagues (2009) investigated ADHD subtypes and parents stress in a Taiwanese sample. These authors found that parents of children with the combined subtype (inattentive and hyperactive impulsive) of ADHD reported more parenting stress that those parenting children with inattentive type. Taken together, these studies suggest that different patterns of child symptoms may yield stress and strain in different domains, and that caregivers of children with symptoms in both externalizing and internalizing domains may experience more parenting stress when compared to those caregivers of children with symptoms in one domain.

Study Purpose and Hypotheses

The current study aims to build upon the literature on child symptoms and caregiver strain and stress. These constructs are similar in that they reflect a parent's response to caring for a child. The distinctions between these two constructs are more subtle. Caregiver strain reflects the extent to which aspects of caring are problematic (e.g., financial strain) and engender particular feelings toward the child (e.g., anger, sadness) whereas parenting stress reflects a psychological response to the demands of parenting (e.g., not handling things well). While these constructs have been examined together as predictors of child outcomes following psychiatric inpatient treatment (Blader, 2006), these authors did not report bivariate associations between these two constructs. Further, to our knowledge these constructs have not been studied together as outcomes. The purpose of this study is to

investigate the relationships between patterns child emotional and behavioral symptoms and caregiver strain and parenting stress among children participating in a school-based system of care. More specifically, this study aims to test symptom group differences in caregiver strain and parenting stress utilizing the clinical cut-offs for the internalizing and externalizing subscales of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). It is hypothesized that parents of children presenting with symptoms in both internalizing and externalizing domains will report more caregiver strain and parenting stress than parents caring for children with symptoms in only one symptom domain.

Method

The Partnership for Kids (PARK) Project is a school-based system of care for children with severe emotional and behavioral difficulties and their families in Bridgeport, Connecticut. PARK is funded by the SAMHSA's Center for Mental Health Services as part of the Comprehensive Community Services for Children and their Families Program. All families enrolled into the PARK system of care receive school-based care coordination services and an array of wrap-around services individualized to the families' needs including, but not limited to therapeutic after school, therapeutic mentoring, psychiatric consultation, outpatient therapy, family advocacy, family empowerment, and youth empowerment. At intake families are invited to participate in a comprehensive outcome evaluation that includes an interview soon after intake and then every 6-months for 3 years for a total of 7 interviews. The evaluation of PARK Project conforms to all standards for ethical research and the Yale University School of Medicine Human Investigations Committee provides oversight of the study.

Data presented in this paper were collected from 177 families who after consenting to the study, participated in face to face interviews conducted in their homes by trained research staff. These interviews were completed within 30 days of the youth enrolling in the system of care. Families received a $40 gift card at the completion of the interview to compensate them for their time. The data collection interview consisted of a series of questionnaires administered to the parent/caregiver regarding their child's strengths, problem behaviors, parenting stress, caregiver strain and the services their child is receiving.

The youth participating in the Park Project are among Bridgeport's most impoverished and are representative of the city. Sixty-four percent of the sample was male and 36% female. Youth ranged in age from 5 to 18 (M = 12.34; S.D. = 3.46). The racial/ethnic backgrounds of participants were 63.5% Latino, 29.3% African-American, 7.2% Other. There were 5 youth without race/ethnicity data. This sample mirrors the population in Bridgeport with regard to the African-American youth, but the proportion of Latino youth in this sample is higher and the proportion of Caucasians is lower than the population in Bridgeport (U.S. Census Bureau, 2005). Approximately 90% percent of caregiver respondents were family members with 76.3% being a biological parent. Among caregivers, 47.3% had not received a high school diploma, a rate higher than the adult population of Bridgeport. Of the caregivers who reported income (8.5% had missing values), 90% of reported an annual household income of less than $35,000.

Measures

The measures included in these analyses represent a sub-set of those collected as part of the PARK Project evaluation and all are parent/caregiver report.

Child and Family Demographic Characteristics—Child and family demographic characteristics included age, caregiver and child gender, and race/ethnicity and family demographics include household income, and whom the child resides with (biological

mother, biological father, both parents, or other). Race/ethnicity included three groups based upon participants' responses to two questions regarding ethnicity and race. Because the sample was largely, Latino and African American, all other (Asian American, White) were included in the "Other" group.

Child Emotional and Behavioral Problems—The Child Behavior Checklist (CBCL) is a well-established, norm-referenced measure of problem behaviors for children between the ages of 4–18, which allows for standardized comparisons across individuals (Achenbach & Rescorla, 2001). The internalizing and externalizing scales were used in the present study. The internalizing subscale measures symptoms, such as withdrawal, somatic complaints, anxiety and depression, while the externalizing subscale measures symptoms, such as aggression, defiance, or delinquency. The CBCL is a parent-report measure in which parents report the presence of symptoms within the six months prior to the interview date. There are 32 items each for the internalizing subscale and 35 items for the externalizing subscale. For each item there are 3 response options (0 = Not True; 1 = Somewhat or Sometimes True; 2 = Very True or Often True). Achenbach and Rescorla (2001) report internal consistency alphas coefficients as .90 for the internalizing scale and .94 for the externalizing scales. They also report tests-retest reliabilities of .91 for the Internalizing scale and .92 for the Externalizing scale. The internal consistency alpha coefficients for the current sample were . 89 for the internalizing subscale and .92 for the externalizing subscale. High scores on the internalizing and externalizing scales characterize maladaptive behavior. A T-score of 64 or above represents the clinical cutoff for the internalizing and externalizing subscales.

Caregiver Strain and Parenting Stress—The Caregiver Strain Questionnaire (CGSQ; Brannan, Heflinger, & Bickman, 1997) is a 21 item self-report questionnaire designed to measure three dimensions of caregiver strain: objective strain, subjective internalized strain, and subjective externalized strain. Objective strain refers to observable consequences resulting from caring such as missing work or financial difficulties. Subjective internalized strain refers to the degree to which the caregiver experiences internalizing related strain such as worry or fatigue. Subjective externalized strain refers to the experience of anger or resentment toward the child resulting from the caring experience. Caregivers are presented with items asking "In the past 6 months, how much of a problem was the following?" Respondents rated the degree to which they experience a given problem using a 5 point-Likert scale with response options of: "not at all", "a little", "somewhat", "quite a bit", and "very much". The objective strain scale consists of 11 items. The subjective internalized and subjective externalized scales consist of 6 and 4 items, respectively. Higher scores in each dimension reflect more strain. In a sample of caregivers receiving Medicaid (Taylor-Richardson, Heflinger & Brown, 2006), reliability alpha coefficients were .93 for the objective strain scale, .93 for the subjective internalized strain scale, and .78 for the objective externalized strain scale. Internal consistency alpha coefficients for the sample in the current sample were .91 for the objective strain scale, .83 for the subjective internalized strain scale and .75 for the subjective externalized strain scale.

The Parenting Stress Index-Short Form (PSI/SF; Abidin, 1995) is a 36-item parent-report questionnaire that assesses stress in the parent-child relationship. The questionnaire consists of statements rated on a five-point likert-scale ("strongly disagree" to "strongly agree"). Parents/caregivers are asked to respond to items such as: "Since having a child I feel that I am almost never able to do things that I like to do." The instrument produces a total scale score (Total Stress), as well as scores for three subscales, parental distress (PSI-PD), which measures distress related to the parenting role; difficult child (PSI-DC), which assesses the child's difficult behaviors; and parent-child dysfunctional interaction (PSI-P-CDI), which focuses on disappointment in and alienation from the parent-child bond. Each subscale consists of 12 items. Scoring for the PSI/SF consists of summing of the items within each

subscale. Total Stress is quantified by summing of the three subscales with higher scores indicating higher levels of parenting stress. For the purpose of the current study the three subscales were utilized. Missing data at the item level was imputed with the mean for non-missing subscale items. The internal consistency alphas for the normative sample were .87 for PSI-PD, .85 for PSI-DC, and .80 for PSI-P-CDI. The internal consistency alphas coefficients for the current sample were .87 for PSI-PD, .84 for PSI-DC, and .81 for PSI-P-CDI.

Data Analytic Strategy—Preliminary data analyses were conducted to determine whether variables violated any assumptions of normality and to determine if any data were missing. Next, the CBCL results were used to categorize participants into 4 groups based upon whether or not they reached clinical cutoff in internalizing and externalizing symptomatology. Caregiver gender, child gender, and race/ethnicity were categorical variables and were dummy coded in the analyses. Age was a continuous variable. Multivariate analysis of covariance (MANCOVA) is used to test group differences on a linear composite of multiple dependent measures (Tabachnik & Fidell, 2007). Data were assessed for multivariate normality and an initial multivariate analysis of covariance was conducted to test symptom group differences on a linear composite of the caregiver strain and parenting stress measures. To better understand the contribution of child symptom patterns on these two constructs, follow-up analyses were conducted utilizing analysis of covariance (ANCOVA) to test symptom group differences in individual subtests of the Caregiver Strain Questionnaire and Parenting Stress Index.

Results

Analyses were conducted with baseline data from 177 children and adolescents participating in a school-based system of care. Missing values were found for caregiver gender (n = 8), youth race/ethnicity (n= 5), data on the CBCL (n = 3), the CGSQ (n = 1) and PSI (n = 1). Final analyses were conducted utilizing all available data. Table 1 lists the means and standard deviations for participant's CBCL internalizing and externalizing scores and caregivers' strain and parenting stress scores. The CBCL manual specifies clinical cutoffs as T-scores of 64 or higher (Achenbach & Rescorla, 2001).

Utilizing the clinical cut-offs for the CBCL, the resulting groups were 38 youth with low internalizing and low externalizing symptoms (Low Int/Low Ext), 17 youth with high internalizing symptoms and low externalizing symptoms (High Int), 41 youth with high externalizing symptoms and low internalizing symptoms (High Ext), and 78 youth with high internalizing and high externalizing symptoms (High Int/High Ext). Table 2 includes a correlation matrix for independent and dependent variables. Correlations revealed that the dependent measures were correlated, but not exceedingly so, making multivariate analysis of covariance an appropriate statistical method. Tests of multivariate normality revealed no violations. Preliminary analyses were conducted to determine if these groups differed by race/ethnicity, biological sex, income, age, and with whom the child resides. These analyses revealed only age differences by symptom group with those in the high internalizing group approximately 3 years older than those in the high externalizing and the high internalizing/high externalizing groups.

Multivariate analysis of covariance was conducted to investigate the impact of child patterns of emotional and behavioral symptoms on caregiver strain and parenting stress. Gender, race/ethnicity, and age were also included as control variables. Significant differences for child patterns of emotional and behavior symptoms emerged on measures of caregiver strain and parenting stress, $F(18, 427.58) = 6.30$, $p < .001$; Wilkes Lambda = .51; partial eta squared = .20. Caregiver gender and race/ethnicity were not significant. Child gender

approached significance, F (2.16, 151) = 2.59, p = .05. Age was a significant covariate, F (6, 151) = 2.59, p < .05. In order to better understand these multivariate results, analysis of covariance was conducted for each dependent variable. For these analyses, a Bonferroni adjusted p value of .008 (.05 divided by 6 dependent variable comparisons) was used to reduce the chances of type 1 error for the overall effects of each independent variable. In each analysis of covariance, post-hoc group differences were subject to a Sidak adjustment to reduce the chances of type I error. Again, caregiver and child gender, race/ethnicity, and age were included as covariates in the ANCOVAs. Overall model results are presented in Table 3.

Results from the analyses of covariance found significant group differences for the three dimensions of the Caregiver Strain Questionnaire and the three subscales of the Parenting Stress Index (See Table 4). For the CGSQ, there were significant differences on the objective strain dimension, F (3, 166) = 14.74, p <.001; partial eta squared = .22, the subjective internalized strain dimension F (3, 165) = 11.69, p < .001; partial eta squared = . 18, and the subjective externalized strain dimension, F (3, 165) = 4.49, p <.008; partial eta squared = .08. None of the covariates were significant. Post-hoc tests were conducted to determine symptom group differences (See Table 4). With regard to objective strain, parents/caregivers caring for children with symptoms above clinical cut-off in both internalizing and externalizing domain reported significantly more objective strain than parents/caregivers of the Low Ext/Low Int group and the High Int group (p's < .01). In terms of subjective internalized strain, parents/caregivers with children in the High Ext/High Int group also significantly differed from parents/caregivers of the Low Int/Low Ext and the High Ext groups, reporting more feelings of anxiety or worry (subjective internalized strain) about their child (p's < .01). Finally, parents/caregivers of both the High Ext/High Int and the High Ext groups reported significantly higher levels of subjective externalized strain than parents/caregivers of the Low Int/Low Ext group (p's < .05).

The results of the Parenting Stress Index revealed significant effects for the parental distress (PSI-PD) subscale, F (3, 165) = 4.96, p < .008; partial eta squared = .09, the difficult child (PSI-DC) subscale, F (3, 165) = 26.24, p < .001; partial eta squared = .33, and the parent-child dysfunctional interaction (PSI-P-CDI) subscale, F (3, 165) = 8.53, p < .001; partial eta squared = .14. None of the covariates were significant. Parents/caregivers with children in the High Int/High Ext group reported significantly higher rates of parental distress than parents/caregivers with children in the High Ext group (p < .01). On the PSI-DC subscale, parents/caregivers in the High Int/High Ext group reported significantly higher stress related to their child's difficult behavior than those in all other symptom groups (all p's < .05). Further, parents/caregivers of youth in both the High Int and High Ext group also had significantly higher levels of stress related to difficult child behaviors than parents of children in the Low Int/Low Ext group (all p's < .05). Finally, on the PSI-P-CDI subscale, parents/caregivers with children in the High Int/High Ext group reported significantly more stress related to parent-child relational dysfunction than parents/caregivers of children in the Low Int/Low Ext group and the High Ext group (p's < .01).

Discussion

The purpose of this study was to investigate the relationships between patterns of youth emotional and behavioral symptoms and the experience of caregiver strain and parenting stress in a racial and ethnically diverse sample of caregivers and youth. The results of this research are consistent with prior research that has found that the severity of child symptoms is related to greater experiences of caregiver strain and parenting stress (Angold, et al., 1998; Bussing, et al., 2003; MacDonald & Gregoire, 1997) and builds upon this research by investigating how symptoms in more than one symptom domain may be related to caregiver

strain and stress. Specifically, results of a multivariate analysis of variance suggest that there are symptom group differences in measures of both caregiver strain and parenting stress. Follow-up analyses of covariance were conducted to better understand patterns of child symptoms and their relation to caregiver strain and parenting stress.

Caregivers of youth with symptoms in both the externalizing and internalizing domains reported the highest rates of caregiver strain and parenting stress, particularly in the difficult child subscale of the Parenting Stress Index. Differences in other domains were largely reflective of differences between the parents who reported low levels of internalizing and externalizing symptoms and those parents reporting higher levels of symptoms of both domains. Specifically, caregivers of youth with both internalizing and externalizing symptoms reported significantly higher rates on each of the 3 dimensions of the Caregiver Strain Questionnaire including objective strain (e.g.., missed time from work due to child's behavioral issues), subjective internalized strain (e.g., worry or sadness related to their child) and subjective externalized strain (e.g., feelings of resentment or anger toward the child) than did caregivers whose children were not in the clinical range in either the externalizing or internalizing scales of the CBCL. Caregivers of children with symptoms in both domains had higher subjective internalized strain than caregivers of high externalizers as well as more objective strain that of high internalizers. Similar to the caregiver strain outcomes, caring for a child with symptoms in both domains yielded higher levels of stress related to parenting on each of the 3 subscales of the Parenting Stress Index including the difficult child (DC) subscale (i.e., extent to which a child displays behaviors that are difficult to manage for the parent) and the parent-child dysfunctional interaction subscale (P-CDI) (i.e., stress related to the parent-child relationship) than did the caregivers of children with low levels of symptoms in each domain. Finally, caregivers of children with symptoms in both domains reported more distress, more difficult child behaviors, and more stress in the parent child relationship than caregivers of high externalizers. Overall, caring for a child with clinical levels of symptoms in both the internalizing and externalizing domains impacts parents and caregivers in their ability to carry out their day to day tasks, form a close relationship with their child, or to cope with negative feelings they have about their child.

It is important to note that caregivers of children with clinical levels of externalizing symptoms only also reported objective strain scores that differed from caregivers whose children are high internalizers suggesting that these caregivers are being asked to respond to the consequences of externalizing behavior such as being sent home from school or other recreational/social programs. These parents also reported higher levels of subjective externalized strain suggesting that the presence of more externalizing problem may engender more anger and resentment in the caregiver than those whose children had low symptom levels in both domains. Finally, parents whose children were in the clinical range on just the internalizing scale reported stress on the P-CDI of the Parenting Stress Index at the same level as parents of children in the clinical range in both the externalizing and internalizing scales. A child's internalizing symptoms such as being withdrawn may contribute to parents reporting that their child does not desire closeness or that the parent expected to have warmer feelings toward the child.

There are well-established links between child symptoms and caregiver strain (Brannan & Helflinger, 2001; Brannan & Heflinger, 2006; Bussing et al., 2003a; Bussing et al., 2003b Helflinger & Richardson, 2004; Sales, et al., 2004). Theory and research on parenting stress have and have also included this important relationship (Abidin, 1992; Deater-Deckard, 2004; Yatchemenoff, et al, 1998). Thus, the results of this study are consistent with current literature that has found that child symptomatology is related to parenting stress in multiple domains. In particular, parents reporting child symptoms in both internalizing and externalizing domains report the highest level of parenting stress. These results are also

similar to the results found for caregiver strain in that caregivers of children with symptoms in both externalizing and internalizing domains are experiencing the greatest amount of stress. Further, results for different types of stress highlight the notion that particular symptom patterns may make a caregiver vulnerable to different types of strain and stress. For example, parents with children exhibiting symptoms in both internalizing and externalizing domains and children exhibiting high internalizing symptoms reported higher stress in the parent-child relationship. This result suggests that these two groups may be vulnerable to the feeling of stress within the relationship and could benefit from interventions that aim to augment parent-child bonding. Overall, the results of this study underscore the need for understanding how child symptoms impact caregiver strain and parenting stress in order to provide individualized services to children and their families.

The results of this study have implications for parents and children being served in a system of care and highlight the necessity of specialized services that are individualized to meet a child and family's needs. Fundamental to system of care philosophy is addressing the individual needs of children and their families (Holden, Friedman & Santiago, 2001; Lourie, Stroul, & Friedman, 1998; Tolan & Dodge, 2005) and research on the impact of children's emotional and behavioral difficulties on their caregivers in crucial to meeting this aim. Caregivers are a vulnerable population due to multiple care demands beyond those associated with parenting in general and therefore may need more support and advocacy. Prevention efforts aimed to reduce caregiver strain and parenting stress not only benefit caregivers, but also benefit the children they are raising. Children with symptoms in multiple domains may be at particular risk for ongoing problems (Lewinsohn, et al., 2004; Zeitlin, 1999; Miller-Johnson, Lochman, Coie, Terry, & Hyman, 1998) and likely need more comprehensive care. Without consistent, able caregivers, these children may not receive the support and nurturance that they may need to address their mental health needs. Prevention efforts geared toward caregivers may help provide adequate supports for managing the strain and stress associated with caring for their child.

An important implication of the study findings for intervention includes utilizing initial intake information from caregivers and children to identify needed services. For example, prevention interventions could be carried out within a system of care as the services would be individualized to meet the needs of each child and their family (Holden, Friedman & Santiago, 2001; Lourie, Stroul, & Friedman, 1998; Tolan & Dodge, 2005). Thus, caregivers caring for a child with symptoms in both internalizing and externalizing domains would receive services specifically designed to reduce caregiver strain and parenting stress. Examples of potential services could include respite care and support services to diminish the strain on a parent's time and financial resources. Parenting interventions designed to help parents cope with the demands of special needs children could also be beneficial. Finally, parents may need to be connected to services to help them manage their own mental health needs.

There are several limitations to this study and the results should be interpreted in the context of these limitations. First, this study did not include measures of current caregiver mental health status. It is possible that caregivers experiencing symptoms of depression or anxiety are more likely to report strain and more likely to rate their child as impaired. However, research has suggested that parents are able to distinguish between care-giving related stress and their own psychological distress (Brannan & Heflinger, 2001). Second, the current study is cross-sectional; it is possible, and probable, that the presence of caregiver strain and parenting stress contribute to child symptoms. Indeed, utilizing Abidin's theory, a child's emotional and behavioral symptoms can result from parenting stress and disrupted parenting, but can also contribute to a parent's experience of stress in the parental role (Abidin, 1992; Deater-Deckard, 2004; Webster-Stratton, 1990). Longitudinal studies would

help clarify these complex and dynamic relationships for youth receiving services in a system of care. Third, this study did not include a standardized diagnostic interview which would allow for the analysis of data by diagnosis. Such data would elucidate further whether certain child comorbidities contribute to a caregiver's vulnerability for strain and stress. It is important to note that the groupings used in this study represented those youth below and above the clinical cut-off for the CBCL scales, an empirically derived cut-off for child mental health difficulties. While this is a significant strength of the CBCL and this study, there may be limited overt differences between those who fall close to the cut-off. Fourth, it is important to note that although the youth in this study have been identified as having emotional and behavioral difficulties warranting intervention, 37 youth in this study did not reach the clinical range threshold in either CBCL symptom domain even though these youth have been identified as having severe emotional or behavioral issues. This finding may be related to the use of the parent/caregiver as the source of all data. Fifth, the sample size for each of these groupings was small and therefore may have been underpowered to detect meaningful differences between groups for each outcome and the ability to test covariates as moderators of these relationships between symptom groups and caregiver strain and parenting stress outcomes. Finally, the generalizability of these findings is limited to those youth identified as having emotional and behavioral difficulties. Despite these limitations, the results of this study provide important information on the contribution of child symptoms in both internalizing and externalizing domains to caregiver strain and stress among youth with emotional and behavioral difficulties.

Caregiver strain and parenting stress is an important area of research given that caregivers of children with emotional and behavioral difficulties are striving to meet multiple care demands (Blanchard, Gurka, & Blackman, 2006; Goldberg-Arnold, Fristad, & Gavazzi, 1999). As such, the primary strength of this research is addressing the child symptom constellations that may contribute to experiences of stress and mental health difficulties. Caregivers of children experiencing clinical levels of symptoms in both internalizing and externalizing domains report feeling more stressed about child behavior than all other groups. These caregivers also note more experiences of observable consequences of caring than those with just internalizing problems and those low in both symptom domains and more distress and feelings of sadness regarding their child than those with just externalizing problems and those low in both symptom domains. A core value of systems of care is to be family-driven which includes addressing the strengths and needs of children and their families (Holden, Friedman & Santiago, 2001; Tolan & Dodge, 2005). Therefore, addressing the stress and strain associated with caring for a child with emotional and behavioral disturbance is critical to comprehensive, family centered care. The results of this study would suggest that caregivers of children with symptoms in both internalizing and externalizing domains may be in greater need of specialized services. For example, these caregivers may benefit from supportive interventions such as caregiver groups and respite care to prevent further strain and stress and thereby limit the impact of their stress on their ability to care for their children.

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Table 1

Means and Standard deviations by Symptom Group (N=174)

Variable	LowInt/LowExt Mean (SD) *N* = 38	High Int Mean (SD) *N* = 17	High Ext Mean (SD) *N* = 41	HighInt/HiExt Mean (SD) *N* = 78
CBCL Internalizing	54.50 (5.32)	70.24 (4.27)	56.44 (5.40)	72.28 (4.31)
CBCL Externalizing	55.05 (6.96)	58.82 (4.08)	70.15 (5.14)	73.41 (5.18)
CGSQ- Objective Strain	1.47 (.55)	1.57 (.60)	2.19 (1.05)	2.6 (.91)
CGSQ- Subjective Internalized Strain	2.60 (.96)	3.27(.93)	3.03 (1.01)	3.75 (.93)
CGSQ-Subjective Externalized Strain	1.70 (.76)	1.76 (.65)	2.30 (1.01)	2.32 (1.11)
PSI- PD	28.32 (9.29)	32.3729 (6.85)	27.86 (8.96)	34.98 (9.82)
PSI- DC	28.47 (8.14)	34.53 (7.17)	36.72 (8.01)	42.70 (7.73)
PSI- P-CDI	25.37 (7.45)	30.91 (6.98)	27.11 (7.53)	32.98 (8.35)

Table 2

Correlation Matrix

Variable	Child Age	CBCL-Int	CBCL-Ext	ObjStr	SubInt	SubExt	PSI-PD	PSI-DC	PSI-P-CDI
Child Age	1								
CBCL-Int	.115	1							
CBCL-Ext	−.255**	.487**	1						
ObjStr	−.097	.378**	.580**	1					
SubInt	.121	.474**	.391**	.602**	1				
SubExt	.113	.126	.357**	.539**	.538**	1			
PSI-PD	−.042	.381**	.255**	.372**	.399**	.315**	1		
PSI- DC	−.056	.487**	.640**	.572**	.507**	.449**	.515**	1	
PSI-P-CDI	.106	.456**	.325**	.389**	.483 **	.385**	.613**	.603**	1

* $p < .05$;

** $p < .01$

Note. CBCL-Int = Child Behavior Checklist- Internalizing; CBCL-Ext = Child Behavior Checklist Externalizing; ObjStr= Objective Strain; SubInt= Subjective Internalized Strain; SubExt = Subjective Externalized Strain; PSI-PD = Parenting Stress Index-Parental Distress; PSI-DC = Parenting Stress Index- Difficult Child; PSI-P-CDI= Parenting Stress Index- Parent-Child Dysfunctional Interaction

Table 3

Results from Follow-Up ANCOVAs

Dependent Variable	df	SS	MS	F	p	Partial η^2
Objective Strain						
Caregiver Gender	1	1.31	1.31	1.76	.19	.01
Child Gender	1	.22	.22	.29	.59	<.01
African American	1	.62	.62	.83	.36	<.01
Latino	1	.90	.90	1.21	.27	<.01
Age	1	.01	.01	.02	.90	<.01
Symptom Group	3	33.00	11.00	14.74	<.001	.24
Subjective Externalized Strain						
Caregiver Gender	1	1.20	1.20	1.25	.27	<.01
Gender	1	.62	.62	.65	.42	<.01
African American	1	.76	.76	.80	.37	<.01
Latino	1	.03	.03	.03	.87	<.01
Age	1	4.22	4.22	4.40	<.05	.03
Symptom Group	3	12.90	4.30	4.49	<.01	.08
Subjective Internalized Strain						
Caregiver Gender	1	2.82	2.82	3.08	.08	.02
Child Gender	1	.13	.13	.14	.71	<.01
African American	1	.11	.11	.11	.74	<.01
Latino	1	.13	.13	.14	.71	<.01
Age	1	3.41	3.41	3.73	.06	.03
Symptom Group	3	32.12	10.71	11.69	<.01	.18
PSI- PD						
Caregiver Gender	1	174.50	174.50	2.04	.16	.01
Child Gender	1	.06	.06	.00	.98	<.01
African American	1	332.77	332.77	3.90	.05	.02
Latino	1	72.68	72.68	.85	.36	<.01
Age	1	65.69	65.69	..77	..38	<.01
Symptom Group	3	1271.16	423.73	4.96	<.01	.09
PSI-DC						

Dependent Variable	df	SS	MS	F	p	Partial η^2
Caregiver Gender	1	303.92	303.92	5.30	.02	.03
Child Gender	1	251.46	251.462	4.38	.04	.03
African American	1	1.15	1.15	.02	.88	<.01
Latino	1	24.51	24.51	.43	.51	<.01
Age	1	14.50	14.50	.25	.62	<.01
Symptom Group	3	4516.22	1505.41	26.24	<.001	.33
PSI-P-CDI						
Caregiver Gender	1	194.58	194.58	3.12	.08	.02
Child Gender	1	44.21	44.21	.71	.40	<.01
African American	1	36.45	36.45	.59	.45	<.01
Latino	1	4.42	4.42	.07	.79	<.01
Age	1	115.15	115.15	1.85	.18	<.01
Symptom Group	3	1594.33	1594.33	8.53	<.001	.14

Note. PSI-PD = Parenting Stress Index-Parental Distress; PSI-DC = Parenting Stress Index-Difficult Child; PSI-P-CDI= Parenting Stress Index- Parent-Child Dysfunctional Interaction

Table 4

Estimated Marginal Means and Standard Errors for Dependent Measures

Variable	M	S.E.	F	p
Objective Strain			14.74	≤.001
LowInt/LowExt [c,d]	1.29	.21		
High Int [d]	1.38	.26		
High Ext[a]	2.01	.21		
HighInt/HighExt [a,b]	2.38	.19		
Subjective Internalized Strain			11.69	≤.001
LowInt/LowExt [d]	2.31	.23		
High Int	2.93	.29		
High Ext[d]	2.73	.24		
HighInt/HighExt [a,c]	3.43	.21		
Subjective Externalized Strain			4.49	.005
LowInt/LowExt [c,d]	1.43	.24		
High Int	1.42	.29		
High Ext[a]	2.08	.24		
HighInt/HighExt [a]	2.04	.22		
PSI- PD			4.96	.003
LowInt/LowExt	26.59	2.24		
High Int	29.49	2.75		
High Ext [d]	24.70	2.28		
HighInt/HighExt [c]	31.31	2.05		
PSI- DC			26.24	≤.001
LowInt/LowExt [b,c,d]	26.35	1.84		
High Int [a,d]	32.84	2.25		
High Ext [a,d]	33.86	1.87		
HighInt/HighExt [a,b,c]	39.92	1.68		
PSI- P-CDI			8.53	≤.001
LowInt/LowExt [d]	22.60	1.91		
High Int	27.93	2.35		
High Ext[d]	24.24	1.95		
HighInt/HighExt [a, c]	29.88	1.75		

[a] differs from LowIt/Low Ext;

[b] differs from High Int;

[c] differs from High Ext;

[d] differs from HighInt/HighExt

Note. PSI-PD = Parenting Stress Index-Parental Distress; PSI-DC = Parenting Stress Index-Difficult Child; PSI-P-CDI= Parenting Stress Index-Parent-Child Dysfunctional Interaction