Published in final edited form as:

Child Youth Serv. 2010 January 1; 31(3-4): 92–120. doi:10.1080/0145935X.2009.524468.

Correlates of Externalizing Behavior Symptoms Among Youth Within Two Impoverished, Urban Communities

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Abstract

The current study examines whether risk factors associated with child externalizing behavior symptoms differ between two similar low-income urban communities, using baseline parent data of 154 African American youth (ages 9–15) participating in the Collaborative HIV-Prevention and Adolescent Mental Health Project (CHAMP) family program. Separate multiple regression analyses of each city sample indicated that greater child externalizing symptoms were associated with increasing parenting hassles for New York families ($n = 46$), but greater parent mental health symptoms for participants in Chicago ($n = 108$). Understanding such distinctions between communities is an important first step towards tailoring services to unique community needs.

Keywords

externalizing behavior symptoms; risk factors; child mental health

Externalizing behavior difficulties are prevalent among children and adolescents living in low-income, inner-city communities, partly due to the risks associated with poverty (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Burke, Loeber, & Birmaher, 2002; Luthar, 1999; McLoyd, 1998; Substance Abuse and Mental Health Services Administration, 2007; Warner & Weist, 1996; Webster-Stratton, 1998). An ecological-mediational model (Ferner, Brand, DuBois, & Adan, 1995) posits that more proximal influences, such as interactions and experiences at the parent- and family-levels, mediate the relationship between poverty and child functioning. Clinical services typically attempt to mitigate risk factors and promote protective factors at the proximal level, as shown by interventions focused on promoting more effective parenting skills, reducing parent stress, and enhancing parent-child communication. As a growing number of evidence-based interventions addressing externalizing behavior difficulties have emerged (i.e., Carr, 2000; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2002; Keiley, 2002; Sexton & Alexander, 2002), successful dissemination of research-based treatments within community settings must consider the “fit” with client characteristics, in addition to other community,

organizational and service system factors (Schoenwald & Hoagwood, 2001). Communities that share similar socioeconomic characteristics often vary in their needs, resources, and how they respond to stressors (Mendel, Meredith, Schoenbaum, Sherbourne, & Wells, 2008). As a result, what works in one community may not necessarily fit another, suggesting that interventions should also be responsive to the unique needs of the community. However, there is a lack of research comparing the differences between proximal risk factors for child externalizing difficulties within seemingly similar high-risk, low-income, urban communities. Such differences are important when attempting to tailor interventions so that they are relevant to local needs. Guided by the ecological-mediational theoretical model, this exploratory study seeks to answer whether families in two low-income urban communities experience the same proximal-level risks associated with child externalizing symptoms between two low-income urban communities.

Externalizing Behavioral Difficulties In Low-Income Communities

Externalizing behavior problems among youth, including persistent oppositional or aggressive behavior, continue to be the most common reason for referral to child mental health community clinics (Frick, 1998; Kazdin, 1995). High degrees of impairment and poor developmental trajectories among youth exhibiting behavioral problems elicit great concern (Lahey et al., 1998), spurring the desire for effective preventive and early intervention services.

Services to address youth externalizing behavior problems are particularly needed in low-income urban communities. Poverty and low socioeconomic status, which are related to multiple stressful events including heightened neighborhood crime and violence, unstable housing conditions, unemployment, and scarce resources and services, heighten the risk of behavior problems among urban youth (Appleyard et al., 2005; Burke et al., 2002; Luthar, 1999; McLoyd, 1998; Substance Abuse and Mental Health Services Administration, 2007; Warner & Weist, 1996; Webster-Stratton, 1998). Consequently, it is no surprise that rates of externalizing behavior difficulties are disproportionately high among youth in low-income, urban communities compared to normative rates within the general population (Angold & Costello, 2001; Ollendick & Shroeder, 2003; Tolan & Henry, 1996).

Ecological-mediational Model

The ecological mediational model (Felner et al., 1995) provides an organizing theoretical framework for understanding how poverty and its associated disadvantages (e.g., crime, insufficient housing and community resources) impact children and adolescents. Within this model, poverty and problems associated with low socioeconomic status are distinguished from the more proximal, person-environmental transactions and immediate day-to-day experiences which directly impact child outcomes. While socioeconomic disadvantages may influence child outcomes, its impact may also be mediated through more proximal influences (see Figure 1).

Proximal Risk Factors

Youth of color residing in low-income, inner-city communities are highly likely to be reared within single-parent households headed by female caregivers (Lynn & McCreary, 1990; McLoyd, 1998). These women are exposed to more chronic stressors than women in the general population, including community and interpersonal violence, substance abuse and addiction within families and neighborhoods, discrimination, unstable employment, crowded living arrangements, physical health problems, and lack of available significant others (e.g., boyfriends, spouses). However, they have access to fewer familial, social, and community resources to help cope with such stressors (Belle, 1990). Not surprisingly, poor mothers of

color are also among the most vulnerable groups to develop psychopathology (Miranda, Azocar, Organista, Dwyer, & Areane, 2003; Siefert, Bowman, Heflin, Danziger & Williams, 2000).

Elevated levels of stress and maternal mental health difficulties can impair parenting and parent/child interactions (Appleyard et al., 2005; Campbell, Pierce, Moore, Marakovitz, & Newby, 1996; Chung, McCollum, Elo, Lee, & Culhane, 2004; Cummings & Davies, 1994; Downey & Coyne, 1990; Field, 1998; Goodman & Gotlib, 1999; Susman, Trickett, Iannotti, Hollenbeck, & Zahn-Waxler, 1985; Webster-Stratton, 1990), and are implicated in youth externalizing behaviors (Appleyard et al., 2005; Aikens, Coleman, & Barbarin, 2007; Bassarath, 2001; Campbell, 1995; Campbell et al., 1996; Civic & Holt, 2000; Goldberg et al., 1997; Gross, Shaw, Burwell, & Nagin, 2009; Marchand, Hock, & Widaman, 2002; Yatchmenoff, Koren, Friesen, Gordon, & Kinney, 1998). For example, parents living in economic stress, those with a history of anxiety disorders, and depressed parents are more likely to use harsh, punitive discipline (Chung, McCollum, Elo, Lee, & Culhane, 2004; Dodge, Pettit, & Bates, 1994; Johnson, Cohen, Kasen, & Brook, 2006; McLeod & Shanahan, 1993; McLoyd, Jayratne, Ceballo, & Borquez, 1994). Depressed and anxious parents often have difficulty fulfilling parenting roles and responsibilities (Downey & Coyne, 1990; Goodman & Gotlib, 1999; Johnson et al., 2006). Such parents are likely to manifest inconsistent or ineffective discipline and control, emotional unavailability, and insensitivity towards their children (Cummings & Davies, 1994; Field, 1998; Johnson et al., 2006; Susman, Trickett, Iannotti, Hollenbeck, & Zahn-Waxler, 1985).

Such poor child management and interactional patterns place youth at risk for externalizing behavioral difficulties. These include inconsistent, excessive, or harsh discipline practices (Frick et al., 1992; Gross, Sambrook, & Hogg, 1999; Haapasalo & Tremblay, 1994; Olson, Ceballo, & Park, 2002; Stormshak, Bierman, McMahon, Lengua, & the Conduct Problems Prevention Research Group, 2000); insufficient monitoring or supervision (Frick et al., 1992; Haapasalo & Tremblay, 1994; Wasserman, Miller, Pinner, & Jaramillo, 1996); and lack of parent-child bonding and family disorganization (Kumpfer & Alvarado, 2003). In this way, low-income communities increase the risk of youth externalizing behavioral difficulties through direct impact on parenting factors.

We also consider a number of other proximal parent and family-level factors which increase the risk of child externalizing behavior difficulties. Such factors include low parent social support (Gross et al., 1999; Andresen & Telleen, 1992), low parent education (Benzies, Keown, & Magill-Evans, 2009; Tamis-LaMonda, Briggs, McClowry, & Snow, 2009), single parent status (Dodge, Pettit, & Bates, 1994; Guerra, Huesmann, Tolan, van Acker, & Eron, 1995; McLanahan, 1997; Simons & Johnson, 1996), and large family size (Andrew, 1976; Brownfield & Sorenson, 1994; Campbell et al., 1996; Eapen, Jakka, & Abou-Saleh, 2003; Substance Abuse and Mental Health Services Administration, 2007). Finally, poverty is a strong correlate of child welfare placement in urban areas (Barth, Wildfire, & Green, 2006). While the relative impact of removal from the home and child maltreatment on youth externalizing behaviors may be difficult to tease apart, at least one study has found that moving from home to home can result in youth behavioral difficulties (Newton, Litrownik, & Landsverk, 2000).

This evidence suggests externalizing difficulties among youth are associated with numerous parent and family-level factors. While ecologically-based, multi-faceted interventions simultaneously address multiple risks to treat serious youth conduct difficulties (i.e., Multisystemic Therapy [MST]; Henggeler, et al 2002), many of these interventions are intensive, costly, and may not be feasible within an era of diminishing resources. Moreover, such high-end and individualized treatment programs may not be able to manage large

numbers of youth with externalizing behavioral difficulties from low-income communities. From a programmatic perspective, identifying the most salient risk factors provides a means to focus on locally relevant strategies and resources. In this way, child mental health programs can efficiently ensure that the needs of local youth and families are adequately being met.

Less intensive efficacious treatments exist (e.g., Carr, 2000; Keiley, 2002; Sexton & Alexander, 2002), although effective dissemination and implementation of these therapeutic approaches within community settings is often challenging, particularly as communities often vary by social structures, established norms, and resources. Further, communities may differ in systems of social support and relationships (Mendel et al., 2008). Such varying factors can affect the extent to which existing risk and protective factors impact youth externalizing behavioral difficulties. Rather than assume that inner-city communities are identical when disseminating evidence based practices (EBPs), needs assessments of specific communities where interventions are to be implemented are recommended, especially assessments which focus on the most salient issues for potential intervention recipients (Mendel et al., 2008; Sperber et al., 2008).

However, little investigation has been done to compare whether families residing in seemingly similar high-risk, low-income urban environments are encumbered with the same proximal-level risks associated with child externalizing behavior problems. We know of only one study, in which two Ugandan communities were compared. Results showed crime rate was up to two times higher in one area versus the other due to differences in the quality of residents' social relationships between the two communities (Quinton, 1980), suggesting that risk factors may vary across low-income environments.

The purpose of this study is to explore which proximal-level risk factors are associated with externalizing behavior symptoms among 4th and 5th grade children residing in two high-risk, low-income urban communities in New York and Chicago. Specifically, this study is a cross-sectional secondary analysis of baseline data gathered from caregivers of 154 African American youth between the ages of 9 and 15 who participated in the Collaborative HIV-Prevention and Adolescent Mental Health Project (CHAMP) family program. This exploratory study addresses the following research question: How do proximal risk factors associated with child externalizing symptoms differ between two inner-city communities?

Methods

Sample

The current study is an exploratory, secondary analysis of data gathered from a larger longitudinal research study of African American HIV prevention and adolescent mental health, known as the Collaborative HIV-Prevention and Adolescent Mental Health Project (CHAMP) Family Program study. CHAMP is a family-based HIV preventive and mental health promoting intervention designed to reduce sexual risk-taking activity among urban youth (ages 9–15) residing in one inner-city neighborhood in New York and one in Chicago (Madison, McKay, Paikoff, & Bell, 2000; McKay et al., 2000).

This study focuses on baseline data provided by caregivers of 154 African American youth recruited for the study. Youth who participated in CHAMP were recruited from 4th and 5th grade classrooms within inner-city communities both characterized with high rates of poverty and HIV infection. Chicago youth who participated in CHAMP (n = 108) were identified through children's attendance at a school on or near a major public housing project in the Bronzeville Chicago area between 1996 and 1998. This area had a higher than average city-wide rates of HIV infection, high rates of unemployment and poverty, and other

major health concerns (Paikoff, Traube, & McKay, 2007). CHAMP participants from New York City ($n = 46$) were recruited from two elementary schools in the South Bronx between 1999 and 2001. Target neighborhoods had been heavily affected by high rates of health and mental health related difficulties, including asthma, HIV infection, substance abuse, alcoholism, depression (New York City Department of Health & Mental Hygiene, 2006). Moreover, these neighborhoods, were also characterized by high rates of poverty, unemployment, and single parent households. Finally, the New York City schools, within which over 90% of students received free lunches, were also located adjacent to high-rise subsidized housing projects.

Measures: Independent Variables

The following proximal-level variables of interest, which have been previously identified in the extant literature as being associated with youth externalizing behavior difficulties, are presented below.

Parent marital status—A dichotomous variable indicated whether parents were married or not as reported by caregivers (0 = not married, 1 = married).

Parent's education level—Parents answered the question “What was the last grade you finished in school?” Initially, parents indicated either “grade school”, “high school”, or “some college”. Answers to this question were recoded into a dichotomous variable (0 = High School or below, 1 = Greater than High School).

Number of children living in the home—Family size was measured by parents' reports on the number of children (younger than 18 years old) currently residing in the home. This variable was recoded into a dichotomous variable (0 = less than five; 1 = five or more,).

Separation from parents—To approximate the risk factor of removal from the home, the separation from parents variable was measured based on parents' reports to the question “Have you ever been separated from you child for longer than one month?” (0 = No; 1 = Yes).

Parent mental health symptoms—The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, Lipman, & Covi, 1973; Derogatis, Rickels, & Rock, 1976) measured current mental health symptoms associated with mood difficulties among parents. The SCL-90-R is a 90-item self-report inventory where parents rated the extent to which each symptom (e.g., feeling blue) had been bothersome in the past week, on a 5-point Likert scale (1 = Not at all, 2 = A little bit, 3 = Moderately, 4 = Quite a bit, 5 = Extremely). The measure contains 9 subscales (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism) and three global indices of distress (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). For the current study, only the Depression and Anxiety subscales were considered. A composite score was calculated by summing the 23 items in the Depression and Anxiety subscale. The possible range of the resulting measure ($\alpha = .91$) is 23 to 88, with higher scores indicating greater mental health symptoms.

Discipline effectiveness—The discipline effectiveness subscale of the Parenting Skills Questionnaire (PSQ; Tolan & Gorman-Smith, 1991) includes five items answered on a 3-point Likert scale (1 = Almost Always, 2 = Sometimes, 3 = Almost Never). Caregivers responded to questions about the extent to which the discipline they currently use with their child is effective (i.e. “Is the discipline you use effective for your child?”). A composite

scale was computed by summing across all items. Higher scores indicate higher degrees of parents' perception of discipline effectiveness. The possible range of this instrument is 5 to 12 ($\alpha = .62$).

Parental monitoring—The degree of parental monitoring was measured using a 17-item subscale adapted from the Pittsburgh Youth Study (Loeber, Stouthamer-Loeber, Costello, & Farrington, 1986) and the Chicago Youth Development Study (Tolan, Gorman-Smith, Huessman, & Zelli, 1997). Parents responded to questions about the degree to which they monitor their child's activities (i.e., "After school my child is expected to be at a certain place at a certain time"). Items are measured on 4-point Likert scale (1 = Always true, 2 = Usually true, 3 = Usually false, 4 = Always false). Items are coded such that higher scores indicate higher degrees of parental monitoring. A composite scale was calculated by summing across all items. The possible range for this instrument is 41 to 68 ($\alpha = .75$).

Within Family Support—To assess the strength of family relationships, the within family support subscale of the Family Assessment Measure [FAM] (Tolan, Florsheim, McKay, & Kohner, 1993) measured the degree to which family members support each other (e.g., "I listen to what other family members have to say, even when I disagree"). This subscale has 6 items measured on a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly agree). A composite scale was created by summing across all items. This instrument ranges in value from 6 to 24 ($\alpha = .85$), such that higher scores reveal increasing levels of within family support.

Average Parent Support—The degree of average parent support is measured using the Social Support Network Inventory (Flaherty, Gavira, & Pathak, 1983). Caregivers responded to questions about the three most important adults in their lives. For each individual, caregivers also responded to 11 questions determining the quality of support provided to the caregiver (e.g., "This person is there when I need him/her"). Quality of support was determined by the extent to which individuals were available, provided practical help, took time to listen, and did not cause problems for the caregiver. Across 11 items, scores were summed and averaged, such that an average support score across the three individuals was computed. Summary support scores ranged from 11 to 55, with higher scores indicating greater levels of average parent support ($\alpha = .88$).

Parenting Hassles—Parent stress was measured using the Parenting Hassles subscale of the Hassles and Uplifts Scale [HUS] (Lazarus & Folkman, 1989). The HUS is designed to measure an individual's transactions with the environment which are perceived as stressful or uplifting. Caregivers responded to the 20 item scale which focused the caregiver's perception of the frequency of parenting hassles (e.g., "How often does it happen? Having to clean up children's messes"). Items are measured on a 4-point Likert Scale (0 = rarely, 1 = somewhat, 2 = a lot, 3 = all the time). The composite scale for frequency of daily parenting hassles was calculated by summing across all items. This instrument ranged in value from 0 to 60 ($\alpha = .89$).

Parent Decision-making—Family disorganization was measured by the degree of parental decision making, using the parent version of the Patterns of Family Decision Making Questionnaire (Steinberg, 1987). This instrument measures parents' perception of who makes decisions in the family based on 17 areas (i.e., curfew, spending money, leisure activities, completing school assignments, chores, what time a child has to be home at night). Caregivers responded to each item on a 5-point Likert scale (1 = I tell child, 2 = Ask child's opinion, but I have the final say, 3 = Child has final say, 4 = Left up to the child, 5 =

Don't talk about it). A composite scale was created by summing across all items. The resulting instrument ranges in value from 43 to 85 ($\alpha = .77$).

Control covariates—Analyses for the present study statistically controlled for child and family socio demographic characteristics. Parents provided information on child age, child gender, whether the family receives public assistance (0 = No; 1 = Yes), and whether the parent currently works outside of the home (0 = No; 1 = Yes).

Dependent Variable

Child externalizing symptoms were measured using the Child Behavior Checklist [CBCL] (Achenbach & Edelbrock, 1983). Parents completed an abbreviated version of the externalizing symptoms subscale at baseline assessment for this study. The CBCL is a common measure of childhood mental health symptomology for children and youth aged 4–18 years old, which has been widely used and is well-validated across a range of samples. Moreover, reliability and validity for the CBCL is well-established (Achenbach, 1991a; 1991b). The CBCL uses a hierarchical factor structure in which eight first-order factors (i.e., Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-breaking Behavior, and Aggressive Behavior) load on two higher order factors (i.e., Internalizing Behavior and Externalizing Behavior). Only the higher order factor for externalizing symptoms was utilized in the current study. The externalizing symptom scale items refer to aggressive, destructive, and anti-social behavior. A composite scale was computed by summing across items. The resulting scale ranged in value from 0 to 48, with higher numbers indicating greater externalizing symptom scores. Cronbach alpha levels were high ($\alpha = .91$).

Statistical Analysis

All statistical analyses were performed using Stata/SE version 10.1 computer software program. Multiple imputation for the total sample was performed to address missing data problems. Subsequent analyses were performed separately for participants in New York and Chicago. Bivariate correlation analyses examined which variables were individually associated with child externalizing symptoms by city. Significant independent variables at the bivariate level ($p < .10$) were entered into multiple regression analyses to examine which independent variables were significantly associated with child externalizing symptoms, while statistically controlling for other socio demographic covariates.

Missing Data—Multiple imputation (MI) techniques addressed missing data by imputing data for cases in which there were missing information on predictor or outcome variables. Developed by the seminal work of Rubin (1987), MI reduces the risk of bias and false identification of significant differences to a greater degree compared to other commonly used missing data techniques such as listwise deletion and mean imputation (Croy & Novins, 2005). MI procedures involve creating multiple databases based on observed variables specified in an imputation model, which includes all outcome and predictor variables utilized in subsequent analyses (van Buuren, Boshuizen, & Knook, 1999). The current study implemented Imputation by Chained Equations programming within Stata (ICE; Royston, 2004) to impute missing data elements ten times, producing ten (10) imputed data sets, which is considered a reasonable number (van Buuren et al., 1999). Complete-data analyses conducted on each imputed data set produced statistics (e.g., β , B, F, R^2), which were pooled to produce final single estimates (van Buuren et al., 1999). The variable for child age had the largest amount of missing data (26%). Remaining imputed variables had data missing for 14% or less cases.

Limitations

It is important to note that there were several limitations pertaining to data collection and analysis. First, this study solely examined cross-sectional data to explore the associations of various family-level and contextual risk factors to child externalizing symptoms. As with all cross-sectional data, the direction of causality is difficult to determine. Second, the study relied on interview data from caregivers. Since mental health symptoms carry a high level of stigma, it is possible that respondents may have been unwilling to report certain symptoms or issues. In previous studies, researchers have found discrepant reports between caregiver and youth reporters of mental health symptoms (Jensen et al., 1999; Kashani, Orvaschel, Burk, & Reid, 1985; Wren, Bridge, & Birmaher, 2004). Third, the sample size for the New York sample may be too small to have sufficient power to see all significant associations with child externalizing symptoms. Fourth, the original CHAMP family study did not contain scales measuring neighborhood cohesion or perceptions of safety. Such factors may have been important to assess, as they may contribute to family stress, which may ultimately have an impact on child behavioral difficulties. Moreover, such information would have been provided additional information on the differences between New York and Chicago samples. Finally, the low reliability statistics for the discipline effectiveness scale for the current study sample is acknowledged as a limitation, since low reliability statistics are also likely to reduce analytical power.

Results

Demographic characteristics on the pre-imputed dataset are presented. One hundred percent of caregivers and youth who participated in CHAMP in the total sample were African American ($n = 154$). Over half ($n = 103$, 67%) of the total sample of caregivers reported being single parents. Only 13% ($n = 20$) of caregivers reported completing a post-high school education. Over half ($n = 101$, 61%) reported having three or more children living in the household, with approximately 25% ($n = 39$) having five or more children residing in the home. Over half of the parents in the overall sample received public assistance ($n = 92$, 60%). Only a minority ($n = 51$, 33%) reported being currently employed. Finally, close to three-quarters ($n = 111$, 72%) of the total sample of parents had their first child at the age of 20 or younger, while 50% ($n = 77$) of parents had their first child as a teenager (18 years old or younger). Children in the sample ranged in age from nine to 15 years old ($M = 11.4$, $SD = 1.26$), and slightly over half (55%) of them were female.

Differences between New York and Chicago

Tables 1 and 2 present differences between New York and Chicago on study variables. On average, children in the Chicago sample tended to be slightly older ($M = 11.69$, $SD = 1.17$) than youth in the New York sample ($M = 10.21$, $SD = 0.83$). This difference was statistically significant ($t = -7.05$, $p < .01$). There were significantly ($\chi^2 = 13.67$, $p < .01$) more single parents in the Chicago sample ($n = 82$, 76%) than in the New York sample ($n = 22$, 48%). Chicago parents ($n = 34$, 31%) were significantly more likely than New York parents ($n = 5$, 11%) to report having five or more children living in the home ($\chi^2 = 5.99$, $p = 0.01$). Parents in the Chicago sample ($n = 80$, 74%) were more likely to receive public assistance than parents in the New York ($n = 12$, 26%) sample ($\chi^2 = 32.75$, $p < 0.01$). Finally, a lower percentage of Chicago parents ($n = 16$, 15%) reported being separated from their child for more than one month compared to New York parents ($n = 16$, 35%) ($\chi^2 = 10.53$, $p < 0.01$). New York and Chicago samples did not significantly (at $p < 0.05$ level) differ on any other variables included in present study.

Bivariate Statistics

Table 3 presents intercorrelation tables for all variables by each city. As Stata/SE Version 10.1 has no corresponding pairwise correlation commands for multiply imputed data, pairwise correlations are presented from the pre-imputed dataset. To confirm that bivariate correlations between child externalizing symptoms and all other variables with the imputed dataset, individual multiple imputation regression analyses were performed with child externalizing symptoms as the dependent variable regressed on each independent variable and covariate. Resulting R^2 statistics were utilized to approximate the correlation coefficients (i.e., taking the square root of the R^2 value). Magnitude and significance values were comparable between the pre-imputed and the multiply imputed datasets, except for the average parent support variable within the New York sample. As seen in Table 1, average parent support is negatively correlated with child externalizing symptoms at a marginally statistically significant level ($r = -0.32$, $p = 0.07$). However, approximations of the correlation coefficient for the multiply imputed dataset indicate that the relationship between average parent support and child externalizing symptoms for New York sample is not statistically significant ($r = -0.24$, $p = 0.14$). As this study is exploratory and computations from the multiply imputed data are approximations, it was decided that average parent support would be included in the regression analyses for the New York sample.

At the bivariate level, families with five or more children in the home tended to have children with higher externalizing symptom scores than families with less than five children in the home for families in New York ($r = 0.42$, $p = 0.01$), and Chicago ($r = 0.24$, $p = 0.01$). Increasing frequency of parenting hassles were also associated with increasing child externalizing symptoms for New York ($r = 0.59$, $p < 0.01$), and Chicago ($r = 0.28$, $p < 0.01$).

Increasing levels of parent mental health symptoms were significantly associated with child externalizing symptoms for Chicago families ($r = 0.39$, $p < 0.01$), but not among families in New York ($r = 0.27$, $p = 0.11$). Increasing levels of within family support were significantly associated with increasing levels of child externalizing symptoms only among families in New York ($r = 0.34$, $p < 0.05$).

Multiple Regression Statistics

Multiple regression analyses were performed (separate analyses for each city subsample) with predictor variables which were at least marginally associated with child externalizing symptoms at the bivariate level ($p < 0.10$). Consequently, the regression equation for the New York sample included: number of children living in the home, frequency of parenting hassles, average parent support, and within family support. The regression equation for the Chicago sample included: number of children living in the home, parent mental health, and frequency of parenting hassles. Regression analyses also controlled for child age, child gender, parent employment status, and public assistance status. Tables 4 and 5 present results from the regression equations using multiply imputed datasets.

Among families in New York, the frequency of daily hassles ($\beta = 0.24$, $SE = 0.10$, $p = 0.02$) was significantly associated with child externalizing symptoms, when taking into account within family support, average parent support, number of children in the home, child age, and child gender, parent employment status, and public assistance status. Among Chicago families, increasing child externalizing symptoms were significantly associated with increasing levels of parent mental health symptoms ($\beta = 0.18$, $SE = 0.06$, $p < 0.01$) were associated with child externalizing symptoms, when taking into account child age, child gender, parent employment status, public assistance status, total frequency of daily parenting hassles, and number of children the home. Marginally significant associations with child externalizing symptoms for families in Chicago were manifested with having more than five

children in the home ($\beta = 2.65$, $SE = 1.58$, $p = 0.09$), and frequency of daily parenting hassles ($\beta = 0.14$, $SE = 0.08$, $p = 0.09$)

Discussion

The present study furthers our understanding of how proximal risk factors associated with child externalizing behavior difficulties differ between low-income, urban environments. Among families in New York, parenting stress, via parenting hassles, was significantly associated with child externalizing symptoms. Given the cross-sectional nature of the data, such findings offer two possible interpretations. Parents living in low-income, high disadvantage neighborhoods are under an inordinate amount of stress such that they find regular parenting tasks difficult to manage. As a result, they may be less likely to provide the important parenting skills (e.g., effective and consistent discipline, sufficient monitoring) necessary to mitigate the risk of children developing behavior problems. Conversely, one may also interpret such findings to indicate that child behavioral difficulties may result in parents reporting increased stress and hassles from parenting tasks. The extant literature firmly indicates that parents of children experiencing emotional and/or behavioral problems are often under considerable strain, which can affect multiple domains of family life (Davis & Carter, 2008; Gupta, 2007; Riley et al., 2006; Yang, Jong, Hsu, & Tsai, 2007). Specific stressors associated with raising a child with serious mental health issues can include financial problems, limits on personal freedom, impact on family life and routines, parental feelings of incompetence, lack of time for self and others, negative consequences on relationship with friends, extended family members, and difficulties with and between other children in the family (Brannan, Heflinger, & Foster, 2003; Farmer, Burns, Angold, & Costello, 1997; Yatchmenoff et al., 1998).

Chicago parents, on the other hand, reported that increasing parent mental health symptoms were significantly associated to greater child externalizing symptoms. Such findings are consistent with literature indicating an association with increased child behavior problems (Aikens et al., 2007; Marchand et al., 2002). Caregiver depression can result in poor parent-child attachment which increases the likelihood of school-age children exhibiting behavior problems (Moss, et al., 1998). Furthermore, depressed and anxious parents often have difficulty fulfilling parenting roles and responsibilities (Downey & Coyne, 1990; Goodman & Gotlib, 1999; Johnson et al., 2006), via inconsistent or ineffective discipline and control, emotional unavailability, and insensitivity towards children (Cummings & Davies, 1994; Field, 1998; Johnson et al., 2006; Susman et al., 1985), and harsh, punitive discipline (Chung et al., 2004; Johnson et al., 2006). Such poor child management skills, discipline practices, family communication and interactional patterns are consistently implicated in the development and maintenance of externalizing behavior problems (Keiley, 2002; Loeber & Stouthamer-Loeber, 1987; Tolan & Henry, 1996). At the same time, it is also possible that child externalizing behavioral difficulties may lead to conditions resulting in parental mental health difficulties. Stigma and embarrassment over children's problems, in addition to the fatigue from coping with their children's needs, can lead to dwindling family and other natural support systems. Among such families, overall quality of life has been shown to deteriorate with children's increasing emotional and behavioral difficulties (Crowley & Kazdin, 1998). Recent studies found that mothers bringing their children to mental health clinics had elevated rates of psychiatric diagnoses themselves when compared to the general U.S. Population (Ferro, Verdeli, Pierre, & Weissman, 2000; Rishel et al., 2006; Swartz et al., 2005). In particular, parents seeking treatment for their children for externalizing behavior difficulties have manifested disproportionately higher rates of depressive symptoms compared to adults in the general population (Gopalan, Dean-Assael, Klingenstein, Chacko, & McKay, in press).

While causality cannot be determined with the current study, it is clear in both New York and Chicago samples that parent stress and parent mental health symptoms co-exist with child behavioral difficulties. Parent stress and parent mental health are closely associated (Bailey, Golden, Roberts & Ford, 2007; Sales, Greeno, Shear, & Anderson, 2004), frequently representing two facets of the same phenomenon. As such, these results are still concerning since parental stress and mental health difficulties continue to have deleterious consequences for children, even among those already exhibiting behavioral difficulties. In most cases, parents with serious mental health needs themselves frequently are not seeking their own treatment (Ferro et al., 2000; Gopalan et al., in press; Swartz et al., 2005). Untreated mental illness in mothers is linked to diminished treatment success among children receiving psychiatric treatment (Brent et al., 1998; Ferro et al., 2000; Leslie, Aarons, Haine, & Hough, 2007; Rishel et al., 2006; Swartz et al., 2005). Yet when maternal mental health is treated, youth outcomes improve (e.g., behavioral problems decrease), self-reported barriers to child mental health services decrease, and youth are less likely to drop out from treatment (Prinz & Miller, 1994; Kazdin & Whitley, 2003).

Although parents are more likely to seek mental health services for their children if they themselves are under strain and perceive an impact on family life domains (Farmer et al., 1997), stressors which accumulate over time are apt to hinder the way families manage daily tasks. As a result, there is increased risk that children may not remain in treatment. Significant parental stressors can impede families' ability to seek and retain mental health treatment for their children (Thompson et al., 2007), as parents are less likely to have the resources or motivation to seek help, or to comply with their children's treatment needs (Harrison, McKay, & Bannon, 2004). Caregiver worry, guilt, and fatigue have been found to predict an increased likelihood that children will experience a gap in treatment. Moreover, families with fewer material resources are also less likely to maintain treatment consistency. Consequently, such families may require family-based services, such as case management, support, and respite (Brannan et al., 2003).

At the same time, findings from the current study indicate that, although parent stress and parent mental health symptoms are typically highly correlated in the literature (e.g., Bailey et al., 2007; Sales et al., 2004), only among families in Chicago were they significantly and positively correlated to each other and to child externalizing symptoms at the bivariate level. However, when both variables were included in the final regression analysis for Chicago, only parent mental health manifested a statistically significant positive association with child externalizing behavior symptoms. One possible interpretation could be that New York parents experience parenting stressors resulting from factors wholly separate from their mental health symptoms and that the association between parent stress and child behavior problems warrants greater consideration. One may also question how families in New York cope with their parenting stressors so that it does not affect their mental health.

However, while parenting stressors, mental health symptoms, and child behavior problems are intimately connected with for Chicago families, parent mental health symptoms and child behavior problems manifest the strongest relationship. Given that Chicago families experiences a greater number of risk factors (i.e., single parent status, large family size, receiving public assistance) compared to families in New York, it may be that Chicago families are simply more stressed, which exceeds their available coping strategies, leading to mental health difficulties.

Implications

Although this study is exploratory and correlational only, findings have important implications for working with youth and families. The strong link between child and parental stress and mental health factors, regardless of causality, calls for greater attention to

services offered to support parents within child mental health treatment. As both parent mental health difficulties and stress continue to remain for those families with child manifesting behavior problems, long-term prognosis for child mental health status remains poor as overall parenting quality diminishes. As a result, co-locating services for parents and youth may be considered, such as offering screening, support, and treatment services for parents who bring their child to for treatment. Movement towards a family-based model of mental health treatment, where early identification and treatment of parent stress and mental health difficulties for those children already seeking treatment, may effectively reduce mental health difficulties for children and their parents (Rishel et al., 2006).

Similarly, the results suggest the need for examining minority and other diverse subgroups as separate subpopulations (Paikoff et al., 2007). In this way, the relative importance of particular developmental processes and factors determining adaptive outcomes can be assessed across different communities (McLoyd, 1990; Spencer & Dornbusch, 1990). This is particularly salient as demands for the integration of evidence-based interventions in community mental health services continue (New Freedom Commission on Mental Health, 2003). Despite the emergence of a number of evidence-based treatments for children and adolescents, concerns remain that families continue to underutilize or have poor responses to treatment (Bagner & Eyberg, 2003; Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004; Dadds & McHugh, 1992; Dumas & Walher, 1983; Kazdin & Mazurick, 1994; Kazdin, Mazurick, & Bass, 1993; Kazdin & Wassell, 2000; Lundahl, Risser, & Lovejoy, 2006; Miller & Prinz, 1990; Morrissey-Kane & Prinz, 1999; Webster-Stratton & Hammond, 1990). This may be due, in part, to a “one size fits all” treatment implementation approach without consideration of unique local community needs. Tailoring interventions to meet individuals’ needs in order to increase accessibility and effectiveness is part of a national research agenda (National Institute of Mental Health, 2008). For program planners, knowledge that daily parenting hassles are particularly relevant in one community while parent mental health is the main factor in another provides useful information regarding what types of services to best invest limited resources (i.e., money, manpower). Given the exploratory nature of this study, further research would be required to see if the risk factors identified in each community moderate treatment outcomes, which would provide greater evidence of the need to adapt treatment approaches.

As previously mentioned, there were several limitations to this study (i.e., reliance on cross-sectional data from caregiver self-report, small sample size, low reliability statistics for discipline effectiveness). Future research would benefit from examining longitudinal data to determine if family-level and contextual risk factors can predict child externalizing symptoms over time among larger samples of communities, as well as integrating more community-level data on social cohesion and crime to compare both communities more substantially.

Despite these limitations, this study indicates that different proximal level factors are associated with child externalizing symptoms within two seemingly similar inner-city, low-income communities, underscoring that communities may differ in risk factors for child externalizing behavior difficulties in spite of similarities with regards to poverty and health risks. Given the risks to youth that are associated with various community characteristics, understanding whether different risk factors are associated with maladaptive behaviors across two high-risk, low-income urban environments is the first step in order to provide and refine services that respond to the unique needs of these communities.

Acknowledgments

Funding from the National Institute of Mental Health (R01 MH 63662) and the W.T. Grant Foundation is gratefully acknowledged. In addition, this work would not have been possible without the contributions of the CHAMP Collaborative Board members and participants.

References

- Achenbach, TM.; Edelbrock, CS. Manual for the Child Behavior Checklist and Revised Child Behavior Profile. Burlington, VT: Department of Psychiatry, University of Vermont; 1983.
- Achenbach, TM. Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles. Burlington, VT: University of Vermont, Department of Psychiatry; 1991a.
- Achenbach, TM. Manual for the child behavior checklist 4-18 and 1991 profile. Burlington, VT: University of Vermont Department of Psychiatry; 1991b.
- Aikens NL, Coleman CP, Barbarin OA. Ethnic differences in the effects of parental depression on preschool children's socioeconomic functioning. *Social Development*. 2007; 17:137-160.
- Andresen PA, Telleen SL. The relationship between social support and maternal behaviors and attitudes: a meta-analytic review. *American Journal of Community Psychology*. 1992; 20(6):753-774. [PubMed: 1302448]
- Andrew JM. Violence among delinquents by family intactness and size. *Social Biology*. 1976; 25(3): 243-250. [PubMed: 749212]
- Angold, A.; Costello, EJ. The epidemiology of disorders of conduct: Nosological issues and comorbidity. In: Hill, J.; Maughan, B., editors. *Conduct disorders in childhood and adolescence*. New York, NY, US: Cambridge University Press; 2001. p. 126-168.
- Appleyard K, Egeland B, van Dulmen MHM, Sroufe LA. When more is not better: The role of cumulative risk in child behavior outcomes. *Journal of Child Psychology and Psychiatry*. 2005; 46(3):235-245. [PubMed: 15755300]
- Bagner DM, Eyberg SE. Father involvement in parent training: when does it matter? *Journal of Clinical Child and Adolescent Psychology*. 2003; 32:599-605. [PubMed: 14710469]
- Bailey DB, Golden RN, Roberts J, Ford A. Maternal depression and disability: Research critique. *Mental Retardation and Developmental Disabilities*. 2007; 13:321-329.
- Barth RP, Wildfire J, Green RL. Placement into foster care and the interplay of urbanicity, child behavior problems, and poverty. *American Journal of Orthopsychiatry*. 2006; 76(3):358-366. [PubMed: 16981814]
- Bassarath L. Conduct disorder: A biopsychosocial review. *Canadian Journal of Psychiatry*. 2001; 46:609-616.
- Belle D. Poverty and women's mental health. *American Psychologist*. 1990; 45(3):385-389.
- Benzies K, Keown L, Magill-Evans J. Immediate and sustained effects of parenting on physical aggression in canadian children aged 6 years and younger. *Canadian Journal of Psychiatry*. 2009; 54(1):55-64.
- Brannan AM, Heflinger CA, Foster EM. The role of caregiver strain and other family variables in determining children's use of mental health services. *Journal of Emotional and Behavioral Disorders*. 2003; 11(2):78-92.
- Brent DA, Kolko DJ, Birmaher B, Baugher M, Bridge J, Roth C, Holder D. Predictors of treatment efficacy in a clinical trial of three psychosocial treatments for adolescent depression. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1998; 37:906-914. [PubMed: 9735610]
- Brownfield D, Sorenson AM. Sibship size and sibling delinquency. *Deviant Behavior: An Interdisciplinary Journal*. 1994; 15:45-61.
- Burke JD, Loeber R, Birmaher B. Oppositional defiant disorder and conduct disorder: A review of the past 10 years, part II. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2002; 41(11):1275-1293. [PubMed: 12410070]
- Campbell SB. Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*. 1995; 36:113-149. [PubMed: 7714027]

- Campbell SB, Pierce EW, Moore G, Marakovitz S, Newby K. Boys' externalizing problems at elementary school age: Pathways from early behavior problems, maternal control, and family stress. *Development and Psychopathology*. 1996; 8:701–719.
- Carr A. Evidence-Based Practice in Family Therapy and Systemic Consultation II: Adult focused problems. *Journal of Family Therapy*. 2000; 22:273–295.
- Chronis AM, Chacko A, Fabiano GA, Wymbs BT, Pelham WE. Enhancements to the behavioral parent training paradigm for families of children with ADHD: Review and future directions. *Clinical Child and Family Psychology Review*. 2004; 7:1–27. [PubMed: 15119686]
- Chung EK, McCollum KF, Elo IT, Lee HJ, Culhane JF. Maternal depressive symptoms and infant health practices among low-income women. *Pediatrics*. 2004; 113(6):e523–e529. [PubMed: 15173532]
- Civic D, Holt VL. Maternal depressive symptoms and child behavior problems in a nationally representative normal birthweight sample. *Maternal and Child Health Journal*. 2000; 4:215–221. [PubMed: 11272341]
- Crowley MJ, Kazdin AE. Child psychosocial functioning and parent quality of life among clinically referred children. *Journal of Child and Family Studies*. 1998; 7(2):233–251.
- Croy CD, Novins DK. Methods for addressing missing data in psychiatric and developmental research. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2005; 44(12):1230–1240. [PubMed: 16292114]
- Cummings ME, Davies PT. Maternal depression and child development. *Journal of Child Psychology*. 1994; 35:73–112.
- Dadds MR, McHugh TA. Social support and treatment outcome in behavioral family therapy for child conduct problems. *Journal of Consulting and Clinical Psychology*. 1992; 60:252–259. [PubMed: 1592955]
- Davis NO, Carter AS. Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: Associations with child characteristics. *Journal of Autism and Developmental Disorders*. 2008; 38:1278–1291. [PubMed: 18240012]
- Derogatis LR, Lipman RS, Covi L. SCL-90: An outpatient psychiatric rating scale - preliminary report. *Psychopharmacology Bulletin*. 1973; 9:13–28. [PubMed: 4682398]
- Derogatis LR, Rickels K, Rock A. The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *British Journal of Psychiatry*. 1976; 128:280–289. [PubMed: 1252693]
- Dodge KA, Pettit GS, Bates JE. Socialization mediators of the relation between socioeconomic status and child conduct problems. *Child Development*. 1994; 65:649–665. [PubMed: 8013245]
- Downey D, Coyne JC. Children of depressed parents: An integrative review. *Psychological Bulletin*. 1990; 108:50–76. [PubMed: 2200073]
- Dumas JE, Wahler RG. Predictors of treatment outcome in parent training: Mother insularity and socioeconomic disadvantage. *Behavioral Assessment*. 1983; 5:301–313.
- Eapen V, Jakka ME, Abou-Saleh MT. Children with psychiatric disorders: The Al Ain Community Psychiatric Survey. *Canadian Journal of Psychiatry*. 2003; 48(6):402–407.
- Farmer EMZ, Burns BJ, Angold A, Costello EJ. Impact of children's mental health problems on families: Relationships with service use. *Journal of Emotional and Behavioral Disorders*. 1997; 5(4):230–238.
- Felner RD, Brand S, DuBois DL, Adan A. Socioeconomic disadvantage, proximal environmental experiences, and socioemotional and academic adjustment in early adolescence: Investigation of a mediated effects model. *Child Development*. 1995; 66(3):774–792. [PubMed: 7789201]
- Ferro T, Verdelli H, Pierre F, Weissman MM. Screening for depression in mothers bringing their offspring for evaluation or treatment of depression. *American Journal of Psychiatry*. 2000; 157:375–379. [PubMed: 10698812]
- Field T. Emotional care of the at-risk infant: Early interventions for infants of depressed mothers. *Pediatrics*. 1998; 102:1305–1310. [PubMed: 9794974]
- Flaherty JA, Gaviria FM, Pathak DS. The measurement of social support: The social support network inventory. *Comprehensive Psychiatry*. 1983; 24(6):521–529. [PubMed: 6653094]
- Frick, PJ. *Conduct Disorders and Severe Antisocial Behavior*. New York: Plenum Press; 1998.

- Frick PJ, Lahey BB, Loeber R, Stouthamer-Loeber M, Christ MG, Hanson K. Familial risk factors to oppositional defiant disorder and conduct disorder: Parental psychopathology and maternal parenting. *Journal of Consulting and Clinical Psychology*. 1992; 60(1):49–55. [PubMed: 1556285]
- Goldberg S, Janus M, Washington J, Simmons RJ, MacLusky I, Fowler RS. Prediction of preschool behavioral problems in healthy and pediatric samples. *Developmental and Behavioral Pediatrics*. 1997; 18(5):304–313.
- Goodman SH, Gotlib IH. Risk for psychopathology in the children of depressed parents: A developmental approach to the understanding of mechanisms. *Psychological Review*. 1999; 106:458–490. [PubMed: 10467895]
- Gopalan G, Dean-Assael K, Klingenstein K, Chacko A, McKay M. Depression among caregivers who bring their children to community mental health clinics for disruptive behavior disorders. *Social Work in Mental Health*. In Press.
- Gross D, Sambrook A, Fogg L. Behavior problems among young children in low-income urban day care centers. *Research in Nursing & Health*. 1999; 22:15–25. [PubMed: 9928960]
- Gross HE, Shaw DS, Burwell RA, Nagin DS. Transactional processes in child disruptive behavior and maternal depression: A longitudinal study from early childhood to adolescence. *Development and Psychopathology*. 2009; 21:139–156. [PubMed: 19144227]
- Guerra NG, Huesmann LR, Tolan PH, van Acker R, Eron LD. Stressful events and individual beliefs as correlates of economic disadvantage and aggression among urban children. *Journal of Consulting & Clinical Psychology*. 1995; 63(4):518–528. [PubMed: 7673529]
- Gupta VB. Comparison of parenting stress in different developmental disabilities. *Journal of Developmental and Physiological Disabilities*. 2007; 19:417–425.
- Haapasalo J, Tremblay RE. Physically aggressive boys from ages 6–12: Family background, parenting behavior, and prediction of delinquency. *Journal of Consulting and Clinical Psychology*. 1994; 62(5):1044–1052. [PubMed: 7806713]
- Harrison ME, McKay MM, Bannon WM Jr. Inner-city child mental health service use: The real question is why youth and families do not use services. *Community Mental Health Journal*. 2004; 40(2):119–131. [PubMed: 15206637]
- Henggeler, SW.; Schoenwald, SK.; Borduin, CM.; Rowland, MD.; Cunningham, PB. *Serious Emotional Disturbance in Children and Adolescents: Multisystemic therapy*. New York: Guilford Press; 2002.
- Jensen PS, Rubio-Stipec M, Canino G, Bird HR, Dulcan MK, Schwab-Stone ME, Lahey BB. Parent and child contributions to diagnosis of mental disorder: Are both informants always necessary? *Journal of the American Academy of Child and Adolescent Psychiatry*. 1999; 38:1569–1579. [PubMed: 10596258]
- Johnson JG, Cohen P, Kasen S, Brook JS. Maternal psychiatric disorders, parenting, and maternal behavior in the home during the child rearing years. *Journal of Child and Family Studies*. 2006; 15(1):97–114.
- Kashani JH, Orvaschel H, Burk JP, Reid JC. Informant variance: The issue of parent-child disagreement. *Journal of the American Academy of Child Psychiatry*. 1985; 24:437–441. [PubMed: 4019971]
- Kazdin, AE. *Conduct disorders in childhood and adolescence*. 2nd ed.. Thousands Oaks, CA: Sage; 1995.
- Kazdin AE, Mazurick JL. Dropping out of child psychotherapy: Distinguishing early and late dropouts over the course of treatment. *Journal of Consulting and Clinical Psychology*. 1994; 62:1069–1074. [PubMed: 7806717]
- Kazdin AE, Mazurick JL, Bass D. Risk for attrition in treatment of antisocial children and families. *Journal of Clinical Child Psychology*. 1993; 22:2–16.
- Kazdin AE, Wassell G. Predictors of barriers to treatment and therapeutic change in outpatient therapy for antisocial children and their families. *Mental Health Services Research*. 2000; 2:27–40. [PubMed: 11254067]
- Kazdin AE, Whitley MK. Treatment of parental stress to enhance therapeutic change among children referred for aggressive and antisocial behavior. *Journal of Consulting and Clinical Psychology*. 2003; 71(3)

- Keiley MK. Attachment and affect regulation: a framework for family treatment of conduct disorder. *Family Process*. 2002; 41:477–493. [PubMed: 12395570]
- Kumpfer KA, Alvarado R. Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist*. 2003; 58:457–465. [PubMed: 12971192]
- Lahey BB, Pelham WE, Stein MA, Loney J, Trapani C, Nugent K, Kipp H, Schmidt E, Lee S, Cale M, Gold E, Hartung CM, Willcutt E, Baumann B. Validity of DSM-IV attention-deficit/hyperactivity disorder for younger children. *Journal of American Academy of Child & Adolescent Psychiatry*. 1998; 37(7):695–702.
- Lazarus, RS.; Folkman, S. *Manual for the Hassles and Uplifts: Research Edition*. Palo Alto, Ca: Consulting Psychologists Press; 1989.
- Leslie LK, Aarons GA, Haine RA, Hough RL. Caregiver depression and medication use by youths with ADHD who receive services in the public sector. *Psychiatric Services*. 2007; 58:131–134. [PubMed: 17215424]
- Loeber, R.; Stouthamer-Loeber, M. The prediction of delinquency. In: Quay, HC., editor. *Handbook of juvenile delinquency*. New York: Wiley; 1987. p. 325–416.
- Loeber, R.; Stouthamer-Loeber, M.; Costello, A.; Farrington, DP. Progression in antisocial and delinquent child behavior. Grant proposal (funded) to the Office of Juvenile Justice and Delinquency Prevention; 1986.
- Lundahl B, Risser HJ, Lovejoy C. A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review*. 2006; 26:86–104. [PubMed: 16280191]
- Luthar, SS. *Poverty and children's adjustment*. Thousand Oaks, CA: Sage; 1999.
- Lynn, LE.; McGreary, MGH., editors. *Inner-city poverty in the united states*. Washington, D.C: National Academy Press; 1990.
- Madison S, McKay M, Paikoff RL, Bell C. Community collaboration and basic research: Necessary ingredients for the development of a family-based HIV prevention program. *AIDS Education and Prevention*. 2000; 12:281–298. [PubMed: 10982119]
- Marchand JF, Hock E, Widaman K. Mutual relations between mothers' depressive symptoms and hostile-controlling behavior and young children's externalizing and internalizing behavior problems. *Parenting Science and Practice*. 2002; 2:335–353.
- McKay, MM.; Baptiste, D.; Coleman, D.; Madison, S.; Paikoff, R.; Scott, R. Preventing HIV risk exposure in urban communities: The CHAMP Family Program. In: Pequegnat, W.; Szapocznick, J., editors. *Working with families in the era of HIV/AIDS*. California: Sage Publications; 2000.
- McLanahan, S. Parent absence or poverty: Which matters more?. In: Duncan, G.; Brooks-Gunn, J., editors. *Consequences of growing up poor*. New York: Russell Sage Foundation; 1997. p. 35–48.
- McLeod JD, Shanahan MJ. Poverty, parenting, and children's mental health. *American Sociological Review*. 1993; 58(3):351–366.
- McLoyd VC. The impact of economic hardship on Black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*. 1990; 61:311–345. [PubMed: 2188806]
- McLoyd VC. Socioeconomic disadvantage and child development. *American Psychologist*. 1998; 53(2):184–204.
- McLoyd VC, Jayaratne TE, Ceballo R, Borquez J. Unemployment and work interruption among African American single mothers: Effects on parenting and adolescent socioemotional functioning. *Child Development*. 1994; 65(2):562–589. [PubMed: 8013240]
- Mendel P, Meredith LS, Schoenbaum M, Sherbourne CD, Wells KB. Interventions in organizational and community context: A framework for building evidence on dissemination and implementation in health services research. *Administration & Policy in Mental Health*. 2008; 35(1–2):21–37. [PubMed: 17990095]
- Miller GE, Prinz RJ. Enhancement of social learning family interventions for childhood conduct disorder. *Psychological Bulletin*. 1990; 108:291–307. [PubMed: 2236385]
- Miranda J, Azocar F, Organista KC, Dwyer E, Areane P. Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services*. 2003; 54(2):219–225. [PubMed: 12556604]

- Morrissey-Kane E, Prinz RJ. Engagement in child and adolescent treatment: The role of parental cognitions and attributions. *Clinical Child and Family Psychology Review*. 1999; 2(3):183–198. [PubMed: 11227074]
- Moss E, Rousseau D, Parent S, St-Laurent D, Saintonge J. Correlates of attachment at school age: Maternal reported stress, mother-child interaction, and behavior problems. *Child Development*. 1998; 69:1390–1405. [PubMed: 9839423]
- National Institute of Mental Health. National Institute of Mental Health Strategic Plan. 2008.
- New Freedom Commission on Mental Health. Achieving the Promise: Transforming Mental Health Care in America. Final Report. Rockville, MD: 2003. DHHS Pub. No. SMA-03-3832
- New York City Department of Health and Mental Hygiene. Community health profiles. New York: New York City Department of Health and Mental Hygiene; 2006.
- Newton RR, Litrownik AJ, Landsverk JA. Children and youth in foster care: Disentangling the relationship between problem behaviors and number of placements. *Child Abuse & Neglect*. 2000; 24(10):1363–1374. [PubMed: 11075702]
- Ollendick, T.; Schroeder, CS., editors. *Encyclopedia of clinical child and pediatric psychology*. New York: Kluwer Academic/Plenum Publishers; 2003.
- Olson SL, Ceballo R, Park C. Early problem behavior among children from low-income, mother-headed families: A multiple risk perspective. *Journal of Clinical Child and Adolescent Psychology*. 2002; 31(4):419–430. [PubMed: 12402562]
- Paikoff RL, Traube DE, McKay M. Overview of community collaborative partnerships and empirical findings: The foundation for youth HIV prevention. *Social Work in Mental Health*. 2007; 5(1–2): 3–26. [PubMed: 20844598]
- Prinz RJ, Miller GE. Family-based treatment for childhood antisocial behavior: Experimental influences on dropout and engagement. *Journal of Consulting and Clinical Psychology*. 1994; 62(3):645–650. [PubMed: 8063993]
- Quinton, D. Cultural and community influences. In: Rutter, M., editor. *Scientific foundations of developmental psychology*. London: Heinemann; 1980.
- Riley AW, Lyman LM, Spiel G, Dopfner M, Lorenzo MJ, Ralston SJ. The ADORE Study Group. The family strain index (FSI). Reliability, validity, and factor structure of a brief questionnaire for families of children with ADHD. *European Child & Adolescent Psychiatry*. 2006; 15:1/72–1/78. [PubMed: 16514504]
- Rishel CW, Greeno CG, Marucs SC, Sales E, Shear MK, Swartz HA, Anderson C. Impact of maternal mental health status on child mental health treatment outcome. *Community Mental Health Journal*. 2006; 42(1):1–12. [PubMed: 16429249]
- Royston P. Multiple imputation of missing values. *Stata Journal*. 2004; 4(3):227–241.
- Rubin, DB. *Multiple imputation for nonresponse in surveys*. New York: John Wiley & Sons; 1987.
- Sales E, Greeno C, Shear MK, Anderson C. Maternal caregiving strain as a mediator in the relationship between child and mother mental health problems. *Social Work Research*. 2004; 28(4):211–223.
- Schoenwald SK, Hoagwood K. Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services*. 2001; 52(9):1190–1197. [PubMed: 11533392]
- Sexton TL, Alexander JF. Family-based empirically supported interventions. *The Counseling Psychologist*. 2002; 30:238–261.
- Siefert K, Bowman PJ, Heflin CM, Danziger S, Williams DR. Social and environmental predictors of maternal depression in current and recent welfare recipients. *American Journal of Orthopsychiatry*. 2000; 70:510–522. [PubMed: 11086529]
- Simons, RL.; Johnson, C. The impact of marital and social network support on quality of parenting. In: Pierce, GR.; Sarason, BR.; Sarason, IG., editors. *Handbook of social support and the family*. New York, NY, US: Plenum Press; 1996. p. 269–287.
- Spencer, MB.; Dornbusch, SM. Challenges in studying minority youth. In: Feldman, SS.; Elliott, GR., editors. *At the Threshold: The Developing Adolescent*. Cambridge, MA: Harvard University Press; 1990. p. 123–146.
- Sperber E, McKay MM, Bell CC, Petersen I, Bhana A, Paikoff R. Adapting and disseminating a community-collaborative, evidence-based HIV/AIDS prevention programme: Lessons from the

- history of CHAMP. *Vulnerable Children and Youth Studies*. 2008; 3(2):150–158. [PubMed: 19924263]
- Steinberg L. Impact of puberty on family relations: Effects of pubertal status and pubertal timing. *Developmental Psychology*. 1987; 23(3):451–460.
- Stormshak EA, Bierman KL, McMahon RJ, Lengua LJ. the Conduct Problems Prevention Research Group. Parenting practices and child disruptive behavior in early elementary school. *Journal of Clinical Care Psychology*. 2000; 29(1):17–29.
- Substance Abuse and Mental Health Services Administration [SAMHSA]. SAMHSA's National Mental Health Information Center, Center for Mental Health. 2007. from <http://mentalhealth.samhsa.gov/publications/allpubs/CA-0010/default.asp>
- Susman EJ, Trickett PK, Iannotti RJ, Hollenbeck BE, Zahn-Waxler C. Childrearing patterns in depressed, abusive, and normal mothers. *American Journal of Orthopsychiatry*. 1985; 55:237–251. [PubMed: 3993753]
- Swartz HA, Shear MK, Wren FJ, Greeno CG, Sales E, Sullivan BK, Ludewig DP. Depression and anxiety among mothers who bring their children to a pediatric mental health clinic. *Psychiatric Services*. 2005; 56(9):1077–1083. [PubMed: 16148320]
- Tamis-LeMonda CS, Briggs RD, McClowry SG, Snow DL. Maternal control and sensitivity, child gender, and maternal education in relation to children's behavioral outcomes in African American families. *Journal of Applied Developmental Psychology*. 2009; 30(3):321–331. [PubMed: 20161193]
- Thompson R, Lindsey MA, English DJ, Hawley KM, Lambert S, Browne DC. The influence of family environment on mental health need and service use among vulnerable children. *Child Welfare*. 2007; 86(5):57–74. [PubMed: 18422048]
- Tolan, PH.; Florsheim, P.; McKay, MM.; Kohner, K. Metropolitan Area Child Study family intervention manual. Chicago, IL: University of Illinois at Chicago; 1993.
- Tolan, P.; Gorman-Smith, D. Metropolitan area child study manual. Chicago, IL: University of Illinois at Chicago; 1991.
- Tolan PH, Gorman-Smith D, Huessman LR, Zelli A. Assessment of family relationship characteristics: A measure to explain risk for antisocial behavior and depression among urbanyouth. *Psychological Assessment*. 1997; 9(3):212–223.
- Tolan PH, Henry D. Patterns of psychopathology among urban poor children: Comorbidity and aggression effects. *Journal of Consulting and Clinical Psychology*. 1996; 64:1094–1099. [PubMed: 8916642]
- vanBuuren S, Boshuizen HC, Knook DL. Multiple imputation of missing blood pressure covariates in survival analysis. *Statistics in Medicine*. 1999; 18(6):681–694. [PubMed: 10204197]
- Warner BS, Weist MD. Urban youth as witnesses to violence: Beginning assessment and treatment efforts. *Journal of Youth and Adolescence*. 1996; 25(3):361–378.
- Wasserman GA, Miller LS, Pinner E, Jaramillo B. Parenting predictors of early conduct problems in urban, high-risk boys. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1996; 35(9):1227–1236. [PubMed: 8824066]
- Webster-Stratton C. Mothers' and father's perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology*. 1988; 56:909–915. [PubMed: 3204202]
- Webster-Stratton C. Stress: A potential disruptor of parent perceptions and family interactions. *Journal of Clinical Child Psychology*. 1990; 19(4):302–312.
- Webster-Stratton C, Hammond M. Predictors of treatment outcome in parent training for families with conduct problem children. *Behavior Therapy*. 1990; 21:319–337.
- Wren FJ, Bridge JA, Birmaher B. Screening for childhood anxiety symptoms in primary care: Integrating child and parent reports. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2004; 43(11):1364–1371. [PubMed: 15502595]
- Yang P, Jong Y, Hsu H, Tsai J. Psychiatric features of parenting stress profiles of subtypes of attention-deficit/hyperactivity disorder: Results from a clinically referred Taiwanese sample. *Journal of Developmental & Behavioral Pediatrics*. 2007; 28(5):369–375. [PubMed: 18049319]

Yatchmenoff DK, Koren PE, Friesen BJ, Gordon LJ, Kinney RF. Enrichment and stress in families caring for a child with a serious emotional disorder. *Journal of Child and Family Studies*. 1998; 7(2):129–145.

Figure 1.

Ecological-mediational model of the effects of socioeconomic disadvantage on child and adolescent adjustment. Adapted from “Socioeconomic disadvantage, proximal environmental experiences, and socio emotional and academic adjustment in early adolescence: Investigation of a mediated effects model,” by R.D. Felner, S. Brand, D.L. DuBois, and A. Adan, 1995, *Child Development*, 66(3), p. 775.

Table 1
Differences between New York and Chicago CHAMP samples for continuous variables

Variable	New York (n = 46)				Chicago (n = 108)				t	p
	n ^a	M	SD	n ^b	M	SD	n ^b	SD		
Child age	2	10.2			11.6					**
Child Externalizing	4	1	0.83	90	9	1.17			-7.05	*
Symptoms	3			10						
	9	7.89	7.07	7	9.77	7.86			-1.30	0.19
	4	60.2		10	60.5					
Parental Monitoring	0	0	5.62	6	4	5.62			-0.33	0.74
	3	41.7		10	42.5					
Average Parent Support	4	0	6.24	2	5	5.71			-0.73	0.46
	4	20.6		10	20.3					
Within Family Support	4	8	2.76	6	5	3.82			0.60	0.55
	4	10.4			10.5					
Discipline Effectiveness	1	9	1.42	91	0	1.61			-0.02	0.98
	3	36.1	11.7	10	35.2	12.6				
Parent Mental Health	9	8	5	7	3	2			0.41	0.68
	3	34.2	10.9	10	35.0	10.0				
Parenting Hassles	9	3	8	4	4	0			-0.42	0.68
Parent Decision-Making	3	71.8	8.05	10	73.5	7.72			-1.14	0.26
	8	2		5	0					

Note:

* p < .10;

** p < .05;

*** p < .01

^a Sample size is less than 46 due to missing data

^b Sample size is less than 108 due to missing data

Table 2

Differences between New York and Chicago CHAMP samples for dichotomous variables

Variable	New York (n = 46) ^a	Chicago (n = 108) ^b	χ^2	p
Child Gender			0.26	0.61
Male	13	43		
Female	23	62		
Parent Marital Status			13.67	0.00 ***
Married	24	23		
Not Married	22	82		
Number of children in home			5.99	0.01 **
Five or more children in the home	5	34		
Under five children in the home	36	72		
Public Assistance			32.75	0.00 ***
Receives Public Assistance	12	80		
Does not receive Public Assistance	34	26		
Parent Education			2.76	0.097*
Greater than High School	7	13		
High School and Below	21	92		
Separation from Children			10.53	0.00 ***
Yes	16	16		
No	24	90		

Note:

* p < .10;

** p < .05;

*** p < .01

^a numbers do not add to 46 due to missing data^b numbers do not add to 108 due to missing data

Table 3
Intercorrelations between study variables for the New York and Chicago Samples

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
New York Sample (n = 46)															
1. CBCL Externalizing	1.00														
2. Child Gender	0.20	1.00													
3. Child Age	-0.17	-0.38*	1.00												
4. Parent Marital Status	0.13	0.09	-0.01	1.00											
5. # of children	0.42**	-0.06	-0.08	0.08	1.00										
6. Parent employment	-0.13	-0.16	-0.11	0.01	-0.11	1.00									
7. Public assistance	-0.15	0.04	0.47**	-0.22	-0.06	-0.15	1.00								
8. Parent education	0.30	-0.12	-0.09	-0.04	0.05	0.26	0.30	1.00							
9. Separation	-0.14	0.11	-0.02	-0.27*	0.15	0.20	-0.24	0.34	1.00						
10. Parent mental health	0.27	0.06	-0.20	-0.23	0.00	-0.02	0.24	0.07	0.17	1.00					
11. Parenting Hassles	0.59***	-0.04	-0.19	0.00	0.26	-0.23	0.08	0.21	-0.23	0.24	1.00				
12. Average Parent Support	-0.32*	-0.23	0.25	0.20	-0.25	0.05	-0.33*	0.11	0.09	-0.61***	-0.30	1.00			
13. Discipline	0.10	0.28	-0.27	0.04	0.03	0.30*	-0.09	-0.11	0.12	0.03	-0.12	-0.08	1.00		
14. Parental Monitoring	0.06	0.09	0.00	0.01	-0.01	0.20	0.02	0.10	0.07	-0.19	0.17	0.23	-0.03	1.00	
15. Parent Decision-Making	0.20	-0.15	-0.04	0.44***	0.25	0.19	-0.23	0.18	-0.20	-0.17	0.11	0.40**	-0.04	0.05	1.00
16. Within Family Support	0.34**	0.14	-0.53***	0.19	0.05	0.16	-0.45***	0.14	0.10	0.01	0.05	0.05	0.12	0.07	0.01
Chicago Sample (N = 108)															
1. CBCL Externalizing	1.00														
2. Child Gender	-0.10	1.00													
3. Child Age	-0.10	0.07	1.00												
4. Parent Marital Status	-0.09	-0.09	0.18*	1.00											
5. # of children	0.24**	-0.15	0.01	-0.12	1.00										
6. Parent employment	-0.13	0.02	-0.11	0.13	-0.08	1.00									
7. Public assistance	-0.01	0.02	0.06	-0.23**	0.20**	-0.41***	1.00								
8. Parent education	-0.13	-0.05	0.04	0.17*	0.05	0.23**	-0.32***	1.00							

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
9. Separation	0.01	-0.05	-0.07	0.10	-0.01	0.22**	-0.25***	0.16*	1.00						
10. Parent mental health	0.39***	-0.04	0.18*	-0.16	0.19*	-0.19*	0.05	-0.03	0.01	1.00					
11. Parenting Hassles	0.28***	-0.03	0.27**	-0.02	0.16	-0.10	0.03	-0.04	0.02	0.44***	1.00				
12. Average Parent Support	-0.16	-0.02	-0.07	0.04	0.01	0.09	0.12	-0.01	-0.15	-0.03	-0.05	1.00			
13. Discipline	-0.10	-0.07	-0.03	-0.19*	-0.07	-0.06	0.05	-0.24**	-0.01	-0.01	-0.14	0.07	1.00		
14. Parental Monitoring	-0.09	-0.01	0.04	0.20**	-0.02	0.04	-0.05	0.07	-0.18*	-0.13	-0.25**	0.16	0.06	1.00	
15. Parent Decision-Making	0.10	-0.01	0.08	-0.07	0.02	-0.09	0.08	-0.01	-0.05	0.06	0.02	-0.05	0.07	0.34***	1.00
16. Within Family Support	-0.13	-0.02	-0.08	0.07	0.01	0.07	0.04	-0.03	0.00	-0.21**	-0.13	0.32***	0.20*	0.24***	-0.09

*
p < .10;**
p < .05;***
p < .01

Table 4

Summary of Regression Analyses for Variables Predicting Child Externalizing Behavior Symptoms for the New York CHAMP Sample (n = 46)

Variable	β	SE (β)	B ^a	z ^b
<u>Control Covariates</u>				
Child Age	0.84	1.45	0.11	0.58
Child Gender	2.18	2.33	0.15	0.93
Public Assistance Status	-2.16	2.48	-0.14	-0.87
Parent Employment	-1.01	2.10	-0.07	-0.48
<u>Independent Variables</u>				
# of Children in the Home	4.44	2.90	0.22	1.53
Parenting Hassles	0.24**	0.10	0.39	2.36**
Average Parent Support	-0.18	0.20	-0.16	-0.88
Within Family Support	0.56	0.43	0.22	1.31
Constant	-14.39	18.91		-0.76
F ^a (8, 37)	3.79			
R ² ^a	0.44			
P	0.01			

Note:

*
p < .10;

**
p < .05;

p < .01

^a Pooled B, F, and R² values were manually computed by averaging statistics from the individual regression analyses of each of the 10 imputed datasets.

^b The “micombine” command in Stata version 10.1 only produces z-score values for pooled multiple regression estimates.

Table 5

Summary of Regression Analyses for Variables Predicting Child Externalizing Behavior Symptoms for the Chicago CHAMP Sample (n = 108)

Variable	β	SE (β)	B ^a	z ^b
<u>Control Covariates</u>				
Child Age	-1.28 *	0.65	-0.19	-1.95 *
Child Gender	-0.62	1.44	-0.04	-0.43
Public Assistance	-1.71	1.81	-0.09	-0.95
Parent Employment	-1.90	1.66	-0.11	-1.14
<u>Independent Variables</u>				
# of Children in the Home	2.65 *	1.58	0.16	1.68 *
Parent Mental Health	0.18 ***	0.06	0.29	2.88 ***
Parenting Hassles	0.14 *	0.08	0.18	1.72 *
Constant	14.82 *	7.69		1.93 *
F ^a (7, 100)	4.52			
R ² ^a	0.24			
P	0.00			

Note:

* p < .10;

** p < .05;

*** p < .01

^a Pooled B, F, and R² values were manually computed by averaging statistics from the individual regression analyses of each of the 10 imputed datasets.

^b The "micombine" command in Stata version 10.1 only produces z-score values for pooled multiple regression estimates.