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FAMILY STRESSORS AND PROBLEM BEHAVIORS OF AT-RISK ELEMENTARY

SCHOOL GIRLS: A LATENT CLASS ANALYSIS

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A thesis submitted to the Department of Psychology

in partial fulfillment of the requirements for the degree of

Master of Arts in General Psychology

UNIVERSITY OF NORTH FLORIDA

COLLEGE OF ARTS AND SCIENCES

December, 2015

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ACKNOWLEDGEMENTS

First and foremost I thank my advisor and committee chair, Dr. Michael Toglia for his invaluable guidance on this project. Dr. Toglia's dedication and commitment to both this project and to my professional development have earned my deepest gratitude. I would not be the junior scholar I am today without Dr. Toglia, and I'm looking forward to working with him on future endeavors.

I also thank my second reader, Dr. Dan "The Method Man" Richard for his invaluable contributions to this project and for his mentorship over the years. The main analysis for this paper would not have happened without Dr. Richard's many meetings with me, and I want to thank him for teaching me almost everything I know about statistics and working with real-world data.

Thirdly, I thank Vanessa Patino Lydia, Dr. Jacqueline Brown, John and Julia Taylor, and everyone at the Delores Barr Weaver Policy Center for a wonderful fellowship experience and their assistance with this research project. Their guidance and perspective strengthened this paper, and contributed greatly to my development as a researcher.

Finally, I thank my parents for their continued support over the past six years. I hope that this manuscript and my future accomplishments continue to make them proud. Finally, I would not have made it this far without the constant support of my friends. I thank Ashley J. Gillis, Andrew C. Provenzano, and Lucy Andolina for following my Masters journey to its conclusion.

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Abstract

In order to obtain a closer look into the relationships between an at-risk populations' family stressors and future school problem behaviors, a Latent Class Analysis (LCA) of family stressor variables was performed on at-risk elementary school girls from Health Zone 1. Participants were 308 girls with a mean age of 8.79 years. The dataset was inherited from the Delores Barr Weaver Policy Center and analyses were run to uncover latent classes of family stressors. Class membership was then utilized to predict future behavioral referrals and suspensions from school. A total of three classes emerged from the LCA: "Exposure to Trauma"; "Familial Stress"; and "Stable Home." Chi-square analysis between class membership and future behavioral referrals and suspensions failed to reach significance. However, chi-square analyses between class membership and some future family stressors were significant. It appears that latent classes of stressors can be uncovered, and these classes can be utilized in the meaningful prediction of outcome variables. Implications for researchers and policy makers are discussed.

Family Stressors and Problem Behaviors of At-risk Elementary School Girls: A Latent

Class Analysis

There are many stories of children growing up under difficult circumstances. Some children are subject to trauma, regularly witness domestic violence, and experience abuse. Others grow up in foster care with instability and very little social support. These circumstances can make life incredibly challenging for children, and something as common as going to school, and thus obtaining an education, may seem like an impossibility to them. While the challenges of growing up in a stressful environment do not guarantee maladaptive development, the presence and aggregation of these environmental risk factors are related to future behavioral misconduct in children (Kazdin et al., 1997). Researchers have also discovered strong relationships between academic failure and problem behaviors in children (Maguin & Loeber, 1996; McEvoy & Welker, 2000), such as the development of antisocial behavior, the commitment of minor crimes (delinquency), and the exhibition of problem behaviors in school which may lead to disciplinary action from faculty. Social failure, such as the inability to form friendships, have also been linked to the above outcomes in children (Gottman, Gonso, & Rasmussen, 1975; Stormshak & Webster-Stratton, 1999). Ultimately, prolonged misconduct in schools leads to more extreme forms of disciplinary action from faculty, such as suspension and expulsion, which puts children at further risk and contact with the justice system (Kang-Brown, Trone, Fratello, & Daftary-Kapur, 2013).

This particular theoretical pathway from risk to stressors to problem behaviors is an important topic for researchers and policy makers due to the devastating consequences academic failure and contact with the justice system can have at both an individual and a societal level. To further investigate this theoretical pathway, which may lead to future contact with the justice

system, this paper will: introduce the risk factor literature, discuss the implications of risk factors on the family unit, and assess how subsequent family stress impacts the behavior of at-risk elementary school girls.

Risk Factors

Risk factors are conceptualized as antecedent conditions that increase the likelihood of a maladaptive outcome (Kazdin et al., 1997). It is important to focus on the probabilistic nature of risk factors and note that the presence of risk factors is not a guarantee for future negative outcomes. For example, previous research has established broken marriages as a risk factor for children (Webster-Stratton, 1989). However, it is reasonable to conclude that the child may be better off living without a parent if that parent engages in aggressive and/or risky behavior such as domestic violence or drug abuse. Risk factors can have significant and independent implications, but at-risk individuals are likely to experience more than a single risk factor. Consequently, researchers have investigated the aggregated effect of risk factors on future school outcomes in children.

Atzaba-Poria, Pike, & Deater-Deckard (2004) found that risk factors become more problematic as they aggregate, and children who experienced more risk factors engaged in more problematic behavior. In a study of school risk factors by Christle, Jolivetter, & Nelson (2005), poverty was significantly and negatively correlated with academic achievement. Poverty's relationship with behavior was also followed by a number of other risk factors including: student law violations, student absences, and retention rate, all of which were negatively correlated with academic achievement. As the previous study suggests, a number of risk factors may be present at one time, and by definition the risk factors may affect some students and not others. Also of

importance is the cumulative effects of risk factors. Certain risk factors, such as the socioeconomic risk factor of poverty, can persist over time and thus have prolonged or cumulative effects on an individual. The associations between individuals and risk factors are rendered even more complex as risk factors aggregate and the effects of risks act cumulatively over time.

Another important consideration for the current study are gender differences on the impact of risk factors. Unfortunately, studies that investigate these gender differences are rare (Shin, Shin, Lim, Chung, & Cho, 2012). Some of the studies that have investigated these gender differences on externalizing behavior problems attribute only a small amount of variability to gender (Achenbach, 1991; Deater-Deckard, Dodge, Bates, & Pettit, 2009). There is also evidence that the origin of externalizing behavior problems are similar for both boys and girls (Zahn-Waxler, 1993; Zoccolillo, 1993). Regardless of these findings, further study on the gender differences of the etiology of externalizing behavior problems and risks for the development of psychopathology is needed. More specifically, studies need to include larger sample sizes to provide adequate power, and prevent the over-representation of boys in risk factor research. Identifying the risk factors that affect individuals, both immediately and long-term, and identifying the characteristics of individuals that make them susceptible to risk factors is an ongoing challenge in the literature. One risk factor that has received considerable attention from researchers is the impact of poverty.

Poverty

Researchers have critically investigated the impact of poverty on children, specifically the negative impact on their future functioning in various domains such as academics (e.g., lower

IQ) (Brooks-Gunn & Duncan, 1997) and problem behaviors (Linver, Brooks-Gunn, & Kohen, 2002). Low socioeconomic status (SES) has also been linked to mental health problems, such as hyperactivity and attention disorders and conduct disorder (Bøe, Øverland, Lundervold, & Hysing, 2012) and lack of sleep in children (El-Sheikh, Bagley, Keiley, Elmore-Staton, Chen, & Buckhalt, 2013).

Poverty also has deleterious effects on the family unit (Seccombe, 2000). Research has established a connection between poverty and how parents interact with their children. Specifically, impoverished parents were less nurturing (Hashima & Amato, 1994; Berger & Waldfogel, 2010), and more likely to neglect and abuse their children to injury (Children's Defense Fund, 1994; U.S. Advisory Board on Child Abuse and Neglect, 1991; Berger, 2005). Researchers have hypothesized that this trend is a result of the accompanying family stressors that come with living in poverty (Seccombe, 2000). Consequently, due to the increased time children are spending with their families, regardless of the structural familial changes (e.g., rise of single-parent households, increased number of women in the work force) in American society (Sandberg & Hofferth, 2001; Bianchi, 2011), one may question the link between chronic family stress and child problem behavior outcomes.

It is important, however, to remember that risk factors are probabilistic in nature, and their presence, including the presence of poverty, does not guarantee a negative outcome. There are many different factors, including the family, which can act as a buffer against the negative effects of risk factors. These variables that buffer the effects of risk in a positive direction are conceptualized in the literature as protective factors (Luthar & Cicchetti, 2000). Protective factors can exist in multiple domains, such as the family, community, the school, and the individual (Alvord & Grados, 2005; Luthar & Cicchetti, 2000; Schultz et al, 2009). More

specifically, a supportive family can help buffer against the negative impact of an unsupportive

school. Or, an internal quality, such as resilience, can help protect an elementary school girl from

the negative impact of risk factors present in her environment. This paper does not focus on the

protective factors and strengths present in Health Zone 1 and the individuals who live there, but

it is important to note that these strengths do exist and should be taken into consideration. The

context of this paper is not complete without this acknowledgement, and it merits discussion

before proceeding into the family stressor literature. For more on resilience, please see the

seminal article by Masten, Best, & Garmezy (1990). Now, the family stressor literature and the

implications of family stress on subsequent behavioral problems in children will be discussed.

Family Stressors

Researchers have been investigating behavioral problems in children for decades,

(Watkins, Pittman, & Walsh, 2013) and more recently the potential family influences on problem

behaviors have been under review. Researchers have discovered numerous relationships between

family stressors and negative outcomes for children, including: the impact of parental

internalizing disorders on internalizing (e.g., anxiety) and externalizing (e.g., conduct disorder)

problems in children (Meadows, McLanahan, & Brooks-Gunn, 2007; Ramchandani, Stein,

Evans, & O'Connor, 2005), socioeconomic status's impact on the family unit, marital conflict

was predictive of general problem behaviors (Nievar & Luster, 2006), family instability was

related to a greater number of teacher reports of problem behaviors (Cavanaugh & Huston,

2006), temporary involvement in foster care was related to more frequent problem behaviors,

higher school drop-out rates, and arrest by police (Taussig, Clyman, & Landsverk, 2001),

parental incarceration has been associated with future antisocial behavior (Murray, Farrington, &

Sekol, 2012), witnessing domestic violence has been associated with poorer social, academic,

and psychological outcomes (Kitzmann, Gaylord, Holt, & Kenny, 2003), physical abuse was linked to child anger and depression (Johnson et al., 2002), and childhood sexual abuse was predictive of revictimization, post-traumatic stress disorder, and depression (Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; Putnam, 2003). All of the above variables have been shown to significantly contribute to problem behaviors, but little is known about how these variables interact together to increase the likelihood of problem behaviors. More specifically: what can the aggregation of specific family stressors tell us about a child, and what are the implications of specific combinations of these stressors on consequent behavioral problems in school? To answer this question, this paper investigates the family stressors of children living in Health Zone 1.

Health Zone 1

In Northeast Florida, like many other regions in the United States, there are areas where people and families live amidst stressors. Duval County is divided into six health zones, and the participants for this study live in Health Zone 1 (HZ1), the urban core of Jacksonville, FL.

Figure 1

Duval County Health Zones
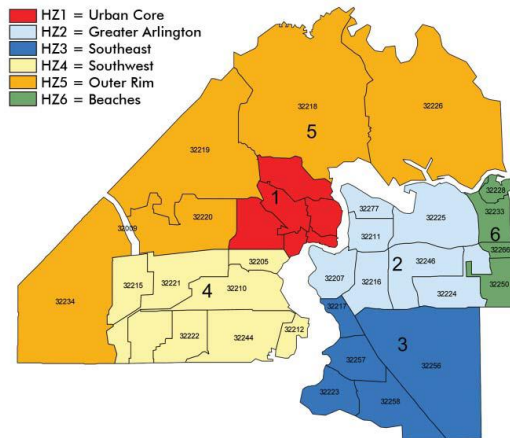
According to a 2012 report by the Duval County Health Department, 16.6% of residents in Duval County are living below the poverty level. Out of the six health zones, HZ1 inhabitants have the highest poverty rate at 29.6%, with an average household income of $36,502. Health Zone 1 also has the lowest education rate with only 35.7% of residents achieving more than a high school education, which is approximately 45,915 people. Further, 81.2% of HZ1 residents are minorities, HZ1 has the highest unemployment rate at 18.7%, and HZ1 has the highest intentional injury deaths per 100,000 people at 71.02. With such a high level of poverty and violence, the children and families of HZ1 are more likely to experience stress, trauma, and challenges that could negatively impact their academic and behavioral outcomes compared to the other health zones. Amidst these challenging and stressful circumstances, members of the community are actively working to help ensure that the children of HZ1 are able to get an education, and provide much-needed intervention services for at-risk girls and their families.

Specifically, a recently established Policy Center is at the heart of interventions in high-need schools – the Delores Barr Weaver Policy Center.

Delores Barr Weaver Policy Center

The Delores Barr Weaver Policy Center (DBWPC) was founded at the beginning of 2013, and provides research and advocacy directed at bringing about systematic reform for girls and young women in or at risk of entering the juvenile justice and child welfare systems in Northeast Florida. The policy center, whose services are grounded in research, offer advocacy, training and technical assistance, and other services that provide prevention, court diversion, and re-entry services for system involved girls. In order to better understand the DBWPC's passion for helping girls and the need for intervention, one must understand the status quo of girls' unique pathways into the justice system.

According to a report by Watson & Edelman (2012), girls have been shown to have several distinct pathways that lead them to come into contact with the criminal justice system. Girls are more likely to be arrested for status crimes such as truancy or running away from home than boys. Girls were also found to have been arrested for domestic violence, and have higher mental health needs than their male peers. When incarcerated, girls are also committed for less serious offenses compared to boys. Due to their unique mental health needs, girls are at times sent to higher security commitment facilities because these are often the only commitment programs for juvenile females in the state of Florida to offer mental health services. These and many other gender disparities are a key motivator for the Policy Center, which aims to provide research-based gender-specific services to girls in the community. The Girl Matters: It's

Elementary (GMIE) program is one of many services the policy center offers, and is the intervention that was focused upon in the current study.

GMIE and the Current Study

The Girl Matters: It's Elementary (GMIE) program was funded by the Robert Wood Johnson Foundation and developed by the NCCD Center for Girls and Young Women and transitioned with the leadership to the Delores Barr Weaver Policy Center. The goals of the GMIE program are to help reverse the trend of expelling and suspending girls, encourage and improve academic success, and to prevent girls from encountering the juvenile justice system. The GMIE model utilizes a girl-responsive paradigm, a paradigm focused on providing opportunities for girls to create positive changes in themselves, in their relationships, and in their communities (Valentine Foundation, 1990), to identify a girl's strengths and weaknesses and develop an individualized care-plan based on individual needs. The model also focuses on the school policies and practices, teacher attitudes and competency that impact rates of suspension. The work with girls is about understanding her lived experiences that contribute to her behaviors and working with her to identify emotions, triggers, safety plans and strategies. The GMIE program was brought to two elementary schools in HZ1 because of the elevated girl suspension rates at each of the schools. For the purposes of this paper the names of the schools will not be given. They will be referred to as School A and School B. Both schools are similar in demographics and location.

The Girl Matters: It's Elementary baseline and ongoing assessments capture static family stressors at intake and capture changes in family dynamics during the course of the GMIE program. The assessments are designed to obtain girls' perceptions of home stability, family

dynamics, number of residents in the household, death in the family, exposure to domestic abuse and violence, parental incarceration, parental drug or alcohol challenges, parental mental health, parental job loss, and home displacement. All of the above variables have been linked with problem behaviors and empirical study is needed to help determine if there are certain patterns of family stressors associated with continued behavioral referrals and suspensions from school despite participation in an intervention program. Without knowing the specifics of the familial variability amongst the girls, it is possible that some girls may be slipping through the cracks of the GMIE program. With this knowledge, it is possible to be able to modify interventions based on family variability to reduce the number of school problem behaviors and thus the number of future behavioral referrals and suspensions of at-risk girls. The purpose of the current study was to analyze an inherited dataset provided by the Delores Barr Weaver Policy Center and investigate the latent patterns of family stressors present in at-risk elementary school girls from HZ1. This exploratory investigation was conducted with the intention that meaningful patterns can be found, and that these patterns wouldbe able to tell researchers, policy makers, and other stake-holders important information about a potentially at risk girl(s) that is not currently known. The information learned will also be assessed in the prediction of future behavioral referrals and suspensions from school, as well as other family stressor outcomes. Furthermore, from a theoretical perspective the current results will add to the paucity of extant data in this research arena and thus permit modest inroads into theory development from which to generate testable hypotheses in future non-exploratory studies designed more rigorously to address family stressors and problem behavior of young school girls.

Researchers have discovered, through their previous work, an important theoretical pathway. The presence of risk factors, such as poverty, may lead to an increase in familial stress.

Family stress can lead to subsequent behavioral problems in children, which can manifest in a classroom setting. Prolonged problem behaviors in the classroom can lead to disciplinary action by faculty, including behavioral referrals and suspensions of children from school. To discover which profiles of family stressors are contributing to the continued behavioral referrals and suspensions of GMIE girls, the latent classes of static family stressors were investigated, the association of latent class scores and baseline family stressor variables will be examined to define the natures of the classes, and class membership was used to predict future behavioral referrals and suspensions from school and additional family stressor changes at 3 months. The latent class analysis will also allow for the examination of future behavioral referrals and suspensions by specific patterns of family stressors, or latent class. The hypotheses of the current study are that multiple classes of family stressors will emerge from the latent class analysis, and that class membership will be able to predict whether or not a girl will be suspended from school at 3 months into the program.

Method

Participants

It is important to distinguish between the methodology employed by the Policy Center to collect the data, and the methodology utilized for data interpretation and analysis. The first part of the Method section covers the Policy Center's role in data collection, while the second part covers the analysis procedure for the current study.

The participants were 308 elementary school girls from two elementary schools located in HZ1. Participants were recruited from January 2011 to June 2014. The girls were between ages 4 and 13, with a mean age of 8.79 years. The participants' grade levels were between Pre-

Kindergarten and 5th grade. On average, the girls were in the 3rd grade. Fifty-eight percent of participants identified as African American, 2.7% as White, 0.8% as Hispanic, 19.5% as Mixed, 3.4% as Other, and 15.7% were unable to identify their race. The girls were referred to the GMIE program through their schools. Girls who were written up for scholastic and behavioral misconduct, retained, or at risk for being suspended could be referred to the GMIE program instead of receiving suspension. The principal or the assistant principal made the final decision to either send the girls to GMIE or to suspend them.

Materials

The initial survey utilized by the Policy Center was the GMIE Strengths and Needs Assessment, which was developed by the NCCD Center for Girls and Young Women. The semi-structured interview assessment was administered to each girl when she first entered the program (baseline). The baseline served as the initial identifier of individual strengths and priority areas of need. The baseline touched on many domains of a girl's life and was divided into four major sections: Myself and My Life; School Life; Friends; and Family and Home Life. Examples of questions for each of the four sections asked in the baseline are: "How often do you punch, kick, push, slap, or hit other kids?"; "Do you think you are doing a good job in school?"; and "Are your friends nice to you?" The interviewers were trained Policy Center care managers, directors, or graduate interns assigned to the school and oversaw delivery of GMIE services. Interviewers utilized girl self-report, student records, and their own professional judgment/impressions to fill out the baseline assessments. After three months, the girls were given Girl Matters: It's Elementary Ongoing Assessments. The ongoing assessments serve as follow ups and include fewer questions than the initial baseline assessment. The ongoing assessment contains questions identical to questions from the baseline assessment, and allows researchers to track changes in

life events, perceptions regarding school connectedness and social support, and overall behaviors

of the girls over time. For this study, the GMIE assessments were utilized as a secondary data

source, and only ongoing assessments up to the first three months were utilized.

The primary variables utilized from the baseline assessment are from the family stressor

section. The family stressor section consists of 23 self-report questions designed to capture a

girl's perceptions of her living conditions. The family variables are designed for the assessment

of several different factors of home life, including the number of primary caregivers present in

the household, the number of siblings present, parent incarceration and alcohol/drug use, and so

forth. The family stressor section will be used to generate the latent classes of girls. The ongoing

assessment at 3-months will provide the main outcome variable: number of new behavioral

referrals and/or suspensions since the last assessment.

Procedure

The data examinedin this study were previously collected by the Delores Barr Weaver

Policy Center. The original data were collected and then transported to the policy center's

research team for data entry and analysis. Permission for this secondary data analysis for the

current master's thesis was waived by the University of North Florida's Institutional Review

Board. Permission was also granted by the Policy Center after submission of a research proposal

document. The analyses for this project are divided into three separate steps. Step 1: Latent Class

Identification; Step 2: Class Specification; Step 3: Outcome Prediction for Behavioral Referrals

and Suspensions and Future Family Stressors.

The Family Stressors section of the GMIE baseline assessment, along with some

demographic variables, was utilized in a latent class analysis of static family variables. This

analysis allowed for the establishment of specific patterns of static family variables at intake of the program. It is important to draw a distinction between what the girls have already experienced at the time of their baseline assessment, and the dynamic changes that occur in the family during the GMIE program. This initial latent class analysis helps to give context to the rest of the study, and allows researchers to acknowledge the lived experiences of the GMIE girls. Most importantly, an in-depth profile of HZ1 girls' home environment and living conditions was captured. The statistical program "R" was utilized to run the latent class analysis.

Once the classes of girls were established, chi-square analyses were conducted on the family stressor variables utilized in the LCA, and the computed latent class score. The chi-square analyses revealed the response patterns of the intake family stressors, and illuminated the nature of the latent classes found in Step 1. More specifically, this analysis statistically determined patterns of responses to family stressor variables that allowed for a clear interpretation of latent class. The identified latent classes were also utilized to predict behavioral referrals and suspensions and other family stressor outcomes at 3 months in Step 3.

Once we have established which factor variables are important for predicting continued behavioral referrals and suspensions, chi-square analyses will be run to assess whether the latent classes from Step 2 are able to predict new behavioral referrals and suspensions in school at 3-months. With this analysis, it is possible to predict continued problem behaviors in school that lead to referral and/or suspension while accounting for the family stressors girls have already experienced. These steps allow for the examination of the variances of girls, which family stressors cluster together, and where the differences in behavioral problem outcomes for GMIE girls are found.

Data Cleaning

Before any meaningful analyses could be run with the data a number of different data cleaning steps were employed Firstly, there was a large portion of missing response data from participants. After investigation, it was determined that a missing response was indicative of a "No" response, and the missing data were recoded to reflect as such.

Secondly, the family stressor variable frequencies were skewed, with few participants reporting "Yes" on certain items. There was a lack of variability in the responses given by participants, which makes it difficult to identify patterns in the data. The lack of variability is most likely due to a combination of how unlikely some family stressors were to occur and because there were multiple similar items asking about different family members. An example of an extreme question is: "In the past year did a primary caregiver die?" The GMIE baseline assessment also went on to ask whether or not a sibling/cousin, other family member, or a close relative or friend die as separate items. In order to remedy this, the family stressor items were dichotomized to Yes/No responses only. Next, similar items were combined to form a composite variable (e.g. the items asking whether a primary caregiver, sibling or cousin, or other family member was beaten, attacked, or hurt was combined into one variable, which reflected whether or not a girl experienced any family member being beaten, attacked, or hurt), and then frequencies were calculated for composites and other family stressor items. If a variable had less than a 10% response rate for either "Yes" or "No" responses, it was discarded from the latent class analysis. A total of eight (five composite and three individual) variables were left over and utilized in the latent class analysis. Due to the small sample size of 6-month family stressor responses ($N = 106$), the 3-month family stressors ($N = 147$) were recoded to mimic the intake variables, and served as outcome variables in the final analyses.

Results

Latent Class Analysis

Latent Class Analysis is a mixed-model technique designed to identify underlying, or latent, categorical variables from a set of observed responses (Nylund, Asparouhov, & Muthén, 2007). For more information on Latent Class Analysis and its interpretation, please see Lazarsfeld (1950) and McCutcheon (1987). Proper interpretation of the best-fit model requires running multiple class model tests and accepting the model with the lowest Bayesian Information Criterion (BIC) value. While the Akaike Information Criteria (AIC) is calculated and observed alongside the BIC, the literature suggests that BIC provides a superior interpretation of class fit.

The variables entered into the latent class analysis were: composite moving; composite family death; composite family sick, injured, or hospitalized; composite family member beaten, attacked, or hurt; composite domestic fighting; parental incarceration; parental sadness; and the presence of a new baby. The latent class analysis yielded a 3-class best-fit model *(AIC: 2809.449; BIC: 2906.431; G^2: 194.4006; X^2: 229.1586).* The 3-class model returned a lower BIC value than the 1-class model *(AIC: 3002.353; BIC: 3032.194)*, 2-class model *(AIC: 2843.568; BIC: 2906.98)*, and the 4-class model *(AIC: 2811.545; BIC: 2942.098)*. The significant chi-square indicates that the 3-class solution does not represent a good fit to the data. However, the emergence of more than one latent class supports Hypothesis 1.

Class Specification

Cross tabulations were performed on latent class scores and family stressor intake variables in order to determine which intake variables represented the 3 classes. Class 1 is represented by "Yes" responses to the following key variables: experiencing a family member

being beaten, attacked, or hurt, experiencing parental incarceration, and parental sadness. Class 2

is represented by the key stressors: "Yes" responses to moving, death in the family, and the

presence of a new baby, but negative responses to the key items from Class 1. Class 3 is

represented by the absence of family stressors. The latent classes are defined as: Exposure to

Trauma (Class 1); Familial Stress (Class 2; and Stable Home (Class 3). Table 1 shows the

breakdown of key class variables for each class.

Class Membership and Future School Problem Behaviors

Chi-square test of independence is utilized when examining the relationship between two

categorical variables (Tabachnick and Fidell, 2013). The chi-square was used to show whether or

not the class variables listed above are significantly associated with the outcome variables at 3-

months. The chi-square analysis between class membership and 3-month behavioral referrals

and suspensions was non-significant ($x^2(2) = 1.284, p = .526$). In this dataset, there is no

evidence to support the hypothesis that latent classes of family stressors can predict future

behavioral misconduct in schools. Therefore, Hypothesis 2 was not supported.

Class Membership and 3-month Family Stressor Outcomes

While the main analysis returned a non-significant result, chi-squares were performed on

additional family stressor outcomes to see if latent class membership was predictive of future 3-

month family stressors. The 3-class model was predictive of whether or not a girl would move

from her home ($x^2 (2) = 16.571, p < .001; V = .232$); whether or not a family member became

sick, injured, or had to visit the hospital ($x^2 (2) = 8.557, p = .014; V = .167$); continued domestic

fighting ($x^2 (2) = 12.798, p = .002; V = .204$); parental incarceration* ($x^2 (2) = 9.598, p = .008; V$

$= .177$); parental job loss*($x^2 (2) = 6.003, p = .05; V = .140$); and the addition of a new baby into

the household (x^2 (2) = 15.064, p = .001; V = .221). An examination of the percentage count in the chi-squares revealed that the greatest percentages of the above stressor occurred in the Exposure to Trauma class. The 3-class model could not predict future death in the family (x^2 (2) = 5.088, p = .079; V = .129); future family members being beaten, attacked, or hurt (x^2 (2) = 2.691, p = .260; V = .093); nor parents fighting and hurting each other (x^2 (2) = 2.836, p = .242; V = .096).

Discussion

The results of the Latent Class Analysis revealed multiple latent subclasses of HZ1 girls who had been enrolled in the GMIE program, which supported Hypothesis 1 of this study. The presence of these latent classes also supports the notion that individuals, while living in the same macroenvironment, experience unique stressors at differing frequency and degree. Regardless of the variance of environmental stressors, it seems that patterns of stress can still be discovered and quantified into meaningful subclasses. These classes can then be leveraged to assist clinicians, policy makers, legislators, and faculty in making appropriate decisions regarding the intervention and treatment of at-risk individuals. More specifically, these classes can be utilized to provide tangible context to a girl's behavior in school. The meaningful context helps everyone to "See the Girl", and recognize that the "problem behavior" may very well be influenced by a girl's unique lived experiences. A decision tree for assigning classes is included in the appendix (Figure 2).

The chi-square analysis of latent class score and 3-month behavioral referrals and suspensions was non-significant, which failed to support Hypothesis 2. There are a few plausible reasons for this result: Firstly, there was a lack of variability in the number of girls who were suspended (N = 77; 25%), which makes it more difficult to uncover patterns in the data.

Secondly, this low rate of suspension could be due to the implementation of the policy center's GMIE intervention program, which was designed to reduce the number of girl suspensions from school. Thirdly, these low suspension numbers may have been influenced by the policy center's presence at the elementary schools. More specifically, recognition of the disproportionate and elevated number of girl suspensions could have prompted school administration to reduce their use of disciplinary suspension. It is difficult to determine which reason is most plausible for this finding, but future studies with larger variability in suspensions can help to narrow down whether or not this is a result of low power or changes within the school.

While hypothesis 2 was not supported, the latent class system was still predictive of some family stressor experiences at the 3-month follow up. The ability to predict whether or not a family member would become sick injured or had to visit the hospital in the coming months is critical information. With this knowledge intervention services could target the girl's family, and perhaps blunt the impact on the girl and her family through communication of risk and preparation. The latent class system was also predictive of whether or not a girl will be either displaced from her current home or experience a new person moving into her home. The specific reasons for a girl leaving her home are unknown. We can speculate that the reasons may be homelessness, parental incarceration, financial instability, foster care involvement, and so forth, and now Policy Center staff can be aware of the additional risk of home displacement and coordinate interventions with families and multiple systems accordingly. Finally, the latent class system was also predictive of continued domestic fighting, which has been associated with increased reports of general problem behaviors (Nievar & Luster, 2006). While it is not surprising that stressed couples may argue in front of their children, this class system identifies which girls may be at continued risk for experiencing domestic confrontation, and thus familial

instability, which has been associated with increased teacher reports of school problem behaviors (Cavanaugh & Huston, 2006). Utilizing this class system, intervention services can be targeted to girls experiencing these circumstances.

The results of the data analysis were suggestive of a relationship between latent class membership and parental incarceration and parental job loss at 3 month follow up. The a priori assumptions of these chi-squares were violated so results must be interpreted with caution. If more data are collected and the assumptions are met, this finding is of utmost importance. If a latent class system is able to reliably predict parental incarceration, emergency services could be employed to help prevent such a catastrophic stressor in a girl's life. Future research should take into account the continuation of parents who have already been incarcerated at baseline, and make sure that subsequent measures only include novel occurrences of incarceration. Parental job loss is also critical, since an at-risk family in a low SES environment may be relying solely on that income to survive. Parental incarceration can also play a part in job loss, since many people reentering their communities are unable to find employment due to a criminal record. More research is needed to fully establish whether or not this class system reliably predicts these family stressor outcomes.

Limitations and Future Directions

There are some limitations to the current study that need to be addressed. Firstly, the data needed extensive cleaning before it could be analyzed. Family stressor items were lacking in variability, and some variables needed to be aggregated before response variability was sufficient. Additionally, there were a number of missing responses that needed to be investigated before any meaningful analyses could be run. While the data were appropriately cleaned and

meaningful results were obtained, it would still be beneficial to eliminate these data issues in the future. Generalizability of results is also questionable, since the sample consisted of only at-risk predominately African American females from Northeast Florida. Future research should try to incorporate a similar sample from other areas of the United States.

The current study was also limited by attrition of GMIE girls over time. At baseline, data was reported for 308 GMIE girls, with 37, 210, and 61 girls being identified as members of Class 1, 2, and 3 respectively. At 3-months, only 147 of those same girls remained (48%). Consequently class membership also suffered, with 24 girls (65%) remaining in Class 1, 106 girls (50%) remaining in Class 2, and 17 girls (28%) remaining in Class 3. There are a couple of reasons why GMIE girls may not have progressed to receive ongoing assessments. Firstly, the at-risk population can be transient and may have moved to a different location, and thus enrolled into a different public school. Secondly, it is possible that some of the GMIE girls went on to graduate from elementary school. When GMIE girls graduate from their school, they transition to a middle school where GMIE cannot track them. Future studies should take attrition into consideration and guard against such data loss.

A further limitation to the study is that the intervention of focus variables utilized were entirely self-report. Self-report methodology comes with a variety of drawbacks, such as the questionable veracity of responses, the latent influences of bias, and limitations of individual factors, such as memory. Future research utilizing self-report of children should seek to externally verify the responses in order to help safeguard the efficacy of the results. It is also possible that certain family stressors are unknown to children, and an external verification may find the presence of additional stressors that would otherwise go unreported. Interviewers should

also be sure to follow a strict, developmentally appropriate interviewing protocol to help attenuate the impact of acquiescent responses from children.

Another limitation is the lack of empirical variables that capture internal strengths of the girl or protective factors present in the school. Internal qualities, such as resilience, have the capacity to buffer against negative outcomes in children (Luthar & Cicchetti, 2000; Masten, Best, & Garmezy, 1991) but the current study was unable to control for this variability in behavioral referrals and suspensions at three months. It is possible that the presence of the Delores Barr Weaver Policy Center and the implementation of the GMIE program, which are dedicated to fostering a girl's strengths, had a significant impact on internal variables like resilience and buffered against future problem behaviors that lead to referral or suspension in school. Similarly, because the GMIE Strengths and Needs Assessment focuses mainly on a girl's perception of four key domains of her life it does not capture the development of protective factors in the school, such as the change in how teachers are interpreting a girl's behavior. The presence of an intervention program and the education that accompanies it may contribute to significant positive changes in school faculty and administration perceptions and their consequent perceptions of girls' behaviors and disciplinary decision-making, as previously mentioned. Also of importance is the lack of a treatment effect of the GMIE program. After the GMIE Strength and Needs Assessment an individualized care-plan was created for each girl. Services were administered, but the quantity of each service received, including the actual count of GMIE sessions attended by the girl and the count of family services administered, were not reported. Future research should seek to capture continuous counts of services to quantitatively assess the efficacy of the GMIE program and enable the control of these variables in future analyses.

Future research may also seek to become grounded and contextualized within several different theoretical models. Some of the relevant theories include the Conservation of Resources theory (Hobfoll, 1989), Problem Behavior theory (Jessor, Graves, Hanson, & Jessor, 1968), and a Biosocial Model of Childhood Externalizing Behavior (Jianghong, 2004; Raine, Brennan, & Farrington, 1997). Incorporating these or other theoretical models can strengthen future latent class work on stressors by driving methodology and providing a clearer context for interpreting results.

The implications of these limitations are important for future latent variable work in the field. While the results of the current study were open to debate, much was learned about the methodology needed in order to conduct robust research in the future. Studies that take into consideration the limitations and recommendations listed above will be able to contribute much more powerful information on latent variables in at-risk populations, including the identification of patterns of aggregating variables, the meaningful specification of latent classes, and an unbridled analysis of outcome differences between latent classes.

Appendix

Table 1

Distribution of Key Class Variables

Latent Class

	Exposure to Trauma (n = 37)	*Familial Stress* (n = 210)	*Stable Home* (n = 61)
Key Class Variables	Family member beaten, attacked, or hurt	Death in the Family	No stressors (Control Group)
	Parental Incarceration	New Baby in Home	
	Parental Sadness	Moving from Home	

Table 2

Exposure to Trauma and 3-month Family Stressors

	Exposure to Trauma
	Moving***
	Family member sick, injured, hospitalized*
3-month Family Stressors	Domestic Fighting**
	Parental Incarceration[1]**
	Parental Job-loss[2]*
	New Baby in Home ***

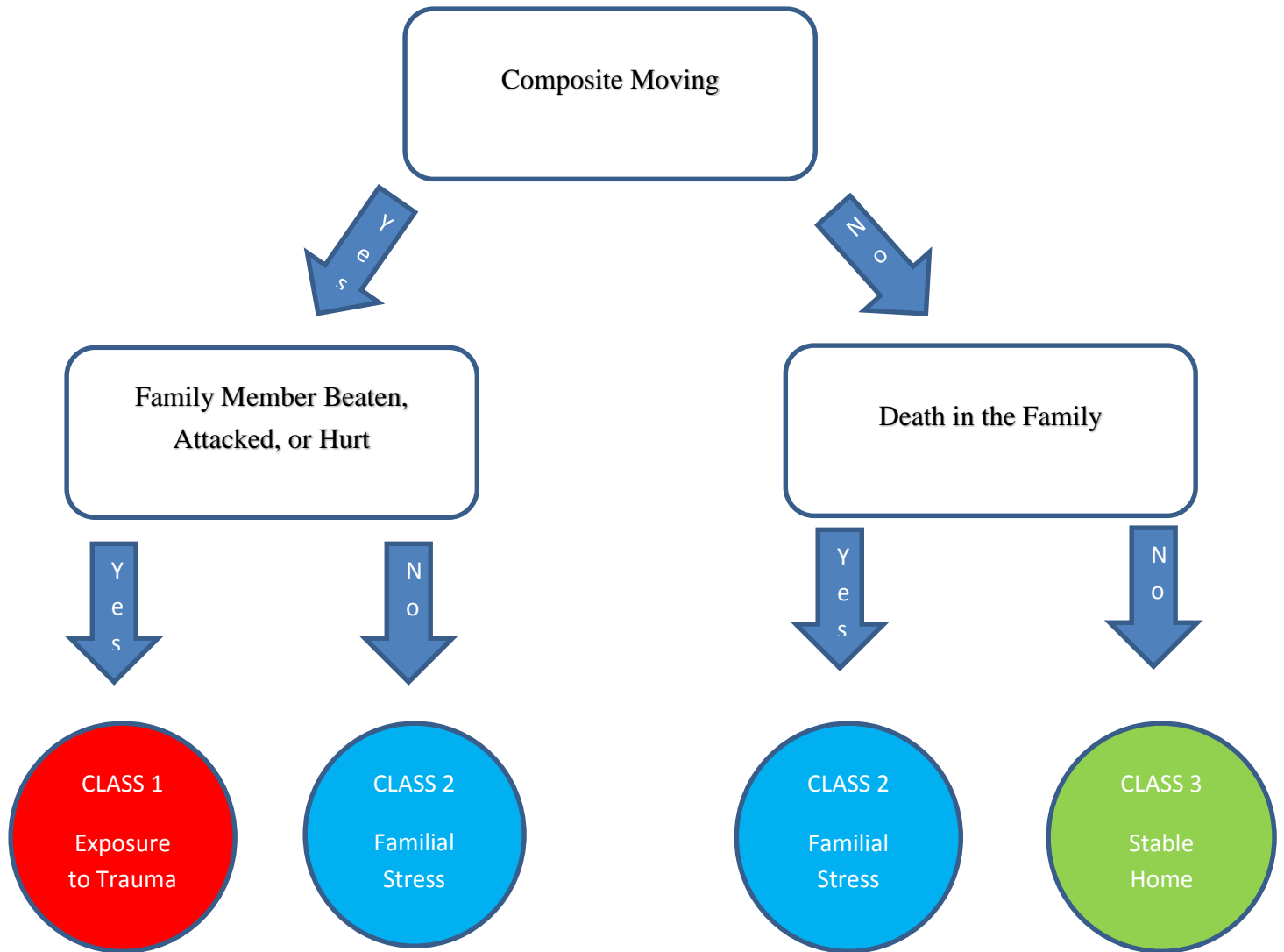* = significant at the .05 level

** = significant at the .01 level

*** = significant at the .001 level

1 = violated chi-square assumptions

2 = violated chi-square assumptions

Figure 2

Decision Tree for Class Assignment

References

Achenbach T.M., Howell C.T., Quay HC, Conners C.K. (1991). National survey of problems

and competencies among four-to-sixteen-year-olds. *Monographs of the Society for Research

in Child Development,* 56(3) Serial No. 225.

Alvord, M. K., & Grados, J. J. (2005). Enhancing Resilience in Children: A Proactive

Approach. *Professional psychology: research and practice*, *36*(3), 238.

Ang, R. P., Chia, B. H., & Fung, D. S. S. (2006). Gender differences in life stressors associated

with child and adolescent suicides in Singapore from 1995 to 2003. *The International

Journal of Social Psychiatry*, *52*(6), 561–570. http://doi.org/10.1177/0020764006074296

Atzaba-Poria, N., Pike, A., & Deater-Deckard, K. (2004). Do risk factors for problem behaviour

act in a cumulative manner? An examination of ethnic minority and majority children

through an ecological perspective. *Journal of child psychology and psychiatry*, *45*(4), 707-

718.

Bejenaru, A., & Roth, M. (2012). Romanian adoptive families: Stressors, coping strategies and

resources. *Children and Youth Services Review*, *34*(7), 1317–1324.

http://doi.org/10.1016/j.childyouth.2012.03.011

Berger, L. M. (2005). Income, family characteristics, and physical violence toward children.

Child Abuse & Neglect, *29*(2), 107–133. http://doi.org/10.1016/j.chiabu.2004.02.006

Berger, L. M., & Waldfogel, J. (2010). NIH Public Access, *31*(9), 978–989.

http://doi.org/10.1016/j.childyouth.2009.04.013.Income

Berry, B. M. (2001). PSC Research Report. *Population Studies*, (01).

Bianchi, S. M. (2011). Family Change and Time Allocation in American Families. *The ANNALS of the American Academy of Political and Social Science*, *638*(1), 21–44. http://doi.org/10.1177/0002716211413731

Bøe, T., Øverland, S., Lundervold, A. J., & Hysing, M. (2012). Socioeconomic status and children's mental health: Results: from the Bergen Child Study. *Social Psychiatry and Psychiatric Epidemiology*, *47*(10), 1557–1566. http://doi.org/10.1007/s00127-011-0462-9

Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children.*The future of children*, 55-71.

Brooks-Gunn, J., Duncan, G. J., & Maritato, N. (1997). Poor Families, Poor Outcomes: The Well-Being of Children and Youth. *Consequences of Growing up Poor*, 1–17.

Cavanagh, S. E., & Huston, A. C. (2006). Family instability and children's early problem behavior. *Social Forces*, *85*(1), 551–581. http://doi.org/10.1353/sof.2006.0120

Chapple, C. L., Johnson, K. D., & Whitbeck, L. B. (2004). Gender and Arrest among Homeless and Runaway Youth: An Analysis of Background, Family, and Situational Factors. *Youth Violence and Juvenile Justice*, *2*(2), 129–147. http://doi.org/10.1177/1541204003262227

Children, A. S. (2014). The state of america's children ® 2014.

Christle, C. A., Jolivette, K., & Nelson, C. M. (2005). Breaking the School to Prison Pipeline: Identifying School Risk and Protective Factors for Youth Delinquency. *Exceptionality*, *13*(2), 69–88. http://doi.org/10.1207/s15327035ex1302_2

Community Health Assessment and Community Health Improvement Plan. (2012). Retrieved October 29, 2015, from http://duval.floridahealth.gov/programs-and-services/community-health-planning-and-statistics/_documents/chip.pdf

Deater–Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1998). Multiple risk factors in the development of externalizing behavior problems: Group and individual differences. *Development and Psychopathology*, *10*(3), 469–493.

Edmonds, C., & Holloway, J. (2012). Community Health Assessment and Community Health Improvement Plan.

El-Sheikh, M., Bagley, E. J., Keiley, M., Elmore-Staton, L., Chen, E., & Buckhalt, J. A. (2013). Economic adversity and children's sleep problems: Multiple indicators and moderation of effects. *Health Psychology*, *32*(8), 849.

Garasky, S., Stewart, S. D., Gundersen, C., Lohman, B. J., & Eisenmann, J. C. (2009). Family stressors and child obesity. *Social Science Research*, *38*(4), 755–766. http://doi.org/10.1016/j.ssresearch.2009.06.002

Goldstein, L. H., Harvey, E. A., Friedman-Weieneth, J. L., Pierce, C., Tellert, A., & Sippel, J. C. (2007). Examining subtypes of behavior problems among 3-year-old children, Part II: Investigating differences in parent psychopathology, couple conflict, and other family

stressors. *Journal of Abnormal Child Psychology*, *35*(1), 111–123.

http://doi.org/10.1007/s10802-006-9088-x

Gottman, J., Gonso, J., & Rasmussen, B. (1975). Social interaction, social competence, and

friendship in children. *Child Development*, *46*(3), 709–718.

Hashima, P. Y., & Amato, P. R. (1994). Poverty , Social Support , and Parental Behavior

Hashima and Amato, 394–403.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing

stress. *American psychologist*, *44*(3), 513.

Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Tomás, M., & Taylor, A. (2007). Individual, family,

and neighborhood factors distinguish resilient from non-resilient maltreated children: A

cumulative stressors model. *Child Abuse and Neglect*, *31*(3), 231–253.

http://doi.org/10.1016/j.chiabu.2006.03.011

Jessor, R., Graves, T. D., & Hanson, R. C. and Jessor, S.L. (1968). Society, Personality, and

Deviant Behavior: A Study of a Tri-Ethnic Community.

Johnson, R. M., Kotch, J. B., Catellier, D. J., Winsor, J. R., Dufort, V., Hunter, W., & Amaya-

Jackson, L. (2002). Adverse behavioral and emotional outcomes from child abuse and

witnessed violence. *Child Maltreatment*, *7*(3), 179–186.

http://doi.org/10.1177/1077559502007003001

Kang-Brown, J., Trone, J., Fratello, J., & Daftary-Kapur, T. (2013). A Generation Later: What

　　We've Learned about Zero Tolerance in Schools, (December), 1–10. Retrieved from

　　http://www.vera.org/pubs/zero-tolerance-in-schools-issue-brief

Kazdin, A. E., Kraemer, H. C., Kessler, R. C., Kupfer, D. J., & Offord, D. R. (1997).

　　Contributions of risk-factor research to developmental psychopathology.*Clinical*

　　Psychology Review, *17*(4), 375-406.

Kitzmann, K. M., Gaylord, N. K., Holt, A. R., & Kenny, E. D. (2003). Child witnesses to

　　domestic violence: A meta-analytic review. *Journal of Consulting and Clinical Psychology*,

　　71(2), 339–352. http://doi.org/10.1037/0022-006X.71.2.339

Kliewer, W., & Kung, E. (1998). Family moderators of the relation between hassles and behavior

　　problems in inner-city youth. *Journal of Clinical Child Psychology*.

　　http://doi.org/10.1207/s15374424jccp2703_5

Lazarsfeld P.F. The logical and mathmatical foundation of latet structure analysis. In: Stouffer S,

　　et al., editors. *Measurement and Prediction*. Princeton University Press; Princeton: 1950. pp

　　365-412.

Linver, M. R., Brooks-Gunn, J., & Kohen, D. E. (2002). Family processes as pathways from

　　income to young children's development. *Developmental psychology*, *38*(5), 719.

Liu, J. (2004). Childhood externalizing behavior: theory and implications.*Journal of child and*

　　adolescent psychiatric nursing, *17*(3), 93-103.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and psychopathology*,*12*(04), 857-885.

Maguin, E., & Loeber, R. (1996). Crime and Justice, *20*, 145–264.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development And Psychopathology*, *2*(4), 425-444. doi:10.1017/S0954579400005812

McCutcheon, A. L. (1987). *Latent class analysis* (No. 64). Sage.

McEvoy, A., & Welker, R. (2000). Antisocial Behavior, Academic Failure, and School Climate: A Critical Review. *Journal of Emotional and Behavioral Disorders*, *8*(3), 130–140. http://doi.org/10.1177/106342660000800301

Meadows, S. O., McLanahan, S. S., & Brooks-Gunn, J. (2007). Parental depression and anxiety and early childhood behavior problems across family types. *Journal of Marriage and Family*, *69*(5), 1162–1177. http://doi.org/10.1111/j.1741-3737.2007.00439.x

Menard, C., Bandeen-Roche, K. J., & Chilcoat, H. D. (2004). Epidemiology of multiple childhood traumatic events: Child abuse, parental psychopathology, and other family-level stressors. *Social Psychiatry and Psychiatric Epidemiology*, *39*(11), 857–865. http://doi.org/10.1007/s00127-004-0868-8

Murray, J., Farrington, D. P., & Sekol, I. (2012). Children's antisocial behavior, mental health, drug use, and educational performance after parental incarceration: A systematic review and meta-analysis. *Psychological Bulletin*, *138*(2), 175–210. http://doi.org/10.1037/a0026407

Nievar, M. A., & Luster, T. (2006). Developmental Processes in African American Families: An

Application of McLoyd's Theoretical Model. *Journal of Marriage and Family*, *68*(2), 320–

331. http://doi.org/10.2307/3838903

Noll, J. G., Horowitz, L. A., Bonanno, G. A., Trickett, P. K., & Putnam, F. W. (2003).

Revictimization and Self-Harm in Females Who Experienced Childhood Sexual Abuse:

Results from a Prospective Study. *Journal of Interpersonal Violence*, *18*(12), 1452–1471.

http://doi.org/10.1177/0886260503258035

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the Number of Classes in

Latent Class Analysis and Growth Mixture Modeling: A Monte Carlo Simulation Study.

Structural Equation Modeling, *14*(4), 535–569. http://doi.org/10.1080/10705510701575396

Pinquart, M., & Sörensen, S. (2005). Ethnic differences in stressors, resources, and psychological

outcomes of family caregiving: a meta-analysis. *The Gerontologist*, *45*(1), 90–106.

http://doi.org/10.1093/geront/45.1.90

Putnam, F. W. (2003). Ten-year research update review: Child sexual abuse.*Journal of the

American Academy of Child & Adolescent Psychiatry*, *42*(3), 269-278.

Raine, A., Brennan, P., & Farrington, D. P. (1997). *Biosocial bases of violence*(pp. 1-20).

Springer US.

Ramchandani, P., Stein, A., Evans, J., & O'Connor, T. G. (2005). Paternal depression in the

postnatal period and child development: A prospective population study. *Lancet*, *365*(9478),

2201–2205. http://doi.org/10.1016/S0140-6736(05)66778-5

Sandberg, J. F., & Hofferth, S. L. (2001). Changes in children's time with parents: United States, 1981–1997. *Demography*, *38*(3), 423-436.

Schultz, D., Tharp-Taylor, S., Haviland, A., & Jaycox, L. (2009). The relationship between protective factors and outcomes for children investigated for maltreatment. *Child abuse & neglect*, *33*(10), 684-698.

Seccombe, K. (2000). Families in poverty in the 1990s: Trends, causes, consequences, and lessons learned. *Journal of Marriage and Family*, *62*(4), 1094–1113. http://doi.org/10.1111/j.1741-3737.2000.01094.x

Sherman, A. (1994). *Wasting America's future: The children's defense fund report on the costs of child poverty*. Children's Defense Fund, 25 E Street, NW, Washington, DC 20001

Shin, K. M., Shin, Y. M., Lim, K. Y., Chung, Y. K., & Cho, S. (2012). Gender-specific early risk factors for delinquent behavior of Korean youth: A 6- to 8-year longitudinal study. *European Child & Adolescent Psychiatry*, *21*(12), 709-711. doi:10.1007/s00787-012-0306-5

Stormshak, E. A., & Webster-Stratton, C. (1999). The Qualitative Interactions of Children with Conduct Problems and Their Peers: Differential Correlates with Self-Report Measures, Home Behavior, and School Behavior Problems. *Journal of Applied Developmental Psychology*, *20*(2), 295–317. http://doi.org/10.1016/S0193-3973(99)00018-0

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics.

Taussig, H. N., Clyman, R. B., & Landsverk, J. (2001). Children Who Return Home From Foster

    Care: A 6-Year Prospective Study of Behavioral Health Outcomes in Adolescence.

    Pediatrics, *108*(1), e10–e10. http://doi.org/10.1542/peds.108.1.e10

US Department of Health and Human Services. US Advisory Board on Child Abuse and

    Neglect.(1991). *Creating Caring Communities: Blueprint For An Effective Federal Policy*

    for Child Abuse and Neglect. Washington, DC: US Government Printing Office.

Valentine Foundation. (1990). *A conversation about girls.* <u>Bryn Mawr, PA: brochure</u>

Watkins, D. C., Pittman, C. T., & Walsh, M. J. (2013). The effects of psychological distress,

    work, and family stressors on child behavior problems.*Journal of Comparative Family*

    Studies, *44*(1), 1.

Watson, L., & Edelman, P. (2012). Improving the juvenile justice system for girls: Lessons from

    the states. *Geo. J. on Poverty L. & Pol'y*, *20*, 215

Webster-Stratton, C. (1989). The relationship of marital support, conflict, and divorce to parent

    perceptions, behaviors, and childhood conduct problems. *Journal of Marriage and the*

    Family, 417-430.

Zahn–Waxler C. Warriors and worriers: Gender and psychopathology. *Development and*

    Psychopathology. 1993;5(1–2):79–89.

Zoccolillo M. Gender and the development of conduct disorder. *Development and*

    Psychopathology. 1993;5(1–2):65–78.

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