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Editor's Note

We are pleased to present the sixth *JOJJ*. In this issue, two studies examine gender differences in delinquency among minority youth but focus on different pathways to delinquency. One study highlights Multisystemic Therapy (MST) in a community-based delinquency intervention program, while the other models personal and anticipated strain as precursors to delinquency. Results from the program implementing MST showed no gender differences in delinquency levels at program completion—both males and females were positively affected by the program. Echoing previous studies on strain and delinquency, results from the study on strain variables indicated that males are more likely than females to see strain as a precursor to delinquency. What was particularly interesting about this study was that anticipated strain had a stronger effect on delinquency than experiences of personal strain.

This issue also includes a study on the prevalence of Adverse Childhood Experiences (ACE) among juvenile offenders. Results indicate that these offenders have much higher rates of ACE than expected, which again draws attention to the importance of screening and treating children exposed to violence and other trauma.

We invite your feedback on these articles and hope you will consider publishing your research in *JOJJ*. We accept submissions on a rolling basis. Currently we are reviewing manuscripts for our seventh and eighth issues, which will be published in the fall of 2014 and the spring of 2015, respectively. We look forward to hearing from you.



Monica L. P. Robbers, PhD
Editor in Chief, *JOJJ*

The Prevalence of Adverse Childhood Experiences (ACE) in the Lives of Juvenile Offenders

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Authors' Note: The views expressed in this manuscript are those of the authors and not necessarily the Florida Department of Juvenile Justice.

Keywords: *juvenile offenders, prevention, victimization, maltreatment*

Abstract

The study of adverse childhood experiences (ACEs) and their negative repercussion on adult health outcomes is well documented. In a population of insured Californians, a dose-response relationship has been demonstrated among 10 ACEs and a host of chronic physical health, mental health, and behavioral outcomes. Less widely studied is the prevalence of these ACEs in the lives of juvenile offenders, and the effect of ACEs on children. This study examines the prevalence

of ACEs in a population of 64,329 juvenile offenders in Florida. This article reports the prevalence of each ACE and assigns an ACE composite score across genders and a risk to reoffend level classification, and compares these with ACE studies conducted on adults. Analyses indicate offenders report disturbingly high rates of ACEs and have higher composite scores than previously examined populations. Policy implications underline the need to screen for and address ACEs as early as possible to prevent reoffending and other well-documented sequelae.

Introduction

Adverse childhood experiences (ACEs) refer to the following 10 childhood experiences researchers have identified as risk factors for chronic disease in adulthood: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, violent treatment towards mother, household substance abuse, household mental illness, parental separation or divorce, and having an incarcerated household member.

ACEs were first described in 1998 by Felitti, Anda and colleagues with the publication of the seminal study, "Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study" (Felitti et al., 1998). Through a prospective study co-piloted with Dr. Robert Anda of the Centers for Disease Control and Prevention (CDC), including 17,421 insured, well-educated, adult patients, these researchers were able to identify the 10 childhood experiences, just mentioned, that positively correlate with chronic disease in adulthood (Stevens, 2012). While the prevalence of ACEs among this middle-class population shocked many at the time, ACEs have since been shown to have an even higher prevalence in special populations, such as children of alcoholics (Dube et al., 2001).

An individual's ACE score is expressed as the total number of reported ACEs measured in a binary, yes/no fashion. For example, a positive response to a question on sexual abuse would score 1 point, whether there were one or 100 incidents. The concept of an ACE composite score is central to our understanding of the effect of ACEs. Empirical evaluations have shown that ACEs are common, highly interrelated, and exert a powerful cumulative effect on human development (Anda, Butchart, Felitti, & Brown, 2010). This "cumulative stressor approach," based on the co-occurrence and cumulative effect of these experiences, necessitates their examination as a collective composite, as opposed to the historical approach of examining one or only a few adverse

exposures, which misses the broader context in which they occur. The use of the ACE score as a measure of the cumulative effect of traumatic stress exposure during childhood is consistent with the latest understanding of the effects of traumatic stress on neurodevelopment (Anda et al., 2010; Anda et al., 2006).

The implications of high ACE scores are well documented in the medical literature (Anda et al., 2010; Anda et al., 2006). While they were first identified as risk factors for chronic disease, they have more recently been identified with immediate negative consequences, such as chromosome damage (Shalev et al., 2013) and functional changes to the developing brain (Anda et al., 2010; Cicchetti, 2013; Danese & McEwen, 2012; Teicher et al., 2003). Furthermore, high ACE scores have been linked to a number of sexually risky behaviors, such as having 50 or more sexual partners, intercourse before age 15 (Hillis, Anda, Felitti, & Marchbanks, 2001), and becoming pregnant as a teenager (Hillis et al., 2004). Higher cumulative ACE scores have been shown to increase the odds of smoking, heavy drinking, incarceration, and morbid obesity, along with increased risk for poor educational and employment outcomes and recent involvement in violence (Bellis, Lowey, Leckenby, Hughes, & Harrison, 2013). Higher ACE scores have been shown to significantly increase the odds of developing some of the leading causes of death in adulthood, such as heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. Prior studies have shown that for children who have experienced four or more ACEs, the odds of having one of the above-mentioned negative health outcomes in adulthood are up to 12 times greater than those of children who have not had such exposure (Felitti et al., 1998).

Adverse Experiences and Justice-Involved Youth

Prior research on adverse and traumatic experiences, as well as mental health problems of juvenile justice-involved youth, has revealed higher prevalence rates of adversity and trauma

for these youth compared to youth in the general population (Dierkhising et al., 2013). Furthermore, compared to youth in the general population, juvenile justice-involved youth have been found to have a greater likelihood of having experienced multiple forms of trauma (Abram et al., 2004), with one-third reporting exposure to multiple types of trauma each year (Dierkhising et al., 2013). Placement in Child Protective Services and foster care due to parental maltreatment made unique contributions to the risk for delinquency in 99,602 officially delinquent youth, compared to the same number of matched youth in one study (Barrett, Katsiyannis, Zhang, & Zhang, 2013).

In the realm of criminology we know that among offenders, experiencing childhood physical abuse and other forms of maltreatment leads to higher rates of self-reported total offending, violent offending, and property offending, even after controlling for prior delinquent behavior (Teague, Mazerolle, Legosz, & Sanderson, 2008). Experiencing parental divorce has also been well documented to have a strong association with delinquency, with meta-analysis on the topic showing moderate effect sizes (Amato, 2001). Even with the increased social acceptability and increased prevalence of divorce in recent decades, the differences in delinquency between youth exposed to parental divorce and those from intact families has not decreased (Amato, 2001; D'Onofrio et al., 2005).

In a novel design using adoptive and biological families, Burt, Barnes, McGue, & Iacono (2008) were able to demonstrate that the association with delinquency was driven by the experience of parental divorce rather than mediated by common genes. Exposure to parental incarceration has also demonstrated an association with delinquency and other maladaptive behaviors (Geller, Garfinkel, Cooper, & Mincy, 2009; Murray & Farrington, 2008; Parke & Clarke-Stewart, 2002). Examining 411 males in a longitudinal study, Murray and Farrington (2005) showed parental imprisonment, above and beyond other types of

separation, predicted antisocial and delinquent outcomes, even after controlling for other childhood risk factors, up to age 32. Exposure to marital violence in childhood has also been examined in order to assess whether witnessing such events uniquely contributes to later behavioral problems and/or delinquency. Herrera and McCloskey (2001) employed a prospective design with 299 children interviewed regarding forms of abuse in the family and a subsequent court record search 5 years later. Findings indicate exposure to marital violence predicted referral to juvenile court. These findings support prior research, including meta-analyses, indicating that exposure to domestic violence leads to a range of internalizing and externalizing behavior problems (Evans, Davies, & DiLillo, 2008; Moylan et al., 2010).

In the one known application of ACE indicators to a sample of juvenile offenders, Tacoma Urban Network and Pierce County Juvenile Court used data from a risk assessment instrument to measure ACE prevalence among juvenile offenders and examined the effectiveness of interventions with high-scoring youth (Grevstad, 2010). They found the juveniles had roughly three times more ACEs than the population reported by Felitti and Anda, and those with higher ACE scores had more substance abuse, self-harm behaviors, and school-related problems such as disruptive behaviors, substandard performance, and truancy.

By extrapolating ACE scores from the standardized assessment tool used within the Florida Department of Juvenile Justice (FDJJ), described below, we demonstrate that increased ACE scores correlate with increased risk to reoffend. Furthermore, and more importantly, we show that juvenile offenders are a special population with a particularly high rate of ACEs. This finding has profound policy implications that underline the need to screen for and address ACEs as early as possible to prevent reoffending and other well-documented sequelae.

Gender Differences in ACE Exposure and Repercussions

In regard to gender differences in ACE exposure among justice-involved youth, females have reported higher levels of exposure to sexual assault and interpersonal victimization while males have reported higher rates of witnessing violence (Cauffman, Feldman, Waterman, & Steiner, 1998; Ford, Chapman, Hawker, & Albert, 2007; Wood, Foy, Layne, Pynoos, & James, 2002). Dierkhising and colleagues, in examining trauma histories of 658 justice-involved youth, found relatively similar rates of exposure to each of 19 different types of trauma, with the exception of sexual abuse and sexual assault, in which female youth had significantly higher rates (Dierkhising et al., 2013). With respect to justice system involvement, prior studies have shown that males, in particular, who experience maltreatment are prone to violent behavior and delinquency (Chen, Propp, deLara, & Corvo, 2011; Mass, Herrenkohl, & Sousa, 2008; Yu-Ling Chiu, Ryan, & Herz, 2011). Other studies have found that a significantly greater number of maltreated females (including all forms of abuse) committed violent offenses as juveniles or adults than non-maltreated females; by contrast, there were no significant differences in prevalence rates of violent offending for maltreated versus non-maltreated males (Herrera & McCloskey, 2001; Widom & Maxfield, 2001). Still others examining an offending population and physical abuse, in particular, have found no sex differences for heightened risk of violent offending (Teague et al., 2008). The current study is the first to assess gender differences in ACE composite scores in a juvenile justice population.

The Positive Achievement Change Tool Risk/Needs Assessment

Risk assessment tools have progressed both in methodology, as well as accuracy, and can be categorized in terms of four “generations” (Andrews & Bonta, 2003). The first generation risk

assessments rely on clinical/professional judgment, or the “gut feeling” approach; the second generation adds actuarial assessments with static predictors; the third generation includes actuarial assessments with static and dynamic predictors; and the fourth generation includes actuarial assessments with static and dynamic predictors plus protective factors and strengths. A key strength of fourth-generation risk assessments is that they clearly link the results from the tool to a case management plan. Furthermore, the inclusion of both risk and protective factors highlights one of the distinguishing characteristics of fourth-generation risk assessment instruments: that is, increased attention to the linkage between assessment and case management (Andrews & Bonta, 2003). Fourth-generation risk assessment tools build on individualized strengths to construct a prosocial orientation so that factors related to both responsivity and learning styles are considered when placing individuals in treatment.

The Positive Achievement Change Tool (PACT) is a fourth-generation actuarial risk/needs assessment designed to assess a youth’s overall risk to reoffend, as well as to rank-order criminogenic needs/dynamic risk factors. The assessment process is designed as a semi-structured interview and utilizes Motivational Interviewing techniques (Miller & Rollnick, 2002). There are two versions of the PACT: the Pre-Screen, with 46 items, and the Full Assessment, consisting of 126 items. Both versions produce identical overall risk to reoffend classifications (low, moderate, moderate-high, high) for any given youth. The overall risk to reoffend score is based on a matrix of the criminal history and social history sub-scores (see Table 1; see also Baglivio, 2009, for further explanation of PACT domains and scoring). The PACT assesses static, dynamic, and protective factors; rank orders criminogenic needs/dynamic risk factors, which are automated into a case plan; and requires reassessments to gauge rehabilitative progress.

Table 1. PACT Risk Classifications

Criminal History Score	Social History Risk Score		
	0 to 5	6 to 9	10 to 18
0 to 5	Low	Low	Moderate
6 to 8	Low	Moderate	Moderate-High
9 to 11	Moderate	Moderate-High	High
12 to 31	Moderate-High	High	High

Note. The Overall Risk Classification of the PACT is derived from a matrix of the Criminal History (0-31) and Social History (0-18) sub-scores. For example, a youth scoring 13 on Criminal History and a 7 on Social History would be classified as High risk to reoffend.

Assessment Scoring, Composition, and Protocol

The Pre-Screen and Full Assessment both produce a criminal history sub-score (extent and seriousness of prior offending and justice system placements) and a social history sub-score (individual, family, and environmental risk factors). The overall risk score and the criminal and social history sub-scores for an individual youth are always identical for both the Pre-Screen and the Full Assessment, as the questions used for scoring are identical in each tool. In other words, if a youth were administered both a Pre-Screen and a Full Assessment, his or her overall risk score, criminal history sub-score, and social history sub-score would be identical. The reason for completing a Full Assessment is to gain a greater understanding of the youth's situation and past experiences. The PACT Full Assessment consists of 12 domains, 11 containing questions comprising the social history sub-score, one of which is used to produce the criminal history sub-score (see Table 2 for PACT domains by assessment type). Each of the 12 domains has a risk score and most have a protective score.

The PACT is heavily adapted from the validated Washington State Juvenile Court Assessment (WSJCA), which has been in use since 1998 (Washington State Institute for Public Policy, 2004). The FDJJ, together with a private vendor, used the WSJCA as a guide and altered questions to reflect terminology used in Florida, and added questions related to mental health, depression, and suicide. The process used was similar to that used to develop the Youth Assessment and

Table 2. PACT Domains

Pre-Screen		Full Assessment	
Domain #	Domain Name	Domain #	Domain Name
1	Record of Referrals	1	Record of Referrals
2	Social History	2	Gender
3	Mental Health	3A	School History
4	Attitude/Behavior Indicators	3B	Current School Status
		4A	Historic Use of Free Time
		4B	Current Use of Free Time
		5A	Employment History
		5B	Current Employment
		6A	History of Relationships
		6B	Current Relationships
		7A	Family History
		7B	Current Living Arrangements
		8A	Alcohol and Drug History
		8B	Current Alcohol and Drugs
		9A	Mental Health History
		9B	Current Mental Health
		10	Attitudes/Behaviors
		11	Aggression
		12	Skills

Note. Pre-Screen does not contain all relevant items to create ACE scores, which are present in the Current Living Arrangements domain of the Full Assessment.

Screening Instrument (YASI), which is also based on the Washington model (Orbis Partners, 2000). The PACT has domains and formatting similar to the Washington model and the YASI. The PACT contains domains reflective of the "Central Eight" risk factors espoused by Andrews and Bonta (2003).

The current policy of the FDJJ is to assess each youth entering the system using the PACT Pre-Screen. Youth scoring at moderate-high or high risk to reoffend on the Pre-Screen are then administered the Full Assessment. The PACT Full Assessment is then repeated every 90 days for youth under FDJJ supervision who initially scored at moderate-high or high risk to reoffend. Youth on probation supervision who score at

low or moderate risk to reoffend are reassessed every 180 days. Any time a youth's score indicates moderate-high or high risk, reassessment is performed using the Full Assessment. Any youth placed in a residential commitment facility, a day treatment program, or the FDJJ's Redirection Program (intensive community-based family therapy, predominately Multisystemic Therapy, Functional Family Therapy, or Brief Strategic Family Therapy) is also assessed using the Full Assessment. The PACT assessment has been validated across multiple samples of youth in the FDJJ, and this validation has been published in multiple peer-reviewed journals and independent research agency reports (Baglivio, 2009; Baglivio & Jackowski, 2013; Winokur-Early, Hand, & Blankenship, 2012). These validation studies have shown the PACT overall risk score, criminal history sub-score, and dynamic social history sub-score to be significant predictors of reoffending across gender and racial and ethnic subgroups. Logistic regression models and overlapping 95% Confidence Intervals for Area Under Curve (AUC) statistics have all illustrated similar findings.

Data collected by the PACT assessment process for the purpose of predicting the likelihood of re-offense and the identification of intervention alternatives for the screened population includes information reflecting all of the domains examined in the original ACE study. Also included in the PACT Full Assessment screening tool are extensive behavioral data in educational, drug/alcohol use, delinquency, and other family/social domains for tens of thousands of juvenile offenders over the course of several years.

Current Focus

For the purposes of the current study, we used the PACT data to create ACE scores for each youth, making it possible to conceptually replicate the original ACE study focusing on proximate relationships between ACEs and childhood behaviors that can result in social, academic, and legal problems for youth. It is likely that related health risk behaviors (use of alcohol, tobacco, or drugs

and sex with multiple partners) will lead to poor health, impaired mental health, and chronic disease reported in the original and subsequent ACE studies (Anda et al., 2010; Cicchetti, 2013; Danese & McEwen, 2012; Felitti et al., 1998; Teicher et al., 2003). In contrast to ACE studies conducted with adults, the current study suffered less from challenges of retrospective recall of childhood events, since these events were much more recent for the current sample. In keeping with prior ACE studies, we ascertained the following 10 ACEs correlated with a host of chronic physical, mental health, and behavioral problems among youth:

1. Emotional Abuse
2. Physical Abuse
3. Sexual Abuse
4. Emotional Neglect
5. Physical Neglect
6. Family Violence
7. Household Substance Abuse
8. Household Mental Illness
9. Parental Separation or Divorce
10. Household Member Incarceration

In the study described here we examined the prevalence of each ACE, as well as the proportions of youth with different ACE scores. We further examined these proportions and prevalence rates across genders to uncover differences between male and female juvenile offenders. As this is one of the only articles examining ACEs in a population of juvenile offenders, we believe this study endorses the ascertainment of ACEs in young people. We believe the ACE score is as useful for the disciplines of criminology and social science as for the fields of health and medicine. It is worthwhile to emphasize that the vast majority of prior ACE studies have asked adults to recall ACEs, while the current study ascertained the same adverse experiences as recalled and reported more recently by youth. The purpose of this study was to examine the prevalence of the 10 specific ACEs and the ACE composite score in justice-involved youth. Prior ACE research has

documented the negative outcomes from cumulative exposure; this study illustrates the extraordinarily high prevalence of ACEs in this special population, and seeks to raise both the understanding and level of concern among the academicians and practitioners who care for them.

Methodology

The data for this study included aggregated PACT assessments for each youth. We performed secondary data analysis of an existing database of all PACT assessments conducted in Florida. Because the study used secondary analysis of de-identified data, no consent or assent from youth or parents was required. IRB approval was obtained from the University of Florida IRB. Only youth assessed with the PACT Full Assessment between January 1, 2007 and December 31, 2012 were included in the study. Only youth who had “aged out” of the juvenile justice system (turned 18, the age of majority in Florida) were included so as to capture the full range of ACEs. This resulted in a final sample of 64,329 unduplicated youth who were assessed with the PACT Full Assessment and had turned 18 between January 1, 2007 and December 31, 2012.

This sample represents the entire population of juveniles who had received an official referral (equivalent of an adult arrest) in Florida, who have since reached the age of 18, and who had been assessed with the PACT Full Assessment. However, because the PACT Full Assessment is the only tool ascertaining all 10 ACEs, there is a bias toward oversampling more serious delinquents. Youth whose scores indicate they are at low or moderate risk to reoffend may not receive the Full Assessment. Most youth who score at low or moderate risk to reoffend and who receive the Full Assessment are those whose treatment plan includes placement in resource-intensive services such as day treatment or residential programs. While 64,329 youth who turned 18 during the study period were assessed with the PACT Full Assessment, an additional 136,691 youth who turned 18 during that time were assessed only with the PACT Pre-Screen, prohibiting the

creation of ACE scores for those youth. Therefore, while we captured ACE scores for all youth receiving a Full Assessment (approximately 32% of all juvenile offenders), caution should be used in generalizing the results to all juvenile offenders in Florida.

Sample Demographics

Table 3 shows the race/ethnicity and gender breakdown of the full sample. The sample was 78.3% male and 38.2% White. In terms of risk to reoffend levels as assessed by the PACT, 29.3% (27% males, 37.4% females) of the youth were at low risk, 15.6% (15.3% males, 16.8% females) were at moderate risk, 21.7% (22.2% males, 19.8% females) were at moderate-high risk, and 33.5% (35.5% males, 26.1% females) were at high risk. This sample included substantial numbers of youth who were at low and moderate risk to reoffend.

Table 3. *Sample Demographics*

Subgroup	Percent of Total
White Males	29
White Females	9
Black Males	34
Black Females	9
Hispanic Males	13
Hispanic Females	3
“Other” Males	3
“Other” Females	1
Total Sample Size	64,329

Note. Numbers reported in each row as percentages except Total Sample Size row reported as number of youth; percentages may not add to 100 due to rounding.

Creation of ACE Scores

Each ACE was treated as a dichotomous variable (coded yes or no). As the PACT requires frequent reassessment, any indication of a yes response to a PACT-assessed ACE is counted as a positive ACE and included in the ACE score. For example, if a youth did not indicate a history of sexual abuse at initial Full Assessment but did indicate

such history upon reassessment, the positive indication was used. Alternatively, if a youth did indicate history of sexual abuse, for example, at initial assessment but did not indicate this at reassessment, the positive response was still carried forward and used in the current study. The PACT is an automated assessment process in which the user (juvenile justice staff, usually a probation officer or case manager) inputs responses to each item on an online server. The responses indicated from the prior assessment (if one has been conducted) are highlighted for the current user to see. This methodology allows the user to see prior responses. In the case of sexual abuse reported on one assessment and not reported on a later assessment, the user would recognize the discrepancy and obtain relevant follow-up information from the youth to complete the assessment accurately. While this methodology is biased toward positive responses, it removes the likelihood of discounting positive responses obtained by individual juvenile justice professionals who managed to build a strong rapport with any given youth and hence were able to elicit more personal information during the interview.

Appendix A aligns the PACT questions and responses used to identify ACE measures for the current project with ACE questions from previous studies. There are 10 distinct PACT ACE measures: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, family violence (including domestic violence, verbal intimidation, yelling, heated arguments, and threats of physical abuse), household substance abuse, household mental illness, parental separation/divorce, and household member incarceration. Each ACE measure was coded as dichotomous (either the youth did not have a history of the indicator, which was coded as 0, or the youth did have a history, which was coded as 1), in keeping with all prior ACE studies that use the ACE composite score to examine the dose-response relationship to health problems and other negative life outcomes. The composite PACT ACE score is the sum of PACT ACE measures, ranging from

0 to 10, as is reported in prior ACE studies. Seven ACE measures were used in wave 1 of the groundbreaking Adverse Childhood Experiences Study: psychological, physical, and sexual abuse; household substance abuse; mental illness; mother treated violently; and criminal behavior in household (Felitti et al., 1998). The additional three measures of physical and emotional neglect, and parental separation/divorce, were added in wave 2 of the ACE Study (Dong et al., 2004). Because most subsequent literature uses 10 ACE indicators, we selected PACT questions representing all 10 for the current study (Appendix A). As in other studies examining adverse childhood experiences as composite ACE scores, the wording of the questions is slightly different from that used in the original ACE Study, yet accurately reflects the original intent of the concepts.

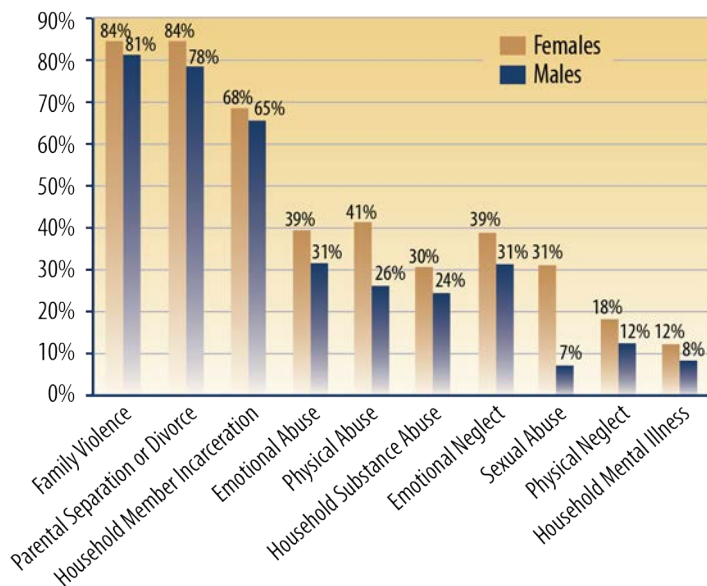
Results: ACE Prevalence

Figure 1 illustrates the prevalence rates of each ACE indicator by gender. ACE indicators vary from a low of 7% male prevalence for sexual abuse to a high of 84% female prevalence for both family violence and parental separation or divorce. The top three most prevalent ACE indicators were the same for both males and females: family violence, parental separation or divorce, and household member incarceration. Two-thirds or more of the Florida juvenile offenders reported these three ACEs. The least commonly reported ACE indicator for males were sexual abuse, household mental illness, and physical neglect, while the lowest three for females were household mental illness, physical neglect, and emotional neglect. Sexual abuse was reported 4.4 times more frequently by females than by males (31% and 7%, respectively). With the exception of sexual abuse, the ACE rank order by prevalence across genders was similar. However, as illustrated by Figure 1, females had a higher prevalence than males on every single ACE indicator.

The individual differences in ACE prevalence rates between males and females were statistically significant, using independent samples *t*-tests

with a Bonferroni correction requiring a p -value less than .0045, with females having a higher prevalence rate of each ACE for all 10 ACE indicators, all at $p < .001$. Examination of effect sizes using Cohen's d reveals that the majority of the differences were small (Cohen's d less than .5). Cohen's d for sexual abuse was the largest, at .92, and the ACE composite score was the second largest, at a moderate .59. These results are consistent with prior findings that the main gender difference in ACEs is the prevalence of sexual abuse (Cauuffman et al., 1998; Dierkhising et al., 2013).

Figure 1. Prevalence of ACE Indicators by Gender.



Prior ACE studies have indicated a dose-response relationship between ACE scores and negative outcomes, with higher ACE scores correlating most strongly with negative outcomes (Brown et al., 2009; Felitti et al., 1998). Figure 2 illustrates the prevalence of ACE scores in the current study by gender. Only 3.1% of the males and 1.8% of the females reported no ACEs. Approximately 10% of the males reported just one ACE compared to 7.6% of the females.

Of the males, 27.4% reported five or more ACEs compared to 45.1% of the females. Of the 62,536 youth who reported one or more ACEs, 90%

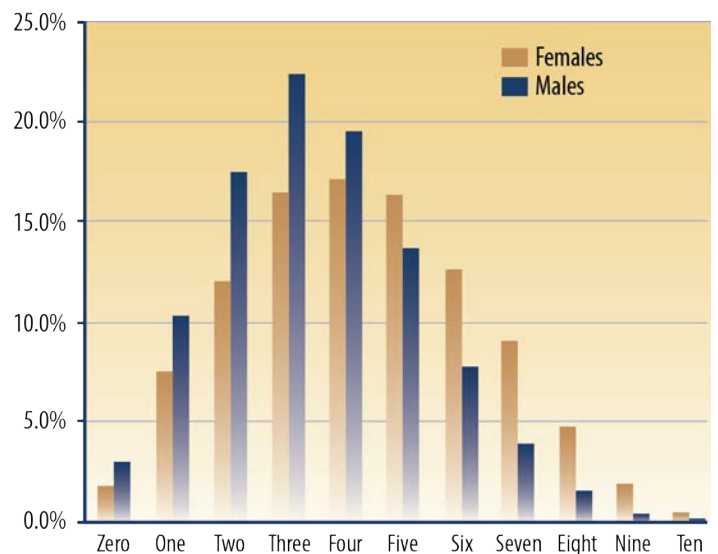
reported at least two, 73% reported at least three, 52% reported at least four, and 32% reported five or more.

Of the 13,692 females with one or more ACE indicators, 92% reported at least two ACEs, 80% reported at least three, 63% reported at least four, and 46% reported five or more.

Of the 48,844 males who reported at least one ACE indicator, 89% reported two or more, 71% reported three or more, 48% reported four or more, and 28% reported five or more.

These results indicated female youth reported more ACEs than males, and a higher percentage of those who reported at least one ACE also reported others. The average composite ACE score for females was 4.29, while the average for males was 3.48 (difference statistically significant at $p < .001$). That is, the average female in our sample reported at least four ACE indicators while the average male reported three or four ACE indicators.

Figure 2. Prevalence of ACE Score by Gender.

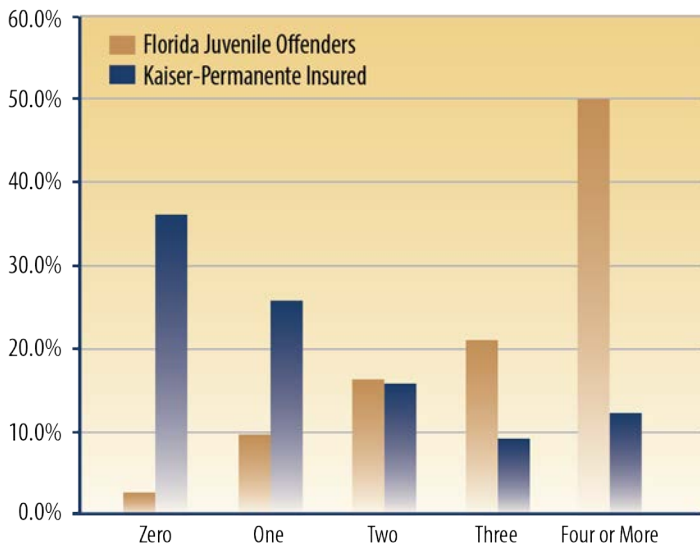


Comparing Juvenile Offenders to the Original ACE Study

As illustrated in Figure 3, the population of juvenile offenders in the current study differs markedly from the sample of adults described in the original ACE study conducted by Felitti and colleagues (Felitti et al., 1998) and the vast majority

of ACE studies that followed. As illustrated in Figure 3, juvenile offenders are 13 times less likely to report zero ACEs (2.8% compared to 36%) and four times more likely to report four or more ACEs (50% compared to 13%) than Felitti and Anda’s Kaiser Permanente–insured population of mostly college-educated adults. These results suggest that the juvenile offenders in this study were significantly more likely to have ACE exposure and to have multiple ACE exposures than the adults in Felitti and Anda’s study population. Based on the adverse health outcomes correlated with ACE exposure described above, these results have important implications for the preventive health care of justice-involved youth: that is, preventive care could reduce their future need for mental health treatment; addictions treatment; and treatment for chronic lung, liver, heart, and kidney disease, as well as diabetes.

Figure 3. Comparison of ACE Scores Between Juvenile Offenders and Kaiser-Permanente Study.



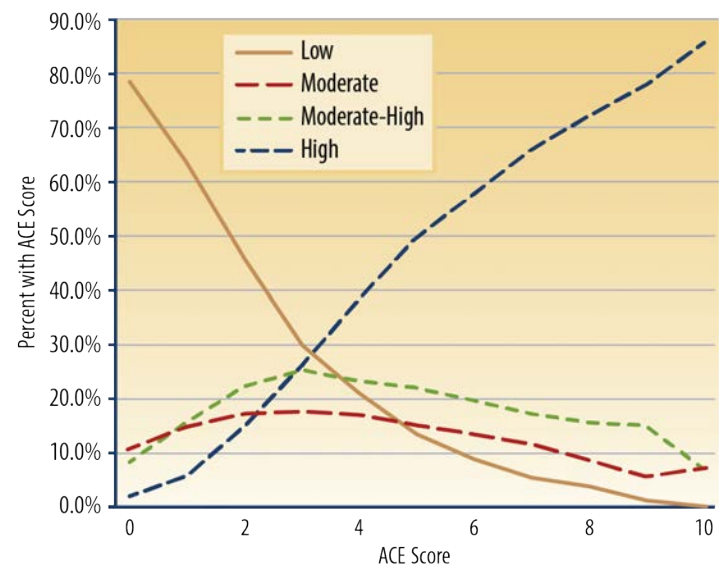
Note. Prevalence for insured adults based the entire ACE Study sample (n=17,337) as posted by the CDC available at <http://www.cdc.gov/ace/prevalence.htm>.

Risk to Reoffend Level Differences

A primary purpose of the PACT is to classify youth according to four levels of risk to commit criminal offenses in the future, ranging from low to moderate, moderate-high, and high risk. As indicated, the current study included only youth assessed using the PACT Full Assessment (not the PACT

Pre-screen), which resulted in a higher risk sample than an “all youth referred (arrested)” sample. Therefore, we examined whether ACE scores differed by PACT risk levels. Figure 4 shows the percentage of youth having ACE sums zero through 10 who are at low, moderate, moderate-high, or high risk to reoffend according to the PACT. As shown, low-risk youth are the most prevalent group reporting ACE scores of zero through three. Low-risk youth are 35.6 times more likely than high-risk youth to report no ACE indicators. Conversely, high-risk youth are more likely than low-risk youth to report more than three ACEs; to include more than one-half the youth with ACE scores over six; and to include more than three-quarters of the youth reporting ACE scores of nine or 10. Low-risk youth comprise 44% of youthful offenders reporting between zero and three ACE indicators (14,225 of 32,096 youth), while high-risk youth comprise 49.6% of all youth reporting four or more ACE indicators (15,996 of 32,233 youth). As Figure 4 shows, the higher the risk to reoffend, the higher the number of reported ACEs.

Figure 4. ACE Scores by PACT risk level.



We employed one-way analysis of variance (ANOVA) to further explore the ACE indicator differences across risk to reoffend levels (results not shown for brevity). We used a Bonferroni correction requiring a *p*-value of less than .0045 (due to performing 11 simultaneous comparisons).

For each ACE indicator and the ACE composite score, there were significant differences between the four risk level groups (all at $p < .0001$). In an examination of Eta-squared for each of the 10 ACE indicators, five had medium or higher effect sizes (Eta-squared greater than .06). The five indicators with medium or higher effect sizes were emotional abuse, physical abuse, physical neglect, family violence, and household member incarceration. The ACE composite score had an Eta-squared of .22. This indicates 22% of the variance in the PACT risk to reoffend category is explained by the ACE composite score.

Post hoc analyses (utilizing Tamhane tests for multiple comparisons) suggested that four of the ACE indicators and the ACE composite score showed significant differences among each of the risk levels, with significantly increasing prevalence as risk stratification increased. In other words, youth at low risk to reoffend had the lowest prevalence of ACEs and those at high risk had the highest prevalence of ACEs. The four indicators that followed this pattern were physical neglect (ACE 5), family violence (ACE 6), household substance abuse (ACE 7), and household member incarceration (ACE 10). The remaining six ACE indicators followed a similar pattern, yet the differences between the prevalence for youth at moderate and moderate-high risk to reoffend were not statistically significant. Prevalence of these six ACE indicators for youth at moderate and moderate-high to reoffend were significantly higher than prevalence for youth at low risk and significantly lower than prevalence for high-risk youth, but prevalence rates were statistically equivalent to one another. High-risk youth had significantly higher prevalence rates than all other groups on all ACE indicators and the ACE composite score, all at $p < .001$.

Discussion

ACEs not only increase the chances of involvement in the juvenile justice system, but increase the risk of re-offense. A focused effort on early identification of ACEs, and intervention for ACEs

with a goal of improving youth life circumstances and preventing criminal behavior, may reduce the likelihood of and costs related to juvenile criminal activities. Most current policies in child welfare focus on secondary prevention instead of primary prevention of ACEs. Primary prevention efforts should be tailored to meet the needs of parents, teachers, health professionals, and law enforcement. For parents, an important effort would be to improve public awareness of adult behaviors, which can optimize or hamper children's brain development. Parenting skills and early childhood brain development could be emphasized during the prenatal period and during well-child checkups after birth. It is not too early to teach brain development skills in high school, since high school students are merely one sexual experience away from being tomorrow's parents. Furthermore, many high school students participate in the care of smaller children. For health professionals, screening for ACEs is needed at periodic intervals during childhood, with referrals for counseling and other services when ACEs are identified. When school or health professionals observe behaviors such as overeating, substance abuse, smoking, disruptive classroom behavior, and bullying, a screening for a history of ACEs can be obtained and used to determine the appropriate intervention. When school personnel observe such behaviors, suspending or expelling students from school may deprive youth of the safest environment they can access. In-school programs to address bullying, disruptive classroom behavior, and aggression can keep youth in safe environments while they learn self-regulatory skills. Law enforcement and judicial awareness of ACEs will enhance the likelihood that the root causes of problematic behaviors will be addressed with social and behavioral health services. Individuals with ACEs often use maladaptive or antisocial behaviors as strategies to cope with stress; such behaviors will not dissipate during periods of detention or incarceration without focused intervention.

Early detection, intervention, and treatment services can be cost-effective in the educational, health, and justice systems when warning signs

of ACEs are present. Reducing the taxpayer expenditures associated with the juvenile justice system, special education, and special health care needs can have compounded benefits in terms of adult productivity. Successful interventions in childhood have the potential to stop the intergenerational risks of ACEs, thereby multiplying cost savings. Early childhood intervention programs addressing ACEs have demonstrated significant benefit–cost ratios. One such intervention displayed a return of \$5.70 for every dollar spent by the time a child reached age 27, \$8.70 in life-cost savings, and notable cost savings in crime reduction (Larkin & Records, 2007).

In response to ACE studies, Washington state has changed public policy to address the relationship between ACE scores, health-related problems, and criminal involvement. Potential savings and improvement in productivity led Washington state legislators to pass an ACE reduction law (SHB 1965, 2011) on June 15, 2011. SHB 1965 from the state of Washington is an innovative example of a bold and dramatic shift in thinking for legislators and policymakers (Kagi and Regala, 2012). Washington is the first state to recognize ACEs such as child abuse and neglect, parental substance abuse, and witnessing domestic violence as a “powerful common determinant of a child’s ability to be successful at school and, as an adult, to be successful at work, to avoid behavioral and chronic physical health conditions, and to build healthy relationships” (SHB 1965, C32, L11, E2, Sec. 1, 2011). Other states, including Florida, have the potential to pursue similar advances in primary prevention, community engagement, and policy.

One way communities can get involved is by developing strategies to build childhood resilience and to increase protective factors. Resilient children possess skills needed to positively respond to obstacles and difficulties they may face, including ACEs. Dr. Kenneth Ginsburg, a pediatrician at the Children’s Hospital of Philadelphia, advocates the development of strong relationships between adults and children

to decrease stress and increase competence. Adults who foster resilience-facilitating relationships may or may not be biological parents. A resilience guide for parents and teachers produced by the American Psychological Association (American Psychological Association, 2011) suggests providing children and teens with a safe place during times of high academic and emotional stress. Parents and teachers are often the first adults to recognize childhood distress and can serve as the first line in helping children to cope with stress and build resiliency. A school- or community-based safe place that focuses on relaxation activities such as yoga, meditation, tai chi, and prayer can build resilience and reduce stress by empowering children to modulate their stress responses and enhance their personal perceptions of safety. Children with high resilience tend to be more successful in school, happier, and less depressed. Youth development programs for children, parents, and teachers should integrate activities that build resilience and address ACEs so that children develop confidence, self-control, and responsibility. These interventions and programs have the potential to keep children from engaging in risky social and health behaviors.

Finally, programs and policies should target prevention and early identification of ACEs to improve general health and reduce future medical, social service, and criminal justice costs. Development of educational curricula, health programs, and policies to detect and treat physical abuse, emotional abuse, sexual abuse, and substance abuse among youth has the potential to reduce their involvement in the criminal justice system. Increased primary prevention will require collaborative efforts and effective communication across health, education, and community programs. Reducing exposure to ACEs can build resilience, which may ultimately reduce youth involvement in crime and criminal justice system costs.

By the time youth reach the juvenile justice system they are past the point of primary prevention and have entered the realm of secondary

prevention and/or intervention. A fundamental tool in secondary prevention is the implementation of Trauma-Informed Care (TIC), with a central precept of asking “What has happened to you?” rather than the customary “What is wrong with you?” The ACE composite score is precisely a measure of “what has happened to you.” Juvenile justice systems should implement and reinforce TIC training for all staff who have contact with juveniles in order to help them understand traumatic and posttraumatic reactions (Griffin, Germain, & Wilkerson, 2012), as well as to help them make appropriate referrals to clinically trained mental health professionals (Dierkhising et al., 2013). Perhaps the most important component for justice systems is the implementation of trauma screening and assessment for all youth entering the system, as well as the provision of evidence-based, trauma-informed treatment and interventions for youth identified. Ideally, these are holistic and multisystemic interventions that recognize the child’s experiences within the family.

In light of findings that females have higher rates of exposure to all ACE indicators than males (especially sexual abuse and the ACE composite score), yet have lower rates of delinquent involvement, gender-specific intervention strategies should be examined since there may be gender differences in response to exposure to traumatic circumstances. Exposure to ACEs manifests itself differently among females than males (e.g., females have more internalizing behaviors, mental health symptoms, and self-mutilation; males exhibit more externalizing and acting-out behaviors). Furthermore, a much higher percentage of female violent offenses exclusively involve domestic violence, as opposed to more heterogeneous violent offenses for males (Herrera & McCloskey, 2001). The justice system may be reluctant to intervene with females until they have reached a higher threshold of delinquency (and perhaps ACE exposure) than males. Herrera and McCloskey (2001) state “to date little is known about how exposure to family violence

in childhood effects males and females differently with respect to subsequent delinquency . . . If there are gender differences in the etiology of crime, these services need to be recast to take into consideration the unique needs of female as well as male offenders” (p. 1039).

Limitations and Directions for Policy

The current study constructs ACE indicators and an ACE composite score in an attempt to illustrate the high cumulative traumatic exposure of justice-involved youth compared to adult non-delinquent samples. A major limitation in assessing ACE prevalence is the use of the PACT Full Assessment, which is more likely to be administered to youth with higher risk to reoffend. Yet, more than one-third of our sample are youth at low and moderate risk to reoffend, with the remainder at moderate-high and high risk, from a state with a diverse population. Therefore, caution should be used in generalizing this study’s results to all justice-involved youth or to youth in other states. Additional limitations include our use of existing assessment questions to gather the 10 ACE indicators rather than using statements identical to those of the original ACE research. Another limitation is that we cannot make any claims regarding youth not involved in the juvenile justice system, since our sample entirely comprises justice-involved youth. We believe our conceptualizations remain true to the original ACE indicators. Our intent is to demonstrate the seriousness of cumulative traumatic exposure in this special population.

Conclusion

The current study presents findings from a large sample of more than 64,000 Florida youth who happen to be juvenile offenders. Our future research will examine how ACEs contribute to more immediate behavioral outcomes across multidisciplinary domains of school, peer associations, family, substance abuse, and employment, as well as criminal behaviors, all available within the data we have amassed. Furthermore,

future research should address the relative contributions of each distinct ACE on myriad outcomes. Past and ongoing ACEs are the thread that unifies this unique population, and how we address the impact of those experiences should be the target of policy analysis and development to the greatest extent possible. Perhaps doing so is the key to “what works” after all.

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References

- Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61*, 403–410.
- Amato, P. R. (2001). Children of divorce in the 1990's: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology*, *15*, 355–370.
- American Psychological Association. (2011). *Resilience guide for parents and teachers*. Retrieved September 9, 2013, from: www.apa.org/helpcenter/resilience.aspx.
- Anda, R. F., Butchart, A., Felitti, V. J., & Brown, D. W. (2010). Building a framework for global surveillance of the public health implications of Adverse Childhood Experiences. *American Journal of Preventive Medicine*, *39*, 93–98.
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., . . . Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, *256*, 174–186.
- Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati, OH: Anderson.
- Baglivio, M. T. (2009). The assessment of risk to recidivate among a juvenile offending population. *Journal of Criminal Justice*, *37*, 596–607.
- Baglivio, M. T., & Jackowski, K. (2013). Examining the validity of a juvenile offending risk assessment instrument across gender and race/ethnicity. *Youth Violence and Juvenile Justice*, *11*(1), 26–43.
- Barrett, D. E., Katsiyannis, A., Zhang, D., & Zhang, D. (2013). Delinquency and recidivism, A multicohort, matched-control study of the role of early adverse experiences, mental health problems, and disabilities. *Journal of Emotional and Behavioral Disorders*. doi:10.1177/1063426612470514
- Bellis, M. A., Lowey, H., Leckenby, N., Hughes, K., & Harrison, D. (2013). Adverse childhood experiences: Retrospective study to determine their impact on adult health behaviors and health outcomes in a UK population. *Journal of Public Health*, 1–11. doi:10.1093/pubmed/fdt038
- Brown, D. W., Anda, R. F., Tiemeier, H., Felitti, V. J., Edwards, V. J., Croft, J. B., & Giles, W. H. (2009). Adverse Childhood Experiences and the risk of premature mortality. *American Journal of Preventive Medicine*, *37*, 389–396.
- Burt, A. S., Barnes, A. R., McGue, M., & Iacono, W. G. (2008). Parental divorce and adolescent delinquency: Ruling out the impact of common genes. *Developmental Psychology*, *44*, 1668–1677.
- Cauffman, E., Feldman, S., Waterman, J., & Steiner, H. (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 1209–1216.
- Chen, W. Y., Propp, J., deLara, E., & Corvo, K. (2011). Child neglect and its association with subsequent juvenile drug and alcohol offense. *Child & Adolescent Social Work Journal*, *28*, 273–290.

- Cicchetti, D. (2013). Annual research review: Resilient functioning in maltreated children—past, present, and future perspectives. *Journal of Child Psychology and Psychiatry*, *54*, 402–422.
- Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiology and Behavior*, *106*, 29–39.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology*, *4*:2013. <http://dx.doi.org/10.3402/ejpt.v4i0.20274>.
- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., . . . Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse and Neglect*, *28*, 771–784.
- D’Onofrio, B. M., Turkheimer, E., Emery, R. E., Slutske, W. S., Heath, A. C., Madden, P. A., & Martin, N. G. (2005). A genetically informed study of marital instability and its association with offspring psychopathology. *Journal of Abnormal Psychology*, *114*, 570–586.
- Dube, S. R., Anda, R. F., Felitti, V. J., Croft, J. B., Edwards, V. J., & Giles, W. H. (2001). Growing up with parental alcohol abuse: Exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse and Neglect*, *12*, 1627–40.
- Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior*, *13*, 131–140.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245–258.
- Ford, J. D., Chapman, J. F., Hawker, J., & Albert, D. (2007). Trauma among youth in the juvenile justice system: Critical issues and new directions. National Center for Mental Health and Juvenile Justice. Retrieved September 9, 2013, from: http://www.ncmhjj.com/pdfs/publications/trauma_and_youth.pdf.
- Geller, A., Garfinkel, I., Cooper, C. E., & Mincy, R. B. (2009). Parental incarceration and child well-being: Implications for urban families. *Social Science Quarterly*, *1*, 1186–1202.
- Grevstad, J. A. (2010). *Adverse childhood experiences and juvenile justice*. PowerPoint delivered to Washington State Family Policy Council June 8, 2010.
- Griffin, G., Germain, E. J., & Wilkerson, R. G. (2012). Using a trauma-informed approach in juvenile justice institutions. *Journal of Child & Adolescent Trauma*, *5*(3), 271–283.
- Herrera, V. M., & McCloskey, L. A. (2001). Gender differences in the risk for delinquency among youth exposed to family violence. *Child Abuse and Neglect*, *25*, 1037–1051.
- Hillis, S. D., Anda, R. F., Dube, S. R., Felitti, V. J., Marchbanks, P. A., & Marks, J. S. (2004). The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. *Pediatrics*, *2*, 320–327.

- Hillis, S. D., Anda, R. F., Felitti, V. J., & Marchbanks, P. A. (2001). Adverse childhood experiences and sexual risk behaviors in women: A retrospective cohort study. *Family Planning Perspective, 5*, 206–11.
- Kagi, R., & Regala, D. (2012). Translating the Adverse Childhood Experiences (ACE) Study into public policy: Progress and the possibility in Washington State. *Journal of Prevention & Intervention in the Community, 40*(4), 271–277.
- Larkin, H., & Records, J. (2007). Adverse childhood experiences: Overview, response strategies, and integral theory. *Journal of Integral Theory and Practice, 2*(3), 1–25.
- Mass, C., Herrenkohl, T. I., & Sousa, C. (2008). Review of research on child maltreatment and violence in youth. *Trauma, Violence, & Abuse, 9*, 56–67.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change*. New York, NY: Guilford Press.
- Moylan, C. A., Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Russo, M. J. (2010). The effects of child abuse exposure to domestic violence on adolescent internalizing and externalizing behavior problems. *Journal of Family Violence, 25*, 53–63.
- Murray, J., & Farrington, D. P. (2005). Parental imprisonment: Effects on boys' antisocial behavior and delinquency through the life-course. *Journal of Child Psychology and Psychiatry, 46*, 1269–1278.
- Murray, J., & Farrington, D. P. (2008). Parental imprisonment: Long-lasting effects on boys' internalizing problems through the life course. *Development and Psychopathology, 20*, 273–290.
- Orbis Partners. (2000). Youth Assessment Screening Inventory (YASI). Ottawa, Ontario, Canada: Author.
- Parke, R., & Clarke-Stewart, K. (2002). *Effects of parental incarceration on young children*. Washington, DC: U.S. Department of Health and Human Services.
- SHB 1965, 62nd Legislature, (2011) (enacted).
- Shalev, I., Moffitt, T., Sugden, K., Williams, B., Houts, R. M., Danese, A., . . . Caspi A. (2013). Exposure to violence during childhood is associated with telomere erosion from 5 to 10 years of age: A longitudinal study. *Molecular Psychiatry, 18*, 576–581.
- Stevens, J. (2012, Oct. 3). The Adverse Childhood Experiences Study—the largest, most important public health study you never heard of—began in an obesity clinic. Retrieved from <http://acestoohigh.com/2012/10/03/the-adverse-childhood-experiences-study-the-largest-most-important-public-health-study-you-never-heard-of-began-in-an-obesity-clinic/>
- Teague, R., Mazerolle, P., Legosz, M., & Sanderson, J. (2008). Linking childhood exposure to physical abuse and adult offending: Examining mediating factors and gendered relationships. *Justice Quarterly, 25*, 313–348.
- Teicher, M. H., Andersen, S. L., Polcari, A., Anderson, C. M., Navalta, C. P., & Kim, D. M. (2003). The neurobiological consequences of early stress and childhood maltreatment. *Neuroscience & Biobehavioral Reviews, 27*(1-2), 33–44.
- Washington State Institute for Public Policy. (2004). *Assessing risk for re-offense: Validating the Washington State Juvenile Court assessment*. Olympia, WA.

- 
- Widom, C. S., & Maxfield, M. G. (2001). *An update on the "cycle of violence."* Washington, DC: National Institute of Justice, U.S. Department of Justice.
- Winokur-Early, K., Hand, G. A., & Blankenship, J. (2012). Validity and Reliability of the Florida Positive Achievement Change Tool (PACT) Risk and Needs Assessment Instrument: A Three-Phase Evaluation (Validation Study, Factor Analysis, Inter-Rater Reliability). Tallahassee, FL: Justice Research Center.
- Wood, J., Foy, D. W., Layne, C. Pynoos, R., & James, C. B. (2002). An examination of the relationships between violence exposure, posttraumatic stress symptomatology, and delinquent activity: An "ecopathological" model of delinquent behavior among incarcerated adolescents. *Journal of Aggression, Maltreatment, Trauma, 6*, 127–147.
- Yu-Ling Chiu, Y. L., Ryan, J. P., & Herz, D. C. (2011). Allegations of maltreatment and delinquency: Does risk of juvenile arrest vary substantiation status? *Children and Youth Services Review, 33*, 855–860.

Appendix A. Creation of PACT ACE Score Measures

ACE Study Measures	PACT ACE Measures
Measure 1: Emotional Abuse	
<p>1. How often did a parent, stepparent, or adult living in your home swear at you, insult you, or put you down?</p> <p>2. How often did a parent, stepparent, or adult living in your home act in a way that made you afraid that you might be physically hurt?</p> <p>Identification: A respondent was defined as being emotionally abused during childhood if the response was either often or very often to question 1 or sometimes, often, or very often to question 2.</p>	<p>1. Family willingness to help support youth:</p> <ul style="list-style-type: none"> a. Consistently willing to support youth b. Inconsistently willing to support youth c. Little or no willingness to support youth d. Hostile, berating, and/or belittling to youth <p>2. Level of conflict between parents, between youth and parents, among siblings:</p> <ul style="list-style-type: none"> a. Some conflict that is well managed b. Verbal intimidation, yelling, heated arguments c. Threats of physical abuse d. Domestic violence: physical/sexual abuse <p>Identification: A respondent would be defined as being emotionally abused during childhood if the response was either d. on the first question (hostile, berating, and/or belittling to youth), or answers b. or c. on the second question (verbal intimidation, yelling, heated arguments; or threats of physical abuse).</p>
Measure 2: Physical Abuse	
<p>1. How often did a parent, stepparent, or adult living in your home push, grab, slap or throw something at you?</p> <p>2. How often did a parent, stepparent, or adult living in your home hit you so hard that you had marks or were injured?</p> <p>Identification: A respondent was defined as being physically abused during childhood if the response was either sometimes, often or very often to question 1 or if there was any response other than never to question 2.</p>	<p>1. History of violence/physical abuse: (Includes suspected incidents of abuse, whether or not substantiated, but excludes reports proven to be false):</p> <ul style="list-style-type: none"> a. Not a victim of violence/physical abuse b. Victim of violence/physical abuse at home c. Victim of violence/physical abuse in a foster/group home d. Victimized or physically abused by family member e. Victimized or physically abused by someone outside the family f. Attacked with a weapon <p>2. Level of conflict between parents, between youth and parents, among siblings:</p> <ul style="list-style-type: none"> a. Some conflict that is well managed b. Verbal intimidation, yelling, heated arguments c. Threats of physical abuse d. Domestic violence: physical/sexual abuse <p>Identification: A respondent would be defined as being physically abused during childhood if the response was any response other than a. (not a victim of violence/physical abuse) on question 1. Additionally, a respondent would be defined as physically abused if question 2. response d. was yes (domestic violence: physical/sexual abuse), but only when the same juvenile gave negative answers to a question of history of sexual abuse/rape.</p>

Measure 3: Sexual Abuse

Each respondent was asked whether an adult, relative, family friend, or stranger who was at least 5 years older than the respondent had ever:

1. Touched or fondled the respondent's body in a sexual way;
2. Had the respondent touch his or her body in a sexual way;
3. Attempted to have any type of sexual intercourse (oral, anal, or vaginal) with the respondent; or
4. Actually had any type of sexual intercourse (oral, anal, or vaginal) with the respondent.

Identification: Respondents were classified as sexually abused during childhood if they responded affirmatively to any of the four questions.

1. History of sexual abuse/rape: (Includes suspected incidents of abuse if disclosed by youth, whether or not reported or substantiated, but excludes reports proven to be false):
 - a. Not a victim of sexual abuse/rape
 - b. Sexually abused/raped by family member
 - c. Sexually abused/raped by someone outside the family
2. Level of conflict between parents, between youth and parents, among siblings:
 - a. Some conflict that is well managed
 - b. Verbal intimidation, yelling, heated arguments
 - c. Threats of physical abuse
 - d. Domestic violence: physical/sexual abuse

Identification: A respondent would be defined as being sexually abused during childhood if the response was any response other than a. (not a victim of sexual abuse/rape) on question 1. Additionally, a respondent would be defined as sexually abused if question 2 was answered with a yes to d. (domestic violence: physical/sexual abuse), but only when the same juvenile gave negative answers to a question of history of physical abuse.

Measure 4: Emotional Neglect

Questions used to define emotional neglect were adapted from the Childhood Trauma Questionnaire (CTQ). Five CTQ items were used. Response categories were never true, rarely true, sometimes true, often true, and very often true. These items were scored on a Likert scale ranging from 1 to 5, respectively. For emotional neglect, all items were reverse scored, then added.

*The neglect questions/scales were developed for the Wave 2 survey, and some of the earlier studies do not use the neglect measures.

1. There was someone in my family who helped me feel important or special
2. I felt loved
3. People in my family looked out for each other
4. People in my family felt close to each other
5. My family was a source of strength and support

Identification: Scores of 15 or higher (moderate to extreme on the CTQ clinical scale) defined the respondents as having experienced emotional neglect.

1. Support network for family: Extended family and/or family friends who can provide additional support to the family:
 - a. No support network
 - b. Some support network
 - c. Strong support network
2. Family willingness to help support youth:
 - a. Consistently willing to support youth
 - b. Inconsistently willing to support youth
 - c. Little or no willingness to support youth
 - d. Hostile, berating, and/or belittling to youth
3. Family members youth feels close to or has a good relationship with:
 - a. Does not feel close to any family member
 - b. Feels close to mother/female caretaker
 - c. Feels close to father/male caretaker
 - d. Feels close to male sibling
 - e. Feels close to female sibling
 - f. Feels close to extended family

Identification: A respondent would be defined as being emotionally neglected if the response to question 1 was a. (no support network) or the response to question 2 was c. (little or no willingness to support youth) or d. (hostile, berating, and/or belittling to youth), or the response to question 3 was a. (does not feel close to any family member).

Measure 5: Physical Neglect

Questions used to define physical neglect were adapted from the Childhood Trauma Questionnaire (CTQ). Five CTQ items were used. Response categories were never true, rarely true, sometimes true, often true, and very often true. These items were scored on a Likert scale ranging from 1 to 5, respectively. For physical neglect, items 2 and 5 were reverse-scored, and all five scores were added.

1. I didn't have enough to eat
2. I knew there was someone there to take care of me and protect me
3. My parents were too drunk or too high to take care of me
4. I had to wear dirty clothes
5. There was someone to take me to the doctor if I needed it

Identification: Scores of 10 or higher (moderate to extreme on the CTQ clinical scale) defined the respondents as having experienced physical neglect.

1. History of being a victim of neglect*:
 - a. Not a victim of neglect
 - b. Victim of neglect

Identification: A respondent would be defined as being physically neglected if the response to question 1 was b. (victim of neglect).

*Neglect includes the negligent or dangerous act or omission that constitutes a clear and present danger to the child's health, welfare, or safety, such as: Failure to provide adequate food, shelter, clothing, emotional nurturing, or health care.

Measure 6: Family Violence

Battered mother (Was your mother [or step-mother]):

1. Sometimes, often, or very often pushed grabbed, slapped, or had something thrown at her?
2. Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
3. Ever repeatedly hit over at least a few minutes?
4. Ever threatened with or hurt by a knife or gun?

Identification: A respondent would be identified as having a history of household dysfunction if any response to questions 1–4 was affirmative.

1. Level of conflict between parents, between youth and parents, among siblings:
 - a. Some conflict that is well managed
 - b. Verbal intimidation, yelling, heated arguments
 - c. Threats of physical abuse
 - d. Domestic violence: physical/sexual abuse

2. History of witnessing violence:
 - a. Has not witnessed violence
 - b. Has witnessed violence at home
 - c. Victim of violence/physical abuse in a foster/group home
 - d. Has witnessed violence in a foster/group home
 - e. Has witnessed violence in the community
 - f. Family member killed as a result of violence

Identification: A respondent would be defined as having a history of household dysfunction if the response to question 1 were b. (verbal intimidation, yelling, heated arguments), c. (threats of physical abuse), or d. (domestic violence), or if the response to question 2 was positive for b. (has witnessed violence at home), or d. (has witnessed violence in a foster/group home).



Measure 7: Household Substance Abuse

1. As a child, did you ever: Live with anyone who was a problem drinker or alcoholic?
2. As a child, did you ever: Live with anyone who used street drugs?

Identification: A respondent would be defined as having a history of household substance abuse if a response to either question was affirmative.

1. Problem history of parents who are currently involved with the household:
 - a. No problem history of parents in household
 - b. Parental alcohol problem history
 - c. Parental drug problem history
 - d. Parental physical health problem history
 - e. Parental mental health problem history
 - f. Parental employment problem history
2. Problem history of siblings who are currently involved with the household:
 - a. No siblings currently in household
 - b. No problem history of siblings in household
 - c. Sibling alcohol problem history
 - d. Sibling drug problem history
 - e. Sibling physical health problem history
 - f. Sibling mental health problem history
 - g. Sibling employment problem history

Identification: A respondent would be defined as having a history of household substance abuse if responses b. (parental alcohol problem) or c. (parental drug problem) in question 1, or responses c. (sibling alcohol problem) or d. (sibling drug problem) in question 2 was identified.

Measure 8: Household Mental Illness

1. Was a household member depressed or mentally ill?
2. Did a household member attempt suicide?

Identification: A respondent would be defined as having a history of household mental illness if a response to either question was affirmative.

1. Problem history of parents who are currently involved with the household:
 - a. No problem history of parents in household
 - b. Parental alcohol problem history
 - c. Parental drug problem history
 - d. Parental mental health problem history
 - e. Parental physical health problem history
 - f. Parental employment problem history
2. Problem history of siblings who are currently involved with the household:
 - a. No siblings currently in household
 - b. No problem history of siblings in household
 - c. Sibling alcohol problem history
 - d. Sibling drug problem history
 - e. Sibling mental health problem history
 - f. Sibling physical health problem history
 - g. Sibling employment problem history

Identification: A respondent would be defined as having a history of household mental illness if response d. (parental mental health problem) in question 1, or response e. (sibling mental health problem) in question 2 was identified.

Measure 9: Parental Separation/Divorce

1. Were your parents ever separated or divorced?

Identification: A respondent would be identified as having a history of parental separation/divorce if the question was answered affirmatively.

1. All persons with whom the youth is currently living:

- a. Living alone
- b. Transient (street)
- c. Biological mother
- d. Biological father
- e. Nonbiological mother
- f. Nonbiological father
- g. Older sibling(s)
- h. Younger sibling(s)
- i. Grandparent(s)
- j. Other relative(s)
- k. Long-term parental partner(s)
- l. Short-term parental partner(s)
- m. Youth's romantic partner
- n. Youth's child
- o. Foster/group home
- p. Youth's friends

Identification: A respondent would be defined as having a history of parental separation/divorce if responses c. (biological mother) and d. (biological father) are not both selected.

Measure 10. Incarcerated Household Member

1. Did a household member go to prison?

Identification: A respondent would be defined as having a history of an incarcerated household member if the question was answered affirmatively.

1. History of jail/imprisonment of persons who were ever involved in the household for at least 3 months:

- a. No jail/imprisonment history in family
- b. Mother/female caretaker
- c. Father/male caretaker
- d. Sibling drug problem history
- e. Older sibling
- f. Younger sibling
- g. Other member

2. Jail or prison history of persons who are currently involved in the household:

- a. No jail/imprisonment history in family
- b. Mother/female caretaker
- c. Father/male caretaker
- d. Sibling drug problem history
- e. Older sibling
- f. Younger sibling
- g. Other member

Identification: A respondent would be defined as having a history of an incarcerated household member if any response other than a. (no jail/imprisonment history in family) for question 1 or question 2 was identified.

Effectiveness of Multisystemic Therapy for Minority Youth: Outcomes Over 8 Years in Los Angeles County

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Abstract

Previous research on Multisystemic Therapy[®] (MST), an intensive family and community-based treatment for juvenile offenders between 12 and 18 years of age, has been based on small samples that have included very few Hispanic youth. This paper examines juvenile justice outcomes and costs for 757 MST participants and 380 comparison group youth over an 8-year period in Los Angeles County. More than 90% of youth were either Hispanic or Black. Hispanic MST participants had significantly more positive outcomes on three of six juvenile justice measures, compared to Hispanic comparison youth. Black MST participants did not show more positive outcomes than Black comparison youth.

Introduction

In recent years, criminal justice agencies have increasingly focused on the delivery of evidence-based practices; i.e., programs and principles that have been rigorously evaluated and shown to be effective. One of the more

prominent programs is Multisystemic Therapy (MST)[®]. Positive program outcomes have earned MST a place among recommended programs by many evaluators of youth violence reduction programs, including the U.S. Surgeon General (U.S. Department of Health and Human Services, 1999), the Blueprints for Violence Prevention, and the Office of Juvenile Justice and Delinquency Prevention's Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Howell, 1995). MST continues to be implemented with increasing frequency in the United States, as well as internationally. As reported by MST's website, MST therapy is employed in 34 U.S. states, the District of Columbia, and in 13 countries around the world (MST, Inc., 2010).

MST is an intensive family- and community-based treatment for serious, violent, and chronic juvenile offenders between 12 and 17 years of age (Henggeler, 1997). Grounded in the social ecological theory of antisocial behavior among youth (Bronfenbrenner, 1979), MST addresses the multiple determinants of serious antisocial behavior,

viewing individuals as embedded within a complex network of interconnected systems, including individual, family, and extra-familial (peer, school, neighborhood) factors (Henggeler, 1997; Tighe, Pistrang, Casdagli, Baruch, & Butler, 2012). Intervention may occur in any one or a combination of these systems (Henggeler, Mihalic, Rone, Thomas, & Timmons-Mitchell, 2001).

The primary goal of MST is to empower parents with the skills and resources needed to independently address the difficulties that arise in raising teenagers and to empower youth to cope with family, peer, school, and neighborhood problems. As a result, MST addresses multiple factors related to delinquency across the key settings within which youth are embedded. The program strives to promote behavioral change within the youth's natural environment, using the strengths of each system (e.g., family, peers, school, neighborhood, indigenous support network) to facilitate change. Within a context of support and skill building, the MST therapist places developmentally appropriate demands on the adolescent for responsible behavior and on the family for encouraging responsible behavior. Intervention strategies include strategic family therapy, structural family therapy, behavioral parent training, and cognitive behavioral therapies (Henggeler et al., 2001).

Although MST has largely been positively received, questions remain, including for whom and under what conditions MST is most effective. In particular, two areas have been inadequately addressed in the literature: (a) Most evaluations of MST have been based on small samples and therefore lack statistical power, and (b) previous evaluations of MST have included very few Hispanic youth, if any. The current examination of MST directly addresses these gaps in knowledge. This article examines family and criminal justice outcomes over 8 years of MST programming in Los Angeles County juvenile probation. Specifically, we focus on selected juvenile justice outcomes and measures of youth and family functioning.

Background

MST programs have been repeatedly evaluated using randomized designs and have largely been found to be effective in reducing delinquent behaviors (e.g., Henggeler et al., 1986; Henggeler, Melton, & Smith, 1992; Borduin et al., 1995; Schaeffer & Borduin, 2005; Butler, Baruch, Hickey, & Fonagy, 2011; Gervan, Granic, Solomon, Blokland, & Ferguson, 2012; Asscher, Deković, Manders, van der Laan, & Prins, 2013). The most frequently cited evidence for the effectiveness of MST come from studies in Memphis, Tennessee (Henggeler et al., 1986), Simpsonville, South Carolina (Henggeler et al., 1992) and Columbia, Missouri (Borduin et al., 1995). Collectively, these studies found that juveniles undergoing MST were arrested less often and spent less time incarcerated than juveniles who received standard treatments. While most of these studies examined the effects of MST within a relatively short period of time following treatment, one recent study conducted a long-term follow-up with 176 treatment and control participants included in an earlier study and published by Borduin et al. in 1995. An average of 21.9 years later, MST participants displayed significantly lower recidivism rates compared to control participants (Sawyer & Borduin, 2011).¹

To date, more than 26 studies have examined the effects of MST on serious juvenile offenders (MST, Inc., 2012). The vast majority of MST studies have been conducted by MST developers and their associates (Littell, Popa, & Forsythe, 2005). While these examinations of MST have largely produced favorable findings, it is important that these effects can be replicated by researchers other than those who have developed MST.

The handful of independent studies of MST thus far has produced mixed results. In a meta-analysis of MST research, Littell and colleagues (2005) included eight randomized controlled evaluations of MST in their analysis. After rating these

¹ The 21.9 years reflects the time between measurements, not the time between publications.

studies on level of methodological rigor, they reported that the most methodologically rigorous and only fully independent analysis of MST did not find significant differences in outcomes between MST and usual juvenile justice services. Furthermore, pooled analyses failed to find significant differences across a range of outcomes, including incarceration and arrest rates. The authors do note that the general pattern of effects favors MST and acknowledge that low statistical power due to small sample sizes may have prevented the ability to detect significant differences. On the other hand, one of the only other independent studies conducted on MST (Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006) found that randomly assigned MST participants had significantly lower recidivism and arrest rates compared to treatment-as-usual participants. Relatedly, more recent meta-analyses across several types of juvenile interventions, including MST (Lipsey, 2009; Lipsey, Howell, Kelly, Chapman, & Carver, 2010), found that the factors influencing effectiveness were a therapeutic intervention philosophy, serving high-risk offenders, and quality of implementation. The current study would add to the much needed and thus far small body of independent research on the effects of MST.

The MST literature has also made note of differences in the effectiveness of MST in efficacy studies, in which treatment is often administered by well-trained graduate students and supervised by MST developers, compared to community-based effectiveness studies in which therapists not intensely supervised by MST experts carry out the treatment. In their examination of MST effects in a community-based treatment setting, Henggeler, Melton, Brondino, Scherer, and Hanley (1997) failed to find significant differences between randomly assigned MST participants who were treated by community-based therapists, trained in MST but not closely supervised by MST experts, and participants who received the standard juvenile treatment. In another recent meta-analysis of seven

randomized controlled MST studies, the authors found that type of study moderated the strength of MST effects (Curtis, Ronan, & Borduin, 2004). Specifically, efficacy studies resulted in significantly higher treatment effects ($ES = .81$) compared to effectiveness studies ($ES = .27$). High arrest rates by MST participants were found to be significantly associated with low ratings of therapist adherence to MST principles (Henggeler et al., 1997). In the present research, MST was carried out in the community by therapists trained in MST and supervised by MST-trained supervisors, providing a real-world opportunity for critical examination of MST.

Most MST studies use relatively small sample sizes. For example, Henggeler et al. (1992) included 84 juvenile offenders, Borduin et al. (1995) consisted of 176 juveniles, and Timmons-Mitchell et al. (2006) examined 93 offenders. With 757 juvenile probationers and 380 comparison group youth, the present research contains one of the largest sample sizes of any MST study, outside of meta-analyses, and provides a strong test of the effectiveness of MST within a community-based setting.

Ethnicity of MST Participants

The “Memphis study” (Henggeler et al., 1986) is often cited as evidence of the effectiveness of MST in treating inner city youth (cf. Borduin et al., 1995, p. 570), whereas other studies occurred in less urbanized populations (e.g., Simpsonville, SC [Henggeler et al., 1992]; Columbia, MO [Borduin et al., 1995]). At the time the Memphis study was conducted, the population of Memphis was approximately 650,000. Although Memphis has recently seen a marked increase in its Hispanic population (Mendoza, Ciscel, & Smith, 2001), the Memphis MST study reports a sample that was 65% Black. It is not noted that any Hispanics were included in the study.

The “Columbia study” (Borduin et al., 1995) is one of the few that specifically mentions the inclusion of Hispanics in its study sample, with 2% of the 176 adolescents being Hispanic (Borduin

et al., 1995). Minority populations in other MST evaluations have primarily been Black (e.g., Rowland et al., 2005); we have not been able to identify any MST evaluation using a study sample that is primarily Hispanic. Los Angeles County, with a population of more than 9.8 million, nearly half of whom are Hispanic (U.S. Census Bureau, 2010), offers a unique opportunity to evaluate the effectiveness of MST on a sample that includes a significant percentage of Hispanic juveniles.

Between 2000 and 2010, the number of Hispanics in the United States increased by 43%, from about 35 million to more than 50 million, making them the fastest growing segment of the U.S. population (Ennis, Rios-Vargas, & Albert, 2011). By 2011, Hispanics were the largest segment of the Los Angeles County youth population, making up 38.1% of all youth under age 18 (U.S. Census Bureau, 2011). Hispanic youth are disproportionately involved in the juvenile justice system compared to White youth, and are more likely than White youth to be petitioned, adjudicated delinquent, detained, and to receive out-of-home placement (Arya, Villarruel, Villanueva, & Augarten, 2009).

However, Hispanics have not fared well in traditional psychological treatment, with a higher drop-out rate than Whites after the first session. Cultural and language differences between therapist and client seem to be significant barriers to successful treatment. Even bilingual clients may fare better with a Spanish-speaking therapist (Dingfelder, 2005).

The combination of these factors—the prevalence of Hispanic youth in Los Angeles County, their overrepresentation in the juvenile justice system, and the barriers to successful treatment—show the importance of evaluating the success of MST with Hispanic youth.

MST in Los Angeles County

In Los Angeles County, the Juvenile Justice and Crime Prevention Act (JJCPA) is the source of

the vast majority of MST participants (K. Streich, personal communication, February 2-5, 2013). In 2000, the California Legislature passed the Schiff-Cardenas Crime Prevention Act (subsequently renamed Juvenile Justice and Crime Prevention Act), which authorized funding for county juvenile justice programs. This effort was designed to provide a stable funding source to counties for juvenile programs that have been proven effective in curbing crime among at-risk and young offenders. All counties in California requested funds from the state to implement evidence-based programs that were reviewed and approved at the state level.

JJCPA currently funds 12 programs in Los Angeles County, one of which is MST. Annually, more than 35,000 youth participate in one or more of the dozen programs (cf. Fain, Turner & Ridgeway, 2012). MST is used within this continuum for chronic probationers in need of intensive services for both youth and family, and typically serves approximately 150 youth per year (K. Streich, personal communication, February 2-5, 2013). Within the Los Angeles County JJCPA, MST is provided using a home-based model of services delivery. The goals of this approach are to overcome barriers to service access, increase family retention in treatment, allow for the provision of intensive services (i.e., therapists have low caseloads), and enhance the maintenance of treatment gains. The usual duration of MST treatment is approximately 60 hours of contact over 4 months, but frequency and duration of sessions are determined by family need. As we noted above, MST services are delivered by MST-certified therapists, supervised by MST-certified supervisors.

Research Design

Ideally, we would have performed an experimental evaluation, with random assignment of eligible youth to either MST or a comparison group. However, within Los Angeles County, MST capacity almost exactly matches the demand for MST services, making random assignment impractical. As a result, JJCPA has adopted a

quasi-experimental design, utilizing as a comparison group youth who qualified for MST participation based on MST eligibility criteria,² but who were not accepted for MST, most often because of a lack of Medicaid coverage.

To improve statistical power, we pooled 8 years of data on MST and comparison youth. Our sample includes 757 juveniles who were accepted into the MST program over an 8-year span between January 1, 2003, and December 30, 2010. The comparison group consists of 380 youth who met MST eligibility criteria between January 1, 2001, and December 31, 2010, but who did not participate in the program.³

JJCPA legislation mandated six specific juvenile justice outcome measures to be reported annually. These include arrests, incarcerations, successful completion of probation, successful completion of restitution, successful completion of community service, and probation violations. These six outcomes were measured for 6 months following entry to the program (for MST participants) or 6 months following qualification for the program (for comparison youth). Data for these outcomes come from automated databases maintained by the Los Angeles County Probation Department.

MST programs generally evaluate youth and their families in five areas upon admission to the program and at the time of discharge from the program. These areas are parenting skills, family relations, network of social supports, success in educational or vocational settings, and involvement with prosocial peers. The Los Angeles County MST program measured these outcomes as well, with the goal of reducing variability within and between teams of MST staff. These measures also allowed us to compare the functioning of the participant and family before and

² In Los Angeles County, MST targets chronic probationers who exhibit violent or seriously anti-social behavior. To meet eligibility criteria, both MST participants and comparison group youth demonstrated these characteristics. This is consistent with the criteria typically used to select participants for MST (c.f. Henggeler, 1997).

³ To maximize compatibility between MST and comparison youth, we excluded youth from the comparison group if they were unreceptive to program services at the intake session, as well as those whose families were not receptive to MST services.

after MST treatment within these five functional areas using specified criteria scored by MST case-workers.⁴ For example, improvement in parenting skill required that the parent evidenced at least two of the following: (a) increased limit setting, (b) established and enforced consequences, and (c) increased monitoring. These measures were available for 7 years, beginning in FY 2004–2005.

Results

MST participants and comparison group youth matched well on demographic and criminal history characteristics. Approximately 77% of both groups were male. The mean age at program start for MST participants was 15.3 while the mean age at date of qualification for the program (for comparison group youth) was 15.4, a difference that is not statistically significant. Almost all (97.1% of MST participants and 95.0% of comparison group youth) had at least one arrest prior to program entry or rejection. The type of instant offense (violent, property, drug, other) was almost identically distributed across both groups.

The two groups did differ significantly, however, in ethnicity. Significantly more MST participants were Hispanic (77.1%, compared to 69.0% of comparison group youth). The comparison group included significantly more Blacks (23.5%) than MST participants (17.0%). Only 5.9% of MST participants and 7.5% of comparison youth were White or another ethnicity. As we explain below, the difference in ethnicity between MST and comparison groups was not a significant factor in MST outcomes. Within ethnicity, there were no significant differences in age, gender, age at first arrest, or type of instant offense (violent, property, drug, other) between MST and comparison youth.

Table 1 shows detailed demographic and criminal history characteristics of MST participants and comparison group members.

⁴ A complete list of the specific criteria used for these ratings is available upon request.

Table 1. Demographic and Criminal History Characteristics of MST and Comparison Youth

	MST (%)	Comparison (%)
Gender		
Male	77.3	77.4
Ethnicity		
White	4.1	5.0
Black	17.0	23.5 ^a
Hispanic	77.1 ^a	69.0
Other	1.8	2.5
Age		
< 14	9.4	8.7
14	14.9	16.0
15	24.4	24.7
16	30.7	26.3
17	19.6	22.8
18	0.9	1.6
Prior Arrest	97.1	95.0
Instant Offense		
Violent	29.6	29.7
Property	20.9	22.5
Drug	5.1	6.1
Other	44.5	41.7

Note. Percentages are based on nonmissing data for each characteristic. Statistical significance was measured by chi-square and Fisher's exact tests.

^a Difference is statistically significant ($p < 0.05$).

Criminal Justice Outcomes

Outcome analyses for criminal justice outcomes examined 757 MST youth and 380 comparison youth. MST youth had significantly lower incarceration rates, 11.2% versus 20.3%, than comparison youth. MST youth also had significantly higher rates of completion of community service, with 8.5% of MST youth successfully completing community service, compared to 2.6% of comparison group youth. The two groups did not differ significantly in percentage arrested, completing probation, or completing restitution, although MST youth showed more favorable outcomes than comparison group youth on all of these measures. Comparison group youth had

significantly lower rates of probation violation, 7.9% compared to 12.2% of MST participants.⁵ Juvenile justice outcomes are shown in Table 2.

Table 2. MST Outcomes

BSCC Mandated Outcome	MST		Comparison	
	Percentage	Sample Size	Percentage	Sample Size
Arrest	24.8	757	30.0	380
Incarceration	11.2 ^a	757	20.3	380
Completion of probation	8.7	724	6.0	353
Completion of restitution	22.4	477	21.2	255
Completion of community service	8.5 ^a	363	2.6	153
Probation violation	12.2	722	7.9 ^a	353

^a Difference is statistically significant ($p < 0.05$).

In addition to the bivariate analyses presented above, we also conducted logistic regression analyses for each of the six outcome measures. These analyses had two purposes: to determine whether the difference in race/ethnicity between the MST and comparison groups had a significant effect on outcomes, and to discover whether MST participants had better outcomes when demographic and criminal justice factors were taken into account. To achieve these dual goals, we conducted three logistic regressions for each outcome variable: (a) with only MST treatment as the independent variables, (b) with race/ethnicity plus MST treatment, and (c) with race/ethnicity, MST treatment, age, gender, and type of instant offense.

The multivariate analyses supported the bivariate relationships between MST participation and three outcomes (incarceration, successful completion of community service, and probation violations). When ethnicity was added, MST

⁵ This difference appears to be due to very low rates of probation violation among non-Hispanic comparison-group youth. Within any given race/ethnicity, however, differences in rates of probation violations between MST and comparison youth were not statistically significant.

participation was also significantly related to a lower rate of arrest, and probation violations were not significantly related to MST participation. Adding additional factors (age, gender, type of instant offense) still resulted in significant relationship between MST participation and arrests, incarcerations, and completion of community service.

However, Blacks and Hispanics showed very different outcome patterns when we conducted separate analyses for each race/ethnicity. These analyses make clear that MST is associated with different outcomes for Blacks than for Hispanics.⁶ As Table 3 shows, Hispanic youth in the MST

Table 3. *Juvenile Justice Outcomes, by Race/Ethnicity*

	Black Youth Only		Hispanic Youth Only	
	MST (%)	Comparison (%)	MST (%)	Comparison (%)
Arrest	34.1	20.2 ^a	23.7 ^a	37.2
Incarceration	15.1	11.9	10.7 ^a	25.5
Completion of probation	17.5	11.2	7.0 ^a	3.3
Completion of restitution	24.6	18.4	21.9	18.6
Completion of community service	19.0	5.0	6.2	2.0
Probation violation	7.6	2.5	12.8	10.4

Note. Sample sizes for Blacks ranged from 98 for community service to 210 for arrests and incarcerations. Sample sizes for Hispanics ranged from 372 for community service to 817 for arrests and incarcerations. Whites and “other race” are excluded from this table because their numbers were very small in comparison to Blacks and Hispanics, and they showed no significant differences between MST and comparison youth in any of the measured outcomes. Among Hispanics, there were no significant differences between MST and comparison youth in demographic factors. Hispanic MST participants were more likely to have had a prior arrest than Hispanic comparison youth. Other criminal history factors were not significantly different for the two Hispanic groups. Among Blacks, there were no significant differences between the two groups in demographic or criminal history factors.

^aDifference is statistically significant ($p < 0.05$).

⁶ Additional logistic regressions for Blacks and Hispanics that included gender, age, and instant offense produced similar findings to those that involved MST participation as the lone predictor variable. These additional analyses could not be done for Whites or other ethnicities because there were too few in either the MST or comparison group.

program had significantly lower rates of arrest and incarceration, as well as significantly higher rates of completion of probation, compared to Hispanic comparison youth. There were no significant differences between the two groups in the other three measured outcomes. Blacks in the MST program, by contrast, had significantly higher arrest rates than Black comparison youth. Differences between Black MST participants and Black comparison group youth for other juvenile justice outcomes were not statistically significant.

Measures of Functioning

Improvements in criminal justice outcomes among MST participants were accompanied by corresponding improvements in the areas targeted by MST intervention, namely the youth’s functioning in the areas of family, peers, school, and community. Table 4 shows the evaluations of MST practitioners in five measured areas of functioning. Performance in each area was rated as either “satisfactory” or “unsatisfactory.” As noted earlier, each youth in the MST program was evaluated at program entry and again at program exit, or at 6 months following program entry, whichever came first; specific criteria must be met in each area of functioning in

Table 4. *Percentage of MST Participants with Satisfactory Functioning (N = 508)*

Functional Area	At entry (%)	At exit (%)
Parenting skills	4.3	72.8 ^a
Family relations	21.3	78.0 ^a
Network of social supports	10.2	74.6 ^a
Educational/vocational success	8.7	66.5 ^a
Involvement with prosocial peers	9.2	70.3 ^a

Note. Statistical significance was measured using McNemar’s test. Levels of functioning were not measured in FY 2003–2004. If participants were in the program more than 6 months, functioning was measured at 6 months rather than at program exit. Differences between baseline and follow-up for all measures were statistically significant within each race/ethnicity.

^a Difference is statistically significant ($p < 0.05$).

order to receive a “satisfactory” rating. As Table 4 indicates, MST participants showed significant improvement in all five areas. For example, at program entry, only 21.2% of MST youth had satisfactory family relations, compared to 77.8% at program exit. Improvement in the other areas was even greater, with parenting skills going from a 4.3% satisfactory rating at program entry to a 72.7% rating at program exit. Statistically significant differences between baseline and follow-up levels of functioning were found within each race/ethnicity, as well as in the overall sample.

Discussion

This study compared criminal justice outcomes for 757 juvenile probationers in Los Angeles County who participated in MST with 380 juvenile probationers who qualified for MST participation, but did not receive MST services for reasons that do not appear to be related to risk. We also compared measures of family and personal functioning at the time of program entry and exit. Overall, our results suggest that MST reduces recidivism and increases positive outcomes for youth in the Los Angeles County’s probation system. MST participation was associated with less incarceration and increased completion of community service.⁷ We believe comparison group youth had significantly fewer violations than MST youth because MST is an intensive intervention; therefore, MST participants would have had more contact with their probation officers. This could mean that violations by MST participants were more likely to be observed than those of youth in the comparison group.

MST youth were also rated by therapists to have improved functioning within family, peer, school, and community settings. These findings align with much of the MST research, both experimental and quasi-experimental, that has overall found favorable effects for MST across a

host of different outcomes (e.g., Henggeler et al., 1986; Henggeler et al., 1992; Borduin et al., 1995; Schaeffer & Borduin, 2005).

Despite generally favorable findings within the MST literature, there are still a limited number of studies that have been conducted independent of MST developers. As a result, questions remain about the robustness of MST and under what conditions MST is most effective (Littell et al., 2005). As we discuss below, our research contributes information to some of these outstanding questions and adds to our current knowledge about conditions under which MST is effective.

Research has found that the effect size of juvenile interventions in which researchers are involved is larger than the effect size for community-based interventions (Lipsey & Wilson, 1998). The majority of MST studies has been conducted with relatively small sample sizes, many with fewer than 100 participants (see Henggeler, 2011, for a review of prior research and corresponding sample sizes). With a sample size of 1,137 (757 MST youth and 380 comparison youth), the present research represents one of the largest examinations of MST to date, providing greater statistical power in our analyses. This makes our findings more robust than studies with smaller sample sizes.

Within the MST literature, questions have been raised about the effectiveness of MST when programs are conducted not in a university setting, but within a community setting in which MST therapists are not as closely supervised. Some effectiveness studies within the community setting have failed to find an effect or failed to find as strong an effect as efficacy studies (Littell, et al., 2005; Henggeler et al., 1997; Henggeler, 2011). In the present study, MST was conducted within a community setting by MST-trained therapists supervised by MST-certified supervisors. Within the community-based setting examined in our research, we did observe significant differences in juvenile justice outcomes between MST participants and participants in the comparison

⁷ MST youth also improved school attendance and had fewer suspensions and expulsions in the term after entering the program, compared to the previous term. However, we had educational data on fewer than half of all MST participants, so it is possible this subset was not representative of all MST participants in Los Angeles County.

group. For juvenile justice outcomes, differences between MST and comparison youth varied from -4.3% for probation violations to 9.1% for incarcerations. We note that both MST participants and comparison group youth were among the higher risk groups within JJCPA in Los Angeles County, providing justification for targeting these youth for participation in an intensive, high-cost program such as MST. In addition to the juvenile justice outcomes, measures of functioning by MST participants⁸ showed large improvements between program entry and exit, varying from 56.6% improvement for family relations to 68.4% improvement in parenting skills.

As we have noted above, few studies have included Hispanic youth as part of their samples. The vast majority of research participants have been Black or White; if a study did include Hispanic youth, the percentages were extremely small (cf. Borduin et al., 1995; Henggeler et al., 1992).

Because Hispanics comprise the fastest-growing segment of the U.S. population and make up a significant proportion of the population under age 18, especially in certain urban areas such as Los Angeles County, it is important to assess whether MST is an effective mode of intervention for Hispanic youth. The present research is the only existing MST study, to our knowledge, that has included a significant proportion of Hispanic youth as part of the sample. Our findings suggest that MST is an effective form of treatment for Hispanic youth. We also found that Blacks and Hispanics differed markedly as to which outcome measures showed favorable results. While Hispanic MST participants performed significantly better than their comparison youth counterparts in rates of arrest, incarceration, and successful completion of probation, Black MST participants did not perform significantly better than their comparison group counterparts on any of the six juvenile justice outcomes and, in

fact, had significantly higher rates of arrest than Black comparison youth. Given the amount of contact that MST youth have with the juvenile justice system, it seems possible that the reason for this finding is disproportional minority contact. As Harris and John (2008) have shown, in Los Angeles County a much higher proportion of Black juveniles are detained than White or Hispanic youth.

In analyses not reported above, we also examined the costs of providing MST to juveniles under probation within Los Angeles County.⁹ We estimated the initial cost of the 6-month MST program itself to be relatively expensive, more than \$10,000 per participant, and that the cost of supervision and juvenile hall costs were higher in the 6 months following program entry than in the prior 6 months. Other studies of MST costs in other geographic locations have also found initial program costs to be quite large (Klietz & Borduin, 2007; Aos et al., 2004). Within our estimated costs, however, we found that arrest, camp, and court costs in the 6 months following program entry were considerably lower. If juvenile justice costs continued to be lower for participants following treatment, then the initial program costs could eventually be offset or even result in a long-term net benefit. Indeed, benefit-cost analyses of MST have found that although initial program costs of MST are high, decreased encounters with the criminal justice system over the long term has resulted in a net benefit. Klietz and Borduin (2007) estimated that every dollar spent on MST would provide \$6.25 to \$27.14 in future savings, and the Washington State Institute for Public Policy found a benefit-cost ratio of \$2.64 for every dollar spent on MST (Aos et al., 2004). While our treatment of costs was rudimentary, it is consistent with other findings on costs, even with our unique study sample that consists primarily of Hispanic youth.

⁸ We did not have data on levels of functioning for comparison group youth.

⁹ The cost analysis is not included, but the methodology used and the findings on an annual basis, beginning with fiscal year 2003-2004, can be found at <http://www.rand.org>.

Limitations

Because it was not possible to randomly assign youth to MST or a comparison group, this research evaluated outcomes through a quasi-experimental design in which MST participants were compared to youth who met program inclusion criteria but did not participate in the program. The treatment and comparison groups were well matched across a number of demographic (i.e., gender, age) and criminal history variables (i.e., prior arrests and type of instant offense). The treatment and comparison groups did differ on race/ethnicity, and our analyses revealed that Hispanic MST participants had significantly more positive juvenile justice outcomes than Hispanic comparison youth. Black MST participants, by contrast, did not perform better than Black comparison group youth on juvenile justice outcomes.¹⁰

One potential issue with using juveniles who qualified for but did not receive MST as a comparison group is the question of whether these juveniles differed from those in the treatment group on important characteristics related to outcomes. According to program records, reasons for nonparticipation in MST were varied. The most common reason for exclusion was related to insurance issues—either the youth did not have Medicaid (called Medi-Cal in California) coverage or had private insurance that would not pay for participation in MST. Other reasons for exclusion included, in order of frequency: (a) receiving counseling elsewhere; (b) issues related to changing locations: moving, running away, changing schools, etc.; (c) being put on the waiting list because no MST therapist was available; (d) issues involving probation officers; (e) youth being detained (arrested, placement, etc.); and (f) language issues. Of these reasons, only being detained was significantly related to criminal justice outcomes (an unsurprising finding, since detention consists of some combination of arrest,

incarceration, and placement); this was the case for only 20 of 263 comparison youth for whom a reason for nonparticipation was available. MST participants and comparison group youth were well matched on many other demographic and criminal justice variables.

We note also that our outcome follow-up period was relatively short—6 months following program completion. While the JJCPA initiative and contract requirements limited our examination to 6 months, a longer follow-up would have allowed us to examine whether improved outcomes for MST participants were sustained over a longer period of time. Although we are not able to address the long-term effects of MST with our sample, other research has observed beneficial outcomes for MST participants for a significant period of time following treatment—in some research, for as long as 9 to 13 years after treatment (Schaeffer & Borduin, 2005; Borduin et al., 2009).

Conclusions and Policy Implications

Although MST has shown great promise as a method of decreasing the likelihood of future delinquency and improving functioning capabilities of juveniles, questions as to whom MST is best suited, and even whether it can work as well within a community setting, remain. As an independent evaluation with one of the largest sample sizes to date, the present research provides some additional support for the use of MST within an urban community setting to address troubled youth. Furthermore, our results indicate for the first time that MST is an effective treatment for Hispanic youth, an ever-increasing proportion of the U.S. population, and one that is disproportionately involved in the juvenile justice system.

In making programmatic decisions in the current fiscal environment, policymakers and practitioners must often weigh the costs of a program against potential benefits in behavioral outcomes. As we have noted, MST targets

¹⁰ Because our sample included so few Whites and other ethnicities, we were not able to accurately assess the effect of MST on these subgroups.

high-risk juveniles: chronic, serious, violent, and anti-social probationers. As one would expect, initial program costs for MST are high. However, even within 6 months of program entry, we saw decreased overall juvenile justice costs, with lower costs for arrests, juvenile camp, and court appearances when compared to the 6 months prior to program entry. If this trend continues over time, the high program costs could eventually be outweighed by the benefits in decreased criminal justice costs for individuals at high risk of continued involvement in the criminal justice system, a consideration for practitioners seeking long-term cost reductions.

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References

- Aos, S., Lieb, R., Mayfield, J., Miller, M., & Pennucci, A. (2004). *Benefits and costs of prevention and early intervention programs for youth*. Olympia, WA: Washington State Institute for Public Policy, Document Number 04-07-3901.
- Arya, N., Villarruel, F., Villanueva, C., & Augarten, I. (2009). *America's invisible children: Latino youth and the failure of justice*. Washington, DC: National Council of La Raza Policy Brief, Race and Ethnicity Series 3. Retrieved August 5, 2013, from http://www.nclr.org/index.php/publications/americas_invisible_children_latino_youth_and_the_failure_of_justice/
- Asscher, J. J., Deković, M., Manders, W. A., van der Laan, P. H., & Prins, P. J. (2013). A randomized controlled trial of the effectiveness of multisystemic therapy in the Netherlands: Post-treatment changes and moderator effects. *Journal of Experimental Criminology*, 9, 169–187. Retrieved August 23, 2013, from <http://rd.springer.com/content/pdf/10.1007%2Fs11292-012-9165-9.pdf>
- Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology* 63(4), 569–578.
- Borduin, C. M., Schaeffer, C. M., & Heiblum, N. (2009). A randomized clinical trial of multisystemic therapy with juvenile sexual offenders: Effects on youth social ecology and criminal activity. *Journal of Consulting and Clinical Psychology*, 77, 26–37.
- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist* 34(10), 844.
- Butler, S., Baruch, G., Hickey, N., & Fonagy, P. (2011). A randomized controlled trial of multisystemic therapy and a statutory therapeutic intervention for young offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(12), 1220–1235.
- California Department of Justice (n.d.). *Table 5: Total law enforcement dispositions of adult and juvenile arrests by level of offense, Los Angeles County, statistics: Law enforcement dispositions, 2000–2009*. Retrieved August 5, 2013, from http://stats.doj.ca.gov/cjsc_stats/prof09/19/5.htm
- Curtis, N. M., Ronan, K. R., & Borduin, C. M. (2004). Multisystemic treatment: A meta-analysis of outcome studies. *Journal of Family Psychology* 18(3), 411–419.
- Dingfelder, S. F. (2005). Closing the gap for Latino patients. *Monitor on Psychology*, 36(1), 58. Washington, DC: American Psychological Association. Retrieved August 5, 2013, from <http://www.apa.org/monitor/jan05/closingthegap.aspx>
- Ennis, S. R., Ríos-Vargas, M., & Albert, N. G. (2011). *The Hispanic population: 2010*. Washington, DC: U.S. Census Bureau Brief C2010BR-04. Retrieved August 5, 2013 from <http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf>
- Fain, T., Turner, S., & and Ridgeway, G. (2012). *Los Angeles County Juvenile Justice Crime Prevention Act: Fiscal year 2010–2011 report*. Santa Monica, CA: RAND Corporation, TR-1239-LACPD.

- Gervan, S., Granic, I., Solomon, T., Blokland, K., & Ferguson, B. (2012). Paternal involvement in Multisystemic Therapy: Effects on adolescent outcomes and maternal depression. *Journal of Adolescence*, 35(3), 743–751. Retrieved August 23, 2013 from <http://www.sciencedirect.com/science/article/pii/S0140197111001321>
- Harris, M., & John, L. (2008). Los Angeles countywide disproportionate minority contact reduction plan 2008. Los Angeles: W. Haywood Burns Institute. Retrieved August 5, 2013 from <http://ccjcc.lacounty.gov/LinkClick.aspx?fileticket=jsxTAqDt4g0%3d&tabid=602>
- Henggeler, S. W. (1997). *Treating serious anti-social behavior in youth: The MST approach*. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Henggeler, S. W. (2011). Efficacy studies to large-scale transport: The development and validation of multisystemic therapy programs. *Annual Review of Clinical Psychology* 7, 351–381.
- Henggeler, S. W., Rodick, J. D., Borduin, C. M., Hanson, C. S., Watson, S. M., & Urey, J. R. (1986). Multisystemic treatment of juvenile offenders: Effects on adolescent behavior and family interactions. *Developmental Psychology* 22(1), 132–141.
- Henggeler, S. W., Melton, G. B., & Smith, L. A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology* 60(6), 953–961.
- Henggeler S. W., Melton, G. B., Brondino, M. J., Scherer, D. G., & Hanley, J. H. (1997). Multisystemic therapy with violent and chronic juvenile offenders and their families: The role of treatment fidelity in successful dissemination. *Journal of Consulting and Clinical Psychology* 65(5), 821.
- Henggeler, S. W., Mihalic, S. F., Rone, L., Thomas, C., & Timmons-Mitchell, J. (2001). Multisystemic therapy. In D. S. Elliott (Ed.), *Blueprints for violence prevention, book six*. Boulder, CO: Center for the Study and Prevention of Violence.
- Howell, J. C. (1995). *Guide for implementing the comprehensive strategy for severe, violent, and chronic juvenile offenders*. U.S. Department of Justice. Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Klietz, S. J., & Borduin, C. M. (2007). *Cost-benefit analysis of multisystemic therapy with serious and violent juvenile offenders*. Columbia, MO: University of Missouri–Columbia.
- Lipsey, M. W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and Offenders*, 4(2), 124–147. Retrieved August 23, 2013 from <http://www.tandfonline.com/doi/full/10.1080/15564880802612573#tabModule>
- Lipsey, M. W., Howell, J. C., Kelly, M. R., Chapman, G., & Carver, D. (2010). *Improving the effectiveness of juvenile justice programs*. Washington, DC: Center for Juvenile Justice Reform. Retrieved August 22, 2013 from <http://cjjr.georgetown.edu/pdfs/ebp/ebppaper.pdf>
- Lipsey, M. W., & Wilson, D. B. (1998). Effective intervention for serious juvenile offenders: A synthesis of research. In R. Loeber, & D. P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 313–345). Thousand Oaks, CA: Sage Publications.

- Littell, J. H., Popa, M., & Forsythe, B. (2005). *Multisystemic therapy for social, emotional, and behavioral problems in youth aged 10-17*. Oslo, Norway: Nordic Campbell Center.
- MST, Inc. (2010). *Our History*. Retrieved August 5, 2013, from <http://mstservices.com/index.php/mst-services/our-history>
- MST, Inc. (2012). *Multisystemic Therapy (MST) Research at a Glance*. Retrieved August 5, 2013, from <http://mstservices.com/outcomestudies.pdf>
- Mendoza, M., Ciscel, D. H., & Smith B. E. (2001). *Latino immigrants in Memphis, Tennessee: Their local economic impact*. Memphis, TN: Center for Research of Women, The University of Memphis.
- Rowland, M. D., Halliday-Boykins, C. A., Henggeler, S. W., Cunningham, P. B., Lee, T. G., Kruesi, M. J. P., & Shapiro, S. B. (2005). A randomized trial of multisystemic therapy with Hawaii's Felix class youths. *Journal of Emotional and Behavioral Disorders* 13(1), 13–23.
- Sawyer, A. M., & Borduin, C. M. (2011). Effects of multisystemic therapy through midlife: A 21.9-year follow-up to a randomized clinical trial with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology* 79(5), 643.
- Schaeffer, C. M., & Borduin, C. M. (2005). Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology* 73(3), 445–453.
- Tighe, A., Pistrang, N., Casdagli, L., Baruch, G., & Butler, S. (2012). Multisystemic therapy for young offenders: Families' experiences of therapeutic processes and outcomes. *Journal of Family Psychology*, 26(2), 187–197.
- Timmons-Mitchell, J., Bender, M. B., Kishna, M. A., & Mitchell, C. C. (2006). An independent effectiveness trial of multisystemic therapy with juvenile justice youth. *Journal of Clinical Child and Adolescent Psychology* 35(2), 227–36.
- U.S. Census Bureau (2010). *Fact Sheet, Los Angeles County, California, 2010 Census*. Retrieved August 5, 2013, from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1
- U.S. Census Bureau (2011). *Sex by age by nativity and citizenship status, California: Los Angeles County. 2007-2011 American Community Survey 5-Year Estimates*. Washington, DC: U.S. Census Bureau. Retrieved August 5, 2013, from <http://www.census.gov/easystats/>
- U.S. Department of Health and Human Services (1999). *Mental health: A report of the surgeon general*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

Personal and Anticipated Strain Among Youth: A Longitudinal Analysis of Delinquency

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Abstract

General strain theory hypothesizes that the means to achieve culturally defined norms and expectations has been blocked, resulting in diverse types of strain (Agnew, 1992). Using longitudinal data from the Mobile Youth Survey, this study examines the simultaneous occurrence of personal strain and anticipated strain in minority adolescents from the impoverished communities of Mobile, Alabama. Results of the linear growth curve models demonstrate that anticipated strain and personal strain are associated with delinquency, though to a greater degree in males than in females. Furthermore, the effect of anticipated strain on delinquency is stronger than the effect of personal strain.

Introduction

The causes and correlates of juvenile delinquency continue to be an important research topic as analytic techniques have become more

sophisticated and relevant data bases have been more extensively mined. Among the most commonly cited predictors of delinquent behavior are involvement with delinquent peers (Keijsers et al., 2012; Knecht, Snijders, Baerveldt, Steglich, & Raub, 2010), family instability (Church, Tomek, et al., 2012; Church, Wharton, & Taylor, 2009; Farrington, Jolliffe, Loeber, Stouthamer-Loeber, & Kalb, 2001; Loeber & Farrington, 2000), poverty (Church, Jagers, & Taylor, 2012; Jarjoura, Triplett, & Brinker, 2002), and strain (Agnew, 2001).

General strain theory posits that the inability to achieve culturally defined norms and expectations, often because access to the means to achieve such goals has been blocked, results in strain (Agnew, 2001; 1999; 1992). Agnew (1992) described several types of strain, including personal or experienced strain and anticipated strain (1992). Personal strain refers to personal experiences with any of the three major types of strain: loss of positive stimuli, presentation of negative stimuli, and goal blockage (Agnew, 2002).

Anticipated strain refers to the individual's expectation that current strains will continue or that new strains will occur (Agnew, 1992). To alleviate strain, Agnew believed that individuals engage in delinquent acts to achieve goals that they cannot attain, or believe they cannot attain, through conventional means.

Although there is theoretical and empirical support for the relationship between strain and delinquency, and among other factors that affect delinquency—such as delinquent peers, family instability, and poverty—much of the support for the effects of strain on delinquency comes from research that focuses exclusively on personal strain. Personal strain and anticipated strain that are likely to result in deviant behavior have been recognized as distinct and different forces that may result in differential outcomes (Agnew, 1992; Baron, 2009; Froggio, 2007). Both personal strain and anticipated strain can lead to delinquency (Agnew, 2002; Baron, 2009; Froggio, 2007). In the current study, we used longitudinal data from the Mobile Youth Survey (K. Bolland et al., 2013) to explore the effects of personal strain and anticipated strain on delinquent behavior in a sample of adolescent males and females living in extreme poverty. We included several factors that have

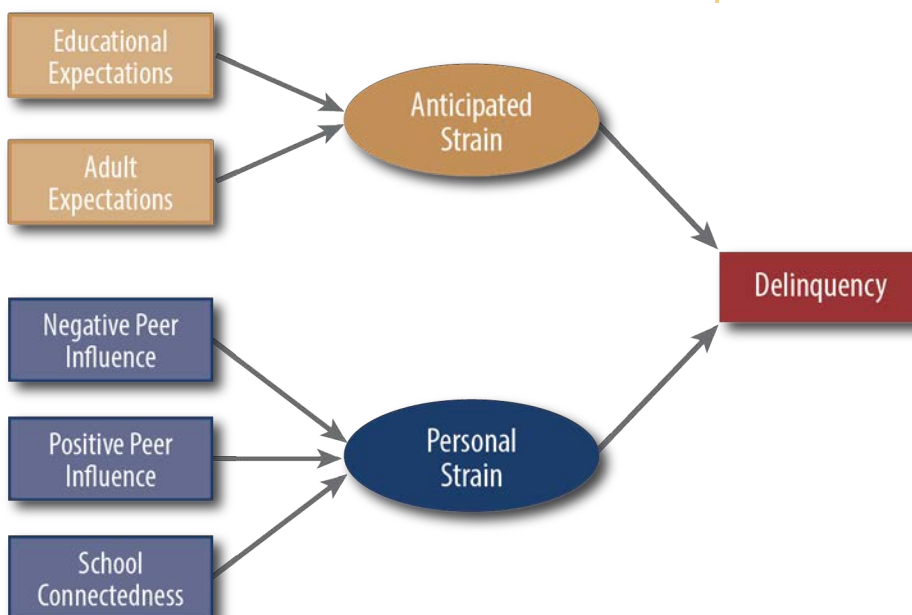
been suggested to influence strain: expectations, peer influence, and school connectedness. Specifically, this study fills a gap in the literature by examining personal and anticipated strain concurrently, based on the model shown in Figure 1.

General Strain Theory

In his seminal work, Merton (1968) defined strain as the difference between culturally and socially defined expectations on the one hand, and the means to achieve those expectations on the other. He explained that deviant behavior is primarily the result of financial strains experienced by individuals who do not have the means to achieve culturally and socially defined expectations. Working from Merton's premise, Agnew (1985) developed a revision of strain theory, which led to the development of his own general strain theory (Agnew, 1992), focusing more on norms and environmental context and less on culture and class. Agnew posited that strain results from (a) an individual's actual or anticipated failure to achieve a positively valued goal, (b) the removal of a positive stimulus from an individual, or (c) the presentation of a negative stimulus to an individual.

Strain theorists believe that an individual's inability to escape from negative situations or stimuli or to achieve socially defined expectations using conventional methods can result in deviant behavior (Agnew, 2002; Higgins, Piquero, & Piquero, 2011; Piquero & Sealock, 2010). Since strain is a common occurrence without noticeable undue consequences, Agnew (2001) advanced four characteristics of strain that are likely to result in criminal behavior. They are (a) strain that is seen as unjust, (b) strain that is high in magnitude, (c) strain that is associated with little social control, and (d) strain that creates an incentive to engage

Figure 1. Theoretical model of delinquency.



in crime as a coping mechanism. As a coping mechanism, crime may be a way to express anger about perceived injustice, for example, or may be seen as a pathway to escaping negative situations. The coping hypothesis has been examined in juveniles specifically. For example, delinquency has been found to be a coping response to strain in juvenile populations (Rebellon, Manasse, Van Gundy, & Cohn, 2012). Further evidence has been put forward to indicate that conditions such as exposure to delinquent peers and delinquent beliefs (Agnew, 2010; Mazerolle & Maahs, 2000) and low socioeconomic status (Botchkovar, Tittle, & Antonaccio, 2012) contribute to strain and the development of delinquent behavior among juveniles.

Personal Strain

General strain theory posits that strain increases the likelihood that negative emotions will create feelings of pressure. Such pressure needs corrective action to reduce the effects of personal strain on behavior (Agnew, 1992). Some juveniles use delinquent behavior to cope with the effects of personal strain. Assaults, parental rejection, poor school performance, and work problems all contribute to personal strain that may result in crime (Agnew, 2001). Goal blockage and the failure to achieve financial independence may also contribute to strain and, later, to delinquency (Brezina, 2012). Failure to succeed financially and to achieve one's goals is frequent in communities with high crime rates, which also contributes to strain (Kaufman, Rebellon, Thaxton, & Agnew, 2008). Factors such as low socioeconomic status may also be linked to delinquent behaviors and outcomes. For example, a focus on the accumulation of wealth may contribute to delinquent activity, especially when it is not possible to achieve this goal using conventional means (Baron & Hartnagel, 2002; McCarthy & Hagan, 2001).

Peer influence, personal strain, and delinquency.

The influence of peers on delinquent behavior has been widely reported in the literature. Increased time spent with delinquent peers

increases the likelihood that an adolescent will also engage in delinquent activity (Keijsers et al., 2012). Delinquent youth often seek out friendships with other delinquent youth (Knecht, et al., 2010), potentially exacerbating the effect of peer influence on delinquent behavior. Controlling for family factors in cross-sectional (Church, et al., 2009) and longitudinal studies (Church et al., 2012), Church and colleagues have found that delinquent peer involvement increases delinquent behavior.

General strain theory can help to explain the influence of peers on delinquency. In their study of peer rejection, strain, and delinquency, Higgins and colleagues (2011) highlighted the importance of involvement with peers as an important component of adolescence. They found that peer rejection, especially among males, is a source of personal strain that can lead to delinquent behavior. Earlier studies led to similar conclusions; for example that those who wish to belong to a peer group but have been rejected experience personal strain that can lead to delinquent behavior (Chapple, 2005; Ladd, Herald-Brown, & Reiser, 2008). Adolescents from poor neighborhoods who experience negative peer pressure are also likely to experience strain, resulting in feelings of hopelessness (Drummond, Bolland, & Harris, 2011).

Race, Gender, and Strain

There is a common belief that findings of racial differences in juvenile offending are spurious (Leiber & Fox, 2005; Leiber & Johnson, 2008). Some have suggested that although there may be race-related differences in delinquent behavior, these differences may be cancelled out by other differences between races (Wright & Younts, 2009). For example, although some Black American children are at greater risk for delinquency because of the characteristics of their poor neighborhoods, other factors of those same neighborhoods, such as increased religiosity, may decrease their likelihood of engaging in crime.

Studies framed using general strain theory and controlling for ethnicity/race have found that

youth from racial minority groups tend to commit more delinquent acts than youth from racial majority groups (Hoskin, 2011; Peck, 2013; Peck, 2011). Research has suggested that Black American adolescents are more likely to experience personal strain, and are more likely to engage in delinquent behavior that can lead to criminal coping, than White American youth (Piquero & Sealock, 2010). This may be because discrimination provides an additional barrier to economic success and contributes to the strain experienced by racial minority adolescents (Perez, Jennings, & Gover, 2008; Simons, Chen, Stewart, & Brody, 2003). In addition, contextual factors may play a role in the relation between strain and delinquency. For example, some Black Americans experience strains associated with coming from disadvantaged neighborhoods (Kaufman et al., 2008) or the concentrated cumulative disadvantages that come from racial isolation, personal discrimination, and poor neighborhood social conditions (Martin et al., 2011; Riina, Martin, Gardner, & Brooks-Gunn, 2013).

General strain theory has demonstrated different effects of strain on males and females with respect to delinquent and criminal behavior (Broidy & Agnew, 1997; Mazerolle, 1998). Some have suggested that the gender gap—with males engaging in more delinquent and criminal behavior than females—may be due to familial factors that add to personal strain. Specifically, parents may give harsher punishments to male than to female children (Gershoff, 2002). Furthermore, although levels of anger are similar among males and females, females tend to exhibit higher levels of guilt, which discourages delinquency (Hay, 2003). Others have suggested that females' response to strain tends to be internal rather than external (Piquero, Fox, Piquero, Capowich, & Mazerolle, 2010).

Anticipated Strain

Agnew (2002) states that anticipated strain, like personal strain, results in negative emotions and corrective action to cope with the anticipation of

goal blockage or the removal of positive stimuli. Early research on anticipated strain focused on educational achievement (Cloward & Ohlin, 1960; Cohen, 1955). Negative secondary school experiences such as anticipation of poor grades, or expecting to be bullied, can lead to anticipated strain (Agnew, 2010; Hay, Meldrum, & Mann, 2010). Anticipated strain resulting from negative school experiences may be due to the role that schools play in socializing adolescents. Compulsory education also teaches cultural norms and values (Lucia, Killias, & Junger-Tas, 2012). However, almost one-half of students from racial minorities will not graduate from high school on time, and many of these adolescents will never finish, instead engaging in criminal activity (Sweeten, Bushway, & Paternoster, 2009).

The failure to achieve goals resulting from conventional socialization typically has a low association with delinquent behavior (Agnew, 2001). This may be due to the prevailing cultural view in the United States that “success or failure is wholly the result of personal qualities; that he who fails has only himself to blame” (Merton, 1968, p. 222). Still, evidence suggests that negative secondary school experiences may cause high levels of strain and delinquency (Sampson & Laub, 1993), especially when youth associate with delinquent peers (Moon & Morash, 2012). This is evident in studies of victimization that have shown adolescent bullying leads to anticipated strain (Hay & Meldrum, 2010) and may contribute to violent delinquency (Baron, 2009; Zavala & Spohn, 2013). We contend that the failure to achieve one's educational expectations is a form of anticipated strain since the consequences of educational failure are not immediately evident. Rather, failure to achieve educational expectations has greater consequences in adulthood when goal blockage due to educational failures will become more apparent.

Although personal and anticipated strains are clearly distinct concepts, prior studies have shown that they are related (Agnew, 2002; Kort-Butler, 2010). In the same fashion as previous studies, we treat each of these theoretical

concepts as unique constructs. To fill a gap in the literature and address some limitations of previous studies (e.g., cross-sectional designs and lack of attention to anticipated strain), the current study focuses on a single research question: to what extent are delinquency trajectories associated with personal strain (negative peer influence, positive peer influence, and school connectedness), and anticipated strain (educational expectations and adult expectations)? Because gender differences have been demonstrated in several studies of adolescent delinquency, gender is included as a covariate.

Method

Sample

The sample of adolescents for the current study participated in the Mobile Youth Survey (MYS; K. Bolland et al., 2013), a 14-year multiple cohort study of adolescents living in low-income areas of Mobile, Alabama. The MYS data were collected annually between the years 1998 and 2011. However, one of the measures used in the current study, school connectedness, was not added to the survey until 2006. Because data for the year 2011 were not yet available for analysis when the current study was conducted, the sample consists of adolescents participating in the MYS from 2006 through 2010.

The original MYS data set was collected from children and adolescents between the ages of 9 and 19. However, by limiting our sample to only 5 years of data, full panels of observations existed across all ages for few participants. Looking at the frequency of observations across all ages, as well as taking into account the ages that produce the greatest number of those with full panels of observations, we determined that the age range of 13 to 16 would be utilized for the current analysis. To aid in the estimation of the longitudinal model, we further limited the sample to adolescents with only two or more data points (i.e. ages) available for analysis. A total of 1,360 adolescents were included in the analysis.

With respect to gender, the sample was fairly evenly split, with 47% ($n = 643$) males and 53% ($n = 717$) females. The sample comprises primarily Black Americans (96%, $n = 1,312$), with a small percentage of Latino/a Americans (4%, $n = 48$). All adolescents were from low-income households. In 2000, the median household income of the targeted neighborhoods was below \$19,000 per year, with some neighborhood medians below \$10,000 per year.

MYS Procedures

The MYS utilized a multiple-cohort design, in which new cohorts were added each calendar year. A brief description of the methodology follows (see K. Bolland et al., 2013 for full details regarding the sampling procedure, instrumentation, and missing data). Rather than selecting individuals for the sample, we selected low-income neighborhoods. This sampling method yielded a sample that may not be representative of all of Mobile, but is representative of the low-income neighborhoods in the area. The use of school system records allowed for the verification of this representative sample. Demographic characteristics of adolescents residing in selected neighborhoods participating in the MYS sample did not differ from adolescents residing in neighborhoods that did not participate in the MYS sample (A. Bolland, 2012).

We attempted to contact as many children and adolescents as possible between the ages of 10 and 18 (those within 3 months of their 10th and 18th birthdays were allowed to participate in the study), and their caregivers, from within the selected neighborhoods by passing out flyers and other handouts to residents and local businesses and by making door-to-door contact. When we obtained parental consent and adolescent assent, we scheduled group administrations of the survey. Questions were read aloud to groups of between 20 and 30 adolescents, who marked their answers in the experimenter-provided answer booklet. Only a small number of adolescents had difficulty with the group

administration. These adolescents were given one-on-one presentations of the survey questions. Adolescents were given \$15 for each year that they participated in the survey (K. Bolland et al., 2013). The survey took approximately 1 hour to administer.

Measures

Delinquency

We measured adolescent delinquency using 18 MYS items. Six delinquent behaviors were addressed: carrying a gun, carrying a knife, pulling a gun or knife on someone, cutting or stabbing someone, being arrested, and gang membership. Carrying a gun and carrying a knife were both assessed using four questions. The first question asked if they had ever engaged in the behavior (e.g. "Have you ever carried a gun?"), with a dichotomous "No" and "Yes" response option. Three follow-up questions asked about carrying the gun/knife in the previous 90 days, 30 days, and 7 days (e.g. "In the past 3 months [90 days], did you carry a gun?"). The three follow-up questions had three possible responses of "No," "Yes, just once," and "Yes, more than once." Pulling a knife or gun on someone was assessed using three questions. The first question addressed ever pulling a knife or gun, with a dichotomous "No" and "Yes" response option. Two follow-up questions addressed the behavior over the past 90 and 30 days, with three possible responses of "No," "Yes, just once," and "Yes, more than once."

The frequency of cutting or stabbing another person was assessed using two questions: a dichotomous question about ever cutting or stabbing another person and a question about the previous year, with the trichotomous response options of "No," "Yes, just once," and "Yes, more than once."

The frequency of being arrested was assessed using two items, both with dichotomous "No" and "Yes" items. The first asked if they had ever been arrested, and the second asked if they had been arrested in the past year.

The amount of gang activity was assessed using three dichotomous "No" and "Yes" items. The first asked if they had ever been involved in a gang; the second asked if they were currently involved in a gang; and the third asked if they "hung out" with gang members.

A single summative scale was derived from these 18 items. A principal component analysis determined that a single summative scale accounted for 47% of the variance, with an eigenvalue of 2.79. The final summative scale ranged from 0–28 points and was created by summing the 8 dichotomous (0–1 points) and the 10 trichotomous (0–2 points) items. Higher values indicate more frequent and recent engagement in the delinquent criminal behaviors. Reliability was adequate, with a Cronbach's alpha of $\alpha = .76$ in this sample.

Personal Strain

Positive peer influence. Peer influence that affects adolescents in a positive way was measured by six items on the MYS. These six items measured the number of friends that reinforced the following positive behaviors: doing well in school, not having sex, not drinking alcohol, not doing drugs, not carrying a weapon, and not fighting. A sample item is: "How many of your friends think it's cool if you don't use drugs?" Each of the items had three response options: "Almost none of them," "Some of them," and "Most of them." A principal component analysis found that a single summative factor accounted for 70% of the variance in the items, with a resulting eigenvalue of 4.19. The final scale ranged from 0–12, with higher values indicating a greater positive peer influence. The internal consistency for these items was $\alpha = .91$.

Negative peer influence. Six MYS items were used to measure the amount of peer influence that affects behavior in a negative way. Items were created to measure the number of friends that negatively view the following behaviors: doing well in school, not having sex, not drinking alcohol, not doing drugs, not carrying a weapon, and not fighting. A sample item is: "How many

of your friends think you are a punk if you don't use drugs?" Three responses were presented: "Almost none of them," "Some of them," and "Most of them." A single summative scale was intended and, using a principal component analysis, it was found that a single scale accounted for 54% of the variance in the six items. The final scale ranged from 0–12, with higher values indicating a higher negative peer influence on their behaviors. The internal consistency of the scale for the sample was found to be $\alpha = .80$.

School connectedness. The eight items created to measure school connectedness were adapted from Goodenow's (1993) Psychological Sense of School Membership scale. While Goodenow's scale consists of five items, each with 5-point Likert-type responses, the MYS included eight adapted questions, each with dichotomous responses. The rationale for altering the scale was the demand placed on the adolescents in completing the lengthy MYS survey. With over 400 items, responses were limited to two or three responses for all questions. The scale was created to determine the extent to which students felt they belonged to their school and the degree to which the teachers at the school interacted positively with the students. Sample items are: "There's at least one teacher in my school I can talk to if I have a problem" and "I feel as if I don't belong at my school." Three items were reverse scored due to their negative wording. Before creating our summative scale, we conducted a principal component analysis; 30% of the variance in the items was accounted for by a single summative scale, with an eigenvalue of 2.34. The negatively worded items did have lower factor scores than the positively worded items, contributing to the low proportion of variance. However, these negatively worded items did not differ substantively from the positively worded items. For that reason, a single summative scale was created, resulting in a range between 0 and 8, with higher scores indicating more school connectedness. The internal consistency of the scale was $\alpha = .62$.

Anticipated Strain

Educational expectations. Educational expectations were measured by four items on the MYS. These items measured educational expectations for both high school and college. The two items relating to high school were: "Do you want to finish high school?" and "Do you think you will finish high school?" The two college items were: "Do you want to go to college?" and "Do you think you will go to college?" All four items were measured using a 3-point scale, "No," "Maybe," and "Yes." A principal component analysis was conducted to determine whether a single summative scale could be used for these four items. A single scale accounted for 51% of the variance in the items, with an eigenvalue of 2.04. This single scale was created by summing the four items, with the final scale ranging from 0–8 points, with high values indicating higher educational expectations. Cronbach's alpha was found to be $\alpha = .67$ for the scale in the sample.

Adult expectations. The adolescents' expectations regarding their futures as adults were measured by four items on the MYS. The items were: "When I am an adult, I expect to have a good job that I like and that will pay enough for me to live on," "When I am an adult, I expect to have good friends I can talk to and do things with," "When I am an adult, I expect to have a long and happy marriage," and "When I am an adult, I expect to spend time in jail or prison." Each of the items had a dichotomous response, "Agree" or "Disagree." After reverse coding the last question, a principal component analysis was conducted to determine whether a single summative scale could be utilized. A single factor accounted for 43% of the variance in the items, with an eigenvalue of 1.74. By summing the items, the final scale ranged from 0–4, with higher values indicating more positive expectations for the future. The internal consistency of the scale was found to be $\alpha = .53$.

Age and Gender

Age was measured through the adolescents' self-report of their age in years on the day of the

survey administration. Ages ranged from 13 to 16 years old, with the variable centered at 13 to aid in interpretation of parameter estimates. Gender was dichotomous, with males = 0.

Data Analysis

To determine the possibility of using gender as a covariate, mean differences of the independent variables for the two genders were compared using a MANOVA, with follow-up ANOVAs for the individual variables. To answer our main research question, two linear growth models were estimated. The dependent variable in both models was delinquency. The first model was the unconditional growth model. This model measures the change across time of delinquency of the adolescent without conditioning on any other independent variables. The unconditional growth model used the following equations, using Singer and Willett's (2003) notation:

$$\text{Level 1: } Y_{ij} = \pi_{0i} * \text{age} + \varepsilon_{ij}$$

$$\text{Level 2: } \pi_{0i} = \gamma_{00} + \zeta_{0i}$$

$$\pi_{1i} = \gamma_{10} + \zeta_{1i}$$

The second growth model built upon the unconditional growth model by adding both time-varying and time-invariant covariates to the Level 1 and Level 2 portions of the model, respectively. To the Level 1 model, we added the two anticipated strain variables of educational expectations and adult expectations, along with the three personal strain variables of negative peer influence, positive peer influence, and school connectedness. These variables were added as both intercepts (i.e., main effects) and slopes (i.e., interactions with age). Gender was added to all the Level 2 equations. Random effects were added to all Level 2 equations using an

unstructured covariance matrix. All analyses were conducted using Full Information Maximum Likelihood (FIML) estimation, as implemented in SAS Proc Mixed (ver. 9.3; SAS Institute Inc., Cary, NC). When missing data were ignorable (i.e., missing some at random or missing completely at random), FIML provides unbiased and efficient parameter estimates (see Allison, 2012, for a discussion of the relative advantages of FIML versus multiple imputation). A. Bolland (2012) provides evidence that missing data in the MYS are ignorable.

Results

Preliminary Data Analysis

In the MANOVA, significant mean differences between males and females were detected in all of the independent variables, *Wilks' Lambda* = .91, $F(5, 3031) = 60.16, p < .001$. Means are displayed in Table 1. Overall, females had significantly higher educational expectations, $F(1, 3035) = 55.71, p < .001$, significantly higher adult expectations, $F(1, 3035) = 59.42, p < .001$, significantly higher positive peer influence, $F(1, 3035) = 71.73, p < .001$, and significantly higher school connectedness, $F(1, 3035) = 62.13, p < .001$ than males. Females reported significantly lower levels of negative peer influence, $F(1, 3035) = 151.71, p < .001$ than males. In general, females experienced less personal strain (i.e., lower negative peer influence, higher positive peer influence, and higher school connectedness) than males. Females also had less anticipated strain (i.e., higher educational expectations and higher adult expectations) than males.

Table 1. Mean Anticipated Strain and Personal Strain by Gender

	Educational Expectations M (SD)	Adult Expectations M (SD)	Negative Peer Influence M (SD)	Positive Peer Influence M (SD)	School Acceptance M (SD)
Males	7.19 (1.27)	3.36 (0.92)	2.40 (2.76)	4.82 (4.05)	6.18 (1.72)
Females	7.50 (1.01)	3.60 (0.78)	1.29 (2.21)	6.16 (4.59)	6.65 (1.58)
Overall	7.36 (1.14)	3.49 (0.86)	1.79 (2.53)	5.54 (4.40)	6.44 (1.66)

Unconditional Growth Model

The unconditional growth model was estimated to determine the change in delinquency over time, independent of any other variables. Parameter estimates are shown in Table 2. Delinquency was found to significantly increase between the ages of 13 and 16, $\gamma = 0.61$, $t(1154) = 6.41$, $p < .001$.

Personal Strain, Anticipated Strain, and Gender

The three personal strain variables of negative peer influence, positive peer influence, and school connectedness—along with the two anticipated strain variables of educational expectations and adult expectations—were all added to the model as time-varying covariates. In addition, gender was added to the model as a time-invariant covariate. The full model was estimated, with nonsignificant parameter estimates removed from the final model. Parameter estimates for the final model, with all significant parameters retained, are found in Table 2.

The amount of negative peer influence perceived by the adolescent was positively related to delinquency, $\gamma = 0.14$, $t(105) = 3.08$, $p = .003$. That is, higher amounts of peer influence resulted in higher levels of delinquency at age 13. This

relationship was constant across all ages. Both the amount of positive peer influence, $\gamma = -0.06$, $t(47) = -2.44$, $p = .02$, and school connectedness, $\gamma = -0.19$, $t(5) = -2.95$, $p = .03$, were negatively related to delinquency at age 13. Higher levels of positive peer influence resulted in lower levels of delinquency at age 13. Both of these variables had constant relationships across all ages. Overall, the greater the personal strain (i.e., the higher the negative peer influence, the lower the positive peer influence, and the lower the feelings of school connectedness) experienced by the adolescent, the higher the levels of delinquency.

Delinquency measures at age 13 also differed between males and females, $\gamma = -1.53$, $t(50) = -6.17$, $p < .001$. Females had significantly lower levels of delinquency than males; however, we did find this relationship remained constant across all ages of the model.

The number of educational expectations were negatively related to the mean delinquency score at age 13, $\gamma = -0.81$, $t(186) = -5.08$, $p < .001$, as those with higher expectations had lower delinquency levels. Trajectories of delinquency between ages 13 and 16 differed based on the number of educational expectations the adolescents had for their future. Adolescents without

any reported educational expectations for the future showed a slight, yet nonsignificant, decrease in delinquency over time, $\gamma = -0.81$, $t(1150) = -1.38$, $p = .17$. However, over time, those with high educational expectations had an increase in delinquency, $\gamma = 0.18$, $t(50) = 2.28$, $p = .03$. Although this group exhibited increases in delinquency, their delinquency levels were still lower overall.

Table 2. *Linear Growth Model of Delinquency of the Adolescent*

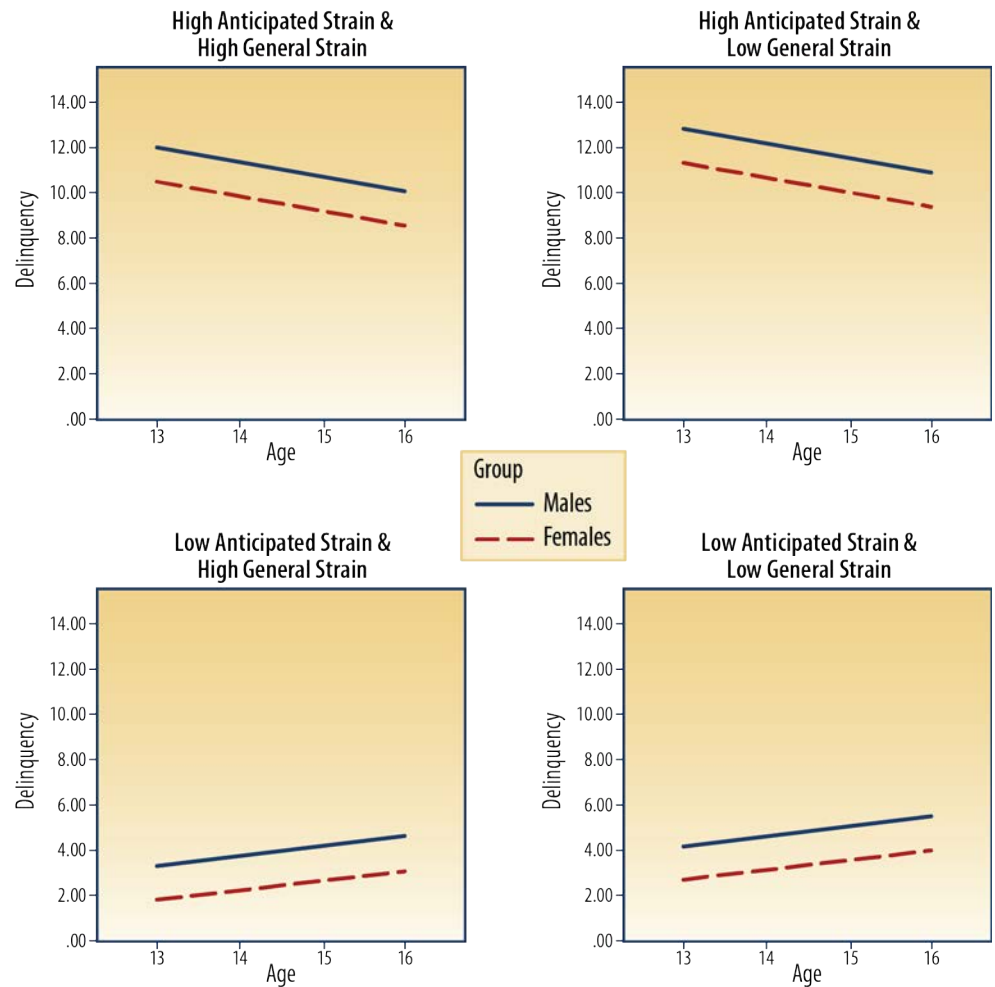
Parameter	Unconditional Growth Model		Full Model	
	Estimate	SE	Estimate	SE
Intercept	3.72**	0.19	14.09**	1.27
Educational Expectations			-0.82**	0.16
Adult Expectations			-0.61**	0.12
Negative Peer Influence			0.14*	0.04
Positive Peer Influence			-0.06*	0.06
School Connectedness			-0.19*	0.06
Gender			-1.53**	0.25
Age	0.61**	0.09	-0.81	0.58
Age*Educational Expectations			0.18*	0.08
BIC	18995.8		18896.5	

Note. * $p < .05$. ** $p < .001$.

The number of adult expectations also were negatively related to delinquency, $\gamma = -0.61$, $t(127) = -5.03$, $p < .001$. The more adult expectations the adolescent had of himself or herself, the lower the levels of delinquency at age 13. This relationship was constant across all ages. With more anticipated strain (i.e., lower levels of both educational and adult expectations), adolescents exhibited higher levels of delinquency.

Trajectories of delinquency for the two genders based on levels of both anticipated and personal strain are plotted in Figure 2. High levels of anticipated strain corresponded to low educational expectations and low adult expectations, whereas low levels of anticipated strain corresponded to high educational expectations and high adult expectations. High levels of personal strain corresponded to low positive peer influence, high negative peer influence, and low school connectedness, while low levels of personal strain corresponded to high positive peer influence, low negative peer influence, and high school connectedness. Separate lines for the two genders are displayed in each of the graphs. Anticipated strain appears to have had a greater impact on delinquency of male and female adolescents than personal strain. Those with higher levels of anticipated strain, or lower future expectations, exhibited greater delinquency rates than those adolescents with low levels of anticipated strain. Personal strain did affect delinquency rates, but to a much smaller degree than anticipated strain.

Figure 2. Trajectories of delinquency over time based on personal and anticipated strain.



Discussion

The current study was conducted to fill a gap in the literature and address some limitations of previous studies by examining personal strain and anticipated strain and their effect on delinquency in a longitudinal sample of adolescents living in low-income households and communities. Two linear growth models were estimated, with delinquency being the dependent variable in both models. The first model was the unconditional growth model. This model measured the change in the adolescent's delinquency over time without conditioning on any other independent variables. The second growth model built upon the unconditional growth model by adding both time-varying and time-invariant covariates to the Level

1 and Level 2 portions of the model, respectively. To the Level 1 model, the two anticipated strain variables of educational expectations and adult expectations, along with the three personal strain variables of negative peer influence, positive peer influence, and school connectedness were added.

Preliminary analysis showed that delinquency increased over time independent of any variables and increased significantly between the ages of 13 and 16. However, when examining anticipated and personal strain, levels of delinquency varied greatly between females and males. The influence of personal strain was studied by examining peer influence (negative and positive) and school; the influence of anticipated strain was studied by examining educational expectations and adult expectations in a sample of adolescents residing in highly impoverished neighborhoods. Agnew (1992) stated that strain increases the likelihood that negative emotions will create pressure, and that such pressure needs corrective action to reduce the effect of the strain. In some cases that corrective action (as perceived by the individual experiencing the strain) results in using delinquent behavior as a coping mechanism.

The current study supports previous findings (Church et al., 2012) demonstrating that peer influence has an effect on delinquency. As would be expected, negative peer influence was found to have a positive influence on delinquency. However, the current study went further and examined the level of peer influence over time. The findings showed that regardless of age, higher levels of negative peer influence resulted in higher levels of delinquency. The age that a youth begins to engage in delinquent behavior is an important factor to consider, since research has reported that the earlier youth begin delinquent activity, the more likely they are to continue delinquent activity through adolescence and adulthood (Moffitt, 1993). The current study found that positive peer influence, as well as positive school connectedness, were negatively

related to delinquency. Positive peer and school relationships served as protective factors against engaging in delinquent behavior. It is possible that these positive relationships reduced the levels of strain experienced by youth, or that by engaging in such relationships youth had an alternative way to deal with strain, which would otherwise lead to criminal coping. These findings have not clarified how positive peer and school relationships affect strain; therefore, how these relationships protect against strain and delinquency should be examined further.

Youth in the current study who expected to graduate from high school, go into a trade or enter two-year or four-year post-secondary school, had lower levels of delinquency, as well as higher expectations of themselves as adults, than those who did not have such educational expectations. Interestingly, this trend did not always hold over time. Youth with higher educational expectations were more engaged in delinquent activity over time than those with lower educational expectations. Youth with high expectations residing in these low-income neighborhoods may have had social constraints such as poverty and lack of social support, which they believed would inhibit their ability to achieve their educational expectations. Youth with high education expectations experienced anticipated strain as they began to believe they would not be able to attain their desired goals. As Agnew (2001) points out, such youth may see this as unjust, high in magnitude, or out of their control and then may engage in delinquency as a way of coping. This trend was not seen where adult expectations were concerned. We suspect that this may have been due to the developmental aspects of educational expectations versus adult expectations. Educational expectations deal with more immediate concerns to those aged 13 to 16, while adult expectations, such as marriage, are not of paramount concern.

Females experienced significantly less anticipated strain and personal strain than males. Females reported greater school connectedness,

higher positive peer influence, lower negative peer influence, and higher adult and educational expectations than their male counterparts. The differences in delinquent behavior by gender were certainly expected. However, females' lower levels of personal strain and anticipated strain may be explained by Broidy and Agnew's (1997) work on gender and strain; certain types of strain result in criminal coping and are highly dependent upon gender. We relied heavily on measures of peer and school affiliation and expectations for the future. While these seemed to result in delinquency used as a coping mechanism among males, there is little evidence in the current study to indicate that these types of anticipated and personal strain lead to delinquent behaviors among females.

This study examined personal strain and anticipated strain simultaneously. The results showed that both have an effect on delinquent behavior. The anticipation of educational success without the means to achieve it, along with negative peer influence and not being accepted at one's current school, can lead to meaningful strain. In turn, this strain can lead to delinquent activity, especially among males. Levels of delinquency were much higher when levels of anticipated strain were higher. High levels of anticipated strain had a strong negative effect on delinquency at younger ages and became less influential as juveniles aged. Low levels of anticipated strain were also more likely to have an effect at younger ages. Still, the current study did not clarify the role of anticipated strain versus personal strain on the motivation to engage in delinquent behavior. Why males' behavior was affected to a greater degree than females' is also unclear. Future studies should examine these areas in greater depth.

Limitations and Strengths

Several limitations of the study must be considered. First, the MYS study contains data collected from a large population of at-risk youth. Because the sample was from several demographically homogeneous neighborhoods, the

results may not be generalizable to other populations. Another limitation is the limited number of years from which data were collected. While the full MYS is a 14-year longitudinal study, our data contains data from 5 of those years only due to the addition of our key variables of interest during the MYS administration. Therefore, a full longitudinal analysis across all ages (9-19) was not possible. Another limitation is that observations were missing from the study data set as the panels were not complete for most of the adolescents. However, we limited our analysis to youth who participated in two or more data collection years (50% of the original data). Within our sample, 69% of participants had three or more data points. Finally, the internal consistency of educational expectations (.67), adult expectations (.53), and school connectedness (.62) were found to be lower than is typically accepted in practice. It is likely that the low internal consistency was a function of the use of dichotomous measures. The MYS was developed with the understanding that many participants may have had cognitive limitations that would have made differentiating among multiple response alternatives difficult, especially with a lengthy survey. This, coupled with the large number of questions, led to a decision to limit most responses to two categories (e.g., agree, disagree) rather than to the more typical five to seven response alternatives. The dichotomous nature of the response alternatives resulted in reduced variance in responses, with a likely reduction in the magnitude of associations among variables and lower levels of internal consistency within scales.

The current study also has several strengths worth noting. First, this investigation is one of the first studies to explore these relations using a longitudinal methodology with a large sample and several waves of data with a new focus on anticipated strain. This allowed for the examination of change over time, which improves our understanding of this population. It is important to note that the sample in this study was homogeneous with respect to socioeconomic status

and race/ethnicity: The vast majority of the participants were Black American adolescents living in extreme poverty. Therefore, the differences in influences on delinquency cannot be attributed to ethnicity or socioeconomic status or to interactions of those variables with other variables. Second, the population that the sample was derived from is predominantly Black American adolescents, living below the poverty line, and living in low-income neighborhoods. The homogeneity of the sample gives greater insight into the hardships and strengths of youth living under these conditions, which occur in many major cities, and which could lead to interventions developed specifically for this population.

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References

- Agnew, R. (1985). A revised strain theory of delinquency. *Social Forces*, 64(1), 151–167.
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30(1), 47–88.
- Agnew, R. (1999). A general strain theory of community differences in crime rates. *Journal of Research in Crime and Delinquency*, 36(2), 123–155.
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime & Delinquency*, 38(4), 319–361.
- Agnew, R. (2002). Experienced, vicarious, and anticipated strain: An exploratory study on physical victimization and delinquency. *Justice Quarterly*, 19(4), 603–632.
- Agnew, R. (2010). Controlling crime: Recommendations from general strain theory. In H.D. Barlow & S. H. Decker (Eds.), *Criminology and public policy: Putting theory to work*. Philadelphia, PA: Temple University Press.
- Allison, P. D. (2012). Handling missing data by maximum likelihood. SAS Global Forum, Paper 312–2012.
- Baron, S. W. (2009). Street youths' violent responses to violent personal, vicarious, and anticipated strain. *Journal of Criminal Justice*, 37(5), 442–451.
- Baron, S. W., & Hartnagel, T. F. (2002). Street youth and labor market strain. *Journal of Criminal Justice*, 30(6), 519–533.
- Bolland, A. C. (2012). *Representativeness two ways: An assessment of representativeness and missing data mechanisms in a study of an at-risk population* (Doctoral dissertation, The University of Alabama, Tuscaloosa).
- Bolland, K. A., Bolland, J. M., Tomek, S., Deveraux, R., Mrug, S., & Wimberly, J. (2013). Trajectories of adolescent alcohol use by gender and early initiation status. *Youth & Society*. doi:10.1177/0044118X13475639
- Botchkovar, E. V., Tittle, C. R., & Antonaccio, O. (2012). Strain, coping, and socioeconomic status: Coping histories and present choices. *Journal of Quantitative Criminology*. doi:10.1007/s10940-012-9177-7
- Brezina, T. (2012). Anomie-strain theory. In C. D. Bryant (Ed.), *The Routledge handbook of deviant behavior*. New York, NY: Routledge.
- Broidy, L., & Agnew, R. (1997). Gender and crime: A general strain theory perspective. *Journal of Research in Crime and Delinquency*, 34(3), 275–306.
- Chapple, C. L. (2005). Self-control, peer relations, and delinquency. *Justice Quarterly*, 22, 89–106.
- Church W. T., Jagers, J., & Taylor, J. (2012). Neighborhood, poverty, and delinquency: An examination of differential association and social control theory. *Children and Youth Services Review*, 34(5), 1035–1041.

- Church, W. T., Tomek, S., Bolland, K. A., Hooper, L. M., Jagers, J., & Bolland, J. (2012). A longitudinal examination of predictors of delinquency: An analysis of data from the Mobile Youth Survey. *Children and Youth Services Review, 34*(12), 2400–2408.
- Church, W. T., Wharton, T., & Taylor, J. K. (2009). An examination of differential association and social control theory: Family systems and delinquency. *Youth Violence and Juvenile Justice, 7*(1), 3–15.
- Cloward, R. A., & Ohlin, L. E. (1960). *Delinquency and opportunity*. New York, NY: Free Press.
- Cohen, A. K. (1955). *Delinquent boys*. New York, NY: Free Press.
- Drummond, H., Bolland, J. M., & Harris, W. A. (2011). Becoming violent: Evaluating the mediating effect of hopelessness on the code of the streets thesis. *Deviant Behavior, 32*(3), 191–223.
- Farrington, D. P., Jolliffe, D., Loeber, R., Stouthamer-Loeber, M., & Kalb, L. M. (2001). The concentration of offenders in families, and family criminality in the prediction of boys' delinquency. *Journal of Adolescence, 24*, 579–596.
- Froggio, G. (2007). Strain and juvenile delinquency: A critical review of Agnew's general strain theory. *Journal of Loss and Trauma: International Perspectives on Stress & Coping, 12*(4), 383–418.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin, 128*(4), 539–579.
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and education correlates. *Psychology in the Schools, 30*, 79–90.
- Hay, C. (2003). Family strain, gender, and delinquency. *Sociological Perspectives, 46*(1), 107–135.
- Hay, C., & Meldrum, R. (2010). Bullying victimization and adolescent self-harm: Testing hypotheses from general strain theory. *Journal of Youth and Adolescence, 39*(5), 446–459.
- Hay, C., Meldrum, R., & Mann, K. (2010). Traditional bullying, cyber bullying and deviance: A general strain theory approach. *Journal of Contemporary Criminal Justice, 26*(2), 130–147.
- Higgins, G. E., Piquero, N. L., & Piquero, A. R. (2011). General strain theory, peer rejection, and delinquency/crime. *Youth & Society, 43*(4), 1272–1297.
- Hoskin, A. (2011). Explaining the link between race and violence with general strain theory. *Journal of Ethnicity in Criminal Justice, 9*(1), 56–73.
- Jarjoura, G. R., Triplett, R. A., & Brinker, G. P. (2002). Growing up poor: Examining the link between persistent childhood poverty and delinquency. *Journal of Quantitative Criminology, 18*(2), 159–187.
- Kaufman, J. M., Rebellon, C. J., Thaxton, S., & Agnew, R. (2008). A general strain theory of racial differences in criminal offending. *Australian & New Zealand Journal of Criminology, 41*, 421–437.
- Keijsers, L., Branje, S., Hawk, S. T., Schwartz, S. J., Frijns, T., Koot, H. M., ... & Meeus, W. (2012). Forbidden friends as forbidden fruit: Parental supervision of friendships, contact with deviant peers, and adolescent delinquency. *Child Development, 83*, 651–666.
- Knecht, A., Snijders, T. A. B., Baerveldt, C., Steglich, C. E. G., & Raub, W. (2010). Friendship and delinquency: Selection and influence in early adolescence. *Social Development, 19*, 494–514.

- Kort-Butler, L. A. (2010). Experienced and vicarious victimization: Do social support and self-esteem prevent delinquent responses? *Journal of Criminal Justice*, 38(4), 496–505.
- Ladd, G. W., Herald-Brown, S., & Reiser, M. (2008). Does chronic classroom peer rejection predict the development of children's classroom participation during the grade school years? *Child Development*, 79, 1001–1015.
- Leiber, M. J., & Fox, K. C. (2005). Race and the impact of detention on juvenile justice decision making. *Crime & Delinquency*, 51(4), 470–497.
- Leiber, M. J., & Johnson, J. D. (2008). Being young and black: What are their effects on juvenile justice decision making? *Crime & Delinquency*, 54(4), 560–581.
- Loeber, R., & Farrington, D. P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology*, 12, 737–762.
- Lucia, S., Killias, M., & Junger-Tas, J. (2012). The school and its impact on delinquency. In J. Junger-Tas, I. H. Marshall, D. Enzmann, M. Killias, M. Steketee, & B. Gruszczynska. *The many faces of youth crime*. New York, NY: Springer.
- Martin, M. J., McCarthy, B., Conger, R. D., Gibbons, F. X., Simons, R. L., Cutrona, C. E., & Brody, G. H. (2011). The enduring significance of racism: Discrimination and delinquency among black American youth. *Journal of Research on Adolescence*, 21(3), 662–676.
- Mazerolle, P. (1998). Gender, general strain, and delinquency: An empirical examination. *Justice Quarterly*, 15(1), 65–91.
- Mazerolle, P., & Maahs, J. (2000). General strain and delinquency: An alternative examination of conditioning influences. *Justice Quarterly*, 17(4), 753–778.
- McCarthy, B., & Hagan, J. (2001). When crime pays: Capital, competence, and criminal success. *Social Forces*, 79(3), 1035–1060.
- Merton, R. K. (1968). *Social theory and social structure* (rev. ed.). New York, NY: Free Press.
- Moffitt, T. E., (1993). Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674–701.
- Moon, B., & Morash, M. (2012). General strain theory as a basis for the design of school interventions. *Crime & Delinquency*, doi:10.1177/0011128712466949
- Peck, J. (2011). *General strain theory, race, and delinquency*. (Master's thesis). Retrieved from: <http://scholarcommons.usf.edu/etd/3287/>
- Peck, J. H. (2013). Examining race and ethnicity in the context of general strain theory, depression, and delinquency. *Deviant Behavior*, 34, 706–726.
- Perez, D. M., Jennings, W. G., & Gover, A. R. (2008). Specifying general strain theory: An ethnically relevant approach. *Deviant Approach*, 29(6), 544–578.
- Piquero, N. L., Fox, K., Piquero, A. R., Capowich, G., & Mazerolle, P. (2010). Gender, general strain theory, negative emotions and disordered eating. *Journal of Youth and Adolescence*, 39(4), 380–392.

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- Piquero, N. L., & Sealock, M. D. (2010). Race, crime, and general strain theory. *Youth Violence and Juvenile Justice*, 8(3), 170–186.
- Rebellon, C. J., Manasse, M. E., Van Gundy, K. T., & Cohn, E. S. (2012). Perceived injustice and delinquency: A test of general strain theory. *Journal of Criminal Justice*, 40(3), 230–237.
- Riina, E. M., Martin, A., Gardner, M., & Brooks-Gunn, J. (2013). Context matters: Links between neighborhood discrimination, neighborhood cohesion and African American adolescents' adjustment. *Journal of Youth and Adolescence*, 42(1), 136–146.
- Sampson, R. J., & Laub, J. H. (1993). *Crime in the making*. Cambridge, MA: Harvard University Press.
- Simons, R. L., Chen, Y., Stewart, E. A., & Brody, G. H. (2003). Incidents of discrimination and risk for delinquency: A longitudinal test of strain theory with an African American sample. *Justice Quarterly*, 20(4), 827–854.
- Singer, J. D. & Willett, J. B. (2003). *Applied longitudinal data analysis*. New York, NY: Oxford University Press.
- Sweeten, G., Bushway, S. D., & Paternoster, R. (2009). Does dropping out of school mean dropping into delinquency? *Criminology*, 47(1), 47–91.
- Wright, B. R. E., & Younts, C. W. (2009). Reconsidering the relationship between race and crime: Positive and negative predictors of crime among African American youth. *Journal of Research in Crime and Delinquency*, 46(3), 327–352.
- Zavala, E., & Spohn, R. E. (2013). The role of vicarious and anticipated strain on the overlap of violent perpetration and victimization: A test of general strain theory. *American Journal of Criminal Justice*, 38(1), 119–140.

Evaluation of a Program Designed to Promote Positive Police and Youth Interactions

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Abstract

Persons under the age of 18 comprise a sizable portion of those arrested in the United States each year, amounting to 12.5% of all arrests in 2010 (Puzzanchera & Kang, 2013). Police are critical gatekeepers between youth and the juvenile justice system, yet a great proportion of interactions between police and youth can be categorized as negative. Youth tend to hold more negative attitudes toward police than do adults. Because juvenile arrests increase the likelihood of negative outcomes for youth in later life, understanding the predictors of negative interactions is important. This study evaluated a prevention program designed to create positive interactions between police and youth in a non-law enforcement environment that included fun activities and community service projects. Using a pre-post design, survey data suggested that participation in the program did, in fact, improve police officers' and youths' attitudes toward each other. Participants reported enjoying the program and

appreciating the opportunity to interact in this informal setting. Implications for delinquency prevention are explored.

Introduction

Persons under the age of 18 comprise a sizable portion of those arrested in the United States each year, amounting to 12.5% of all arrests in 2010 (Puzzanchera & Kang, 2013). Recently, attention has been drawn to the notably high rate of negative interactions that occur between police officers and youth. Not only do these negative interactions influence the likelihood of arrest, but they may also decrease the likelihood that youth would seek help from police in the future (Friedman, Lurigio, Greenleaf, & Albertson, 2004).

Furthermore, because police serve as the first point of contact between youth and the justice system, the initial interaction between a police officer and youth can influence

subsequent interactions within the justice system (Liederbach, 2007), making police officers critical gate keepers. This recognition has led to a line of research examining predictive factors of negative interactions between police and youth. The goal is to understand the processes at work during these interactions and, it is hoped, alter negative patterns of interaction.

One approach, from a prevention perspective, is to alter or improve the negative preconceived opinions and attitudes that youth and police hold about each other. Generally, past experiences influence the attitudes and beliefs an individual holds about a group to which he or she does not belong. Cognitions, or the logic one uses to make sense of an experience, affect the way individuals respond to situations (Bugental & Johnston, 2000; Deater-Deckard & Dodge, 1997). According to attribution theory, attributions are the motivations and explanations one applies when interpreting another's behavior (Bugental, Johnston, New, & Silvester, 1998). Attributions, which are partially based upon past experiences, become unconscious and automatic over time. Individuals rely on attributions in their affective and behavioral response in a given situation (Bugental & Johnston, 2000; Bugental et al., 1998).

The link between past experiences and current attitudes plays an important role in understanding police and youth relations (Brick, Taylor, & Esbensen, 2009). When studying police and youth interactions, it is important to consider the attitudes held and attributions made by both the police and youth because both play equal roles in the interaction process and its outcome (Friedman et al., 2004; Jackson, 2002). Although youth and police attitudes and interactions have been the focus of research for many years, little research has focused on prevention programs designed to improve the attitudes of police and youth toward one another. This article presents an evaluation of an initiative that provided funds to seven communities in Connecticut to create pilot programs that provided positive

interactions between police and youth in a non-law enforcement environment.

Youth Attitudes Toward Police

Prior studies indicate that one primary influence on a youth's attitudes toward police officers is the youth's own past experiences with police officers (e.g. Bradford, Jackson, & Stanko, 2009). Moreover, the nature of that contact matters. In general, negative past contacts with police lead to negative attitudes toward police (Hurst, 2007). Not surprisingly, some studies have found that youth who have been arrested or in trouble with the law, a clearly negative outcome, tend to have significantly less favorable attitudes toward police than youth experiencing no contacts, positive contacts, or neutral contacts with them (Brick et al., 2009; Jackson, 2002; Leiber, Nalla, & Farnworth, 1998).

However, interactions that end in arrest are only a small portion of the encounters that occur between police and youth. Adolescents may develop negative attitudes from other negative interactions with police that do not end in legal action. Hurst (2007), for example, found that youth who had a negative, non-arrest experience with police, whether such experience was youth-initiated (e.g., asking an officer for information, asking for help in non-criminal matters) or police-initiated (e.g., being stopped while standing on the street or when driving or riding in a car), reported less positive attitudes toward the police than youth who had positive contacts. Similarly, Friedman et al. (2004) found that youth who felt disrespected when stopped by police reported less trust and respect for police than did other youth. In contrast, Bradford and colleagues (2009) found that youths' positive encounters with police were related to feelings of confidence in police and positive perceptions of police engagement in the community. Bradford and colleagues' findings suggest that positive interactions can influence opinions in a positive direction as well.

Community context also plays a role in shaping attitudes toward the police. Some studies have found that youth who live in neighborhoods with high levels of poverty and crime tend to hold more negative attitudes toward police (Hurst, 2007; Slocum, Taylor, Brick, & Esbensen, 2010). Leiber and colleagues (1998) found that residing in a “bad” neighborhood significantly decreased feelings of respect for the police in particular. Bradford et al. (2009) found that it is more than just living in a bad area. They found that negative opinions about the local area, including perceptions of disorder and a lack of community cohesion, were significantly associated with less favorable ratings of police.

The implications of these previous studies are two-fold. One is that a critical point of intervention with youth is to make the types of experience they have with police more positive. The other is that providing youth with opportunities to connect with their community in positive ways can further enhance their favorable opinions of both the community and the police. Unfavorable preconceived opinions about police are problematic because they can result in youth being less cooperative with, or less supportive toward, police during future interactions (Brunson & Weitzer, 2011; Friedman et al., 2004). Alternatively, having positive past experiences may enhance or promote positive, future police interactions (Bradford et al., 2009).

Police Attitudes Toward Youth

Although police are equally accountable for the interactions with youth, significantly less research has been conducted on the formation of opinions and attitudes of police officers toward youth. As noted earlier, police are the first and sometimes only point of contact youth may have with the juvenile justice system. Following attribution theory, police officers’ preconceived opinions of youth should also impact police–youth interactions (Jackson, 2002). The little research examining police attitudes that is available has

looked at whether police treat all youth equally and whether their treatment of youth is similar to their treatment of adults.

The literature points to one clear factor that can lead to negative attitudes and behaviors by police toward youth, and that is the demeanor of the youth during the police–youth interaction. Liederbach (2007) observed police and youth interactions in law enforcement contexts and found that officers were more lenient when the youth was deferential to the officer; interactions were more likely to end in arrest when the youth was passive-aggressive or hostile. However, this study did not examine the role of preconceived attitudes of police prior to the interaction.

Brown, Novak, and Frank (2009) compared rates of arrest and level of authority used in police interactions with both adults and youth and found that a disrespectful demeanor from a juvenile during an encounter did not increase the likelihood of arrest when compared to adults, but it did increase the level of authority used by the police toward the juvenile during the encounter. Interestingly, Brown et al. (2009) also found that when police–youth encounters occurred in more distressed communities, youth were more likely to be arrested. Community contexts may influence police as they have been shown to influence youth.

Another influence on police attitudes toward youth that has been studied is police knowledge about adolescent development and typical youth behavior. The hypothesis is that police officers who lack a strong understanding of adolescent mental and emotional development are more likely to attribute youth behaviors to negative intentions and motivations than to other factors. LaMotte et al. (2010) found that police who participated in a training program to enhance their knowledge of adolescent development and typical youth behavior held more favorable attitudes toward youth following the training. This is one of the few studies that showed a clear connection between knowledge of adolescent

development and changes in police attitudes toward youth.

In summary, the minimal literature available suggests that police are influenced by personal and contextual characteristics when interacting with youth. Police officers' understanding of youth development and behavior may be improved through greater exposure to youth in non-law enforcement situations.

Implications for Prevention and Intervention

Most research to date has focused on naturally occurring law enforcement encounters between police and youth. As a result we know a good deal about these interactions and how they proceed. However, we know significantly less about effective models of intervening to alter negative preconceived notions. If negative contacts lead to negative attitudes which, in turn, result in negative interactions, then it is important, from a prevention perspective, to break this cycle to create more positive outcomes. A reasonable, testable extension of the existing police and youth literature is that positive police-youth experiences can foster positive attitudes (i.e., alter negative attributions) and lead to positive changes in juveniles' demeanor toward police and police responses toward youth. By providing opportunities for positive interactions between police and youth outside of the usual law enforcement setting, prevention programs may alter participants' attitudes toward each other.

Scaglione and Condon (1980) noted that programs are more likely to be effective if they include personal, positive interactions between police and the public and if they promote change at the individual, rather than at the community, level. In other words, effective programs require one-on-one, personal interactions between police and youth. More recently, Bradford and colleagues' (2009) research showed that certain aspects of the public's opinions of police officers, such as their level of fairness and community engagement, may be amenable to change through in-person contact.

School Resource Officers (SROs) serve as points of contact between youth and police and typically engage in both law enforcement activities and teaching, in addition to mentoring, within the school environment. Findings of the effectiveness of SRO programs have been mixed, with some studies finding moderately positive attitude changes (Finn & McDevitt, 2005) and others reporting little to no impact (e.g., Hopkins, Hewstone, & Hantzi, 1992). It is, therefore, important to consider programs outside of the structured school setting.

Few studies have implemented and evaluated extracurricular programs designed to improve police and youth attitudes using strategies outside of traditional law enforcement and teaching environments. In one study, Rabois and Haaga (2002) created a competitive environment for police and youth to interact on the same basketball teams and found that police officers' attitudes toward the youth improved after participating on these teams. These results suggest that informal contacts between police and youth can offer a valuable opportunity for police to build positive attitudes toward youth. Improvements in youth attitudes were not significant, however, as the youth participants began the program with positive attitudes toward police. Hinds (2009) found positive youth outcomes. Specifically, youth cooperation and support for police was enhanced by informal contact between young people and police during shared community projects. Further research is needed to identify successful interventions designed to create positive opportunities for police and youth interactions. The current study adds to this evidence base by evaluating a program designed to create informal police and youth interactions.

Overall, the goal of this study was to measure changes in attitudes of participants in a positive Police and Youth Interaction Program. The research question of interest was whether participating in a program that provides a non-law enforcement environment for police and youth to positively interact improves the attitudes of

youth and police toward each other. Given the research on the role of community context, and the fact that the convenience sample of programs included a community service project (see more details below), the influence on participants' feelings toward the community were also examined. More specifically, this study asked:

1. Did participation in these positive Police and Youth Interaction Programs improve youths' general *attitudes toward police* as well as their *feelings about their community*? Were there differences in the amount of change over time in these two constructs in terms of gender, age, or past experience with police officers?
2. Did participation in these positive Police and Youth Interaction Programs improve police officers' *general attitudes toward youth* as well as their *perceived impact on youth through their police role*? Are there differences in the amount of change over time in these two areas depending on the number of years as a police officer or past experience with youth?
3. Were police and youth participants satisfied with the program and did they enjoy this type of intervention?

Methods

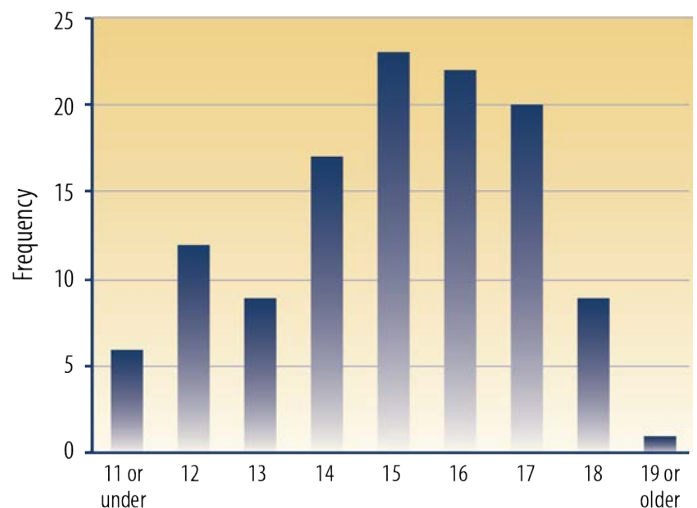
The State of Connecticut Juvenile Justice Advisory Committee funded Police and Youth Interaction Programs in seven communities during the 2011–2012 school year. This funding opportunity was available to the entire state of Connecticut, and those that could apply were local government and community agencies such as the police department or youth services bureaus. Programs were designed to promote positive youth development by engaging police and youth in meaningful and enjoyable community activities. The programs were also designed to increase the numbers of police officers who were comfortable working and interacting with youth.

Sample

Participants included 187 youth and 49 police officers. Of this sample, 119 youth and 35 police officers completed surveys at baseline and program completion. Demographic data were collected on the pre-test surveys but only the sample characteristics of those who completed surveys at both time points are reported here. It is important to note that those who did not complete post-tests did not necessarily drop out of the program. For example, some youth and police officers did not attend the final session where surveys were completed; therefore, their data were not obtained.

For the youth, comparisons between those who completed only the pre-test and those who completed both surveys suggested that the two groups did not differ with regard to gender, age, academic grades, or previous program experience. African American and White youth were more likely than Latino youth to complete both the pre- and post-test surveys ($\chi^2(1) = 12.26, p < .001$; $\chi^2(1) = 11.99, p = .001$). Also, youth who were eligible for free and reduced lunch, an indicator of lower socioeconomic status, were less likely to complete surveys at both time points compared to those who were not eligible ($\chi^2(1) = 15.60, p < .001$). However, only about 23% of the total sample was eligible for free and reduced lunch. The mean age of the youth participants was

Figure 1. Age of youth participants at baseline ($N = 119$).



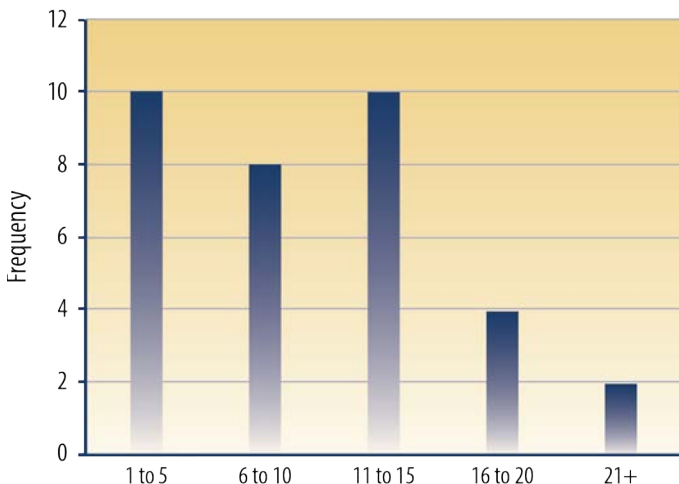
14.98 ($SD = 1.97$), ranging from 11 years old to over 19 years old. Figure 1 provides a complete breakdown of the ages of youth participants; Table 1 provides the demographic information about the youth participants.

Table 1. *Demographic Characteristics of Youth Participants (N = 119)*

Demographic	Groups	N	%
Gender	Male	50	42
	Female	69	58
Ethnicity	Caucasian	89	75
	African American	13	11
	Latino/Hispanic	5	4
	Other	11	9
Receiving free and reduced lunch	Yes	11	9
	No	108	91
Academic grades	Mostly A and Bs	110	93
	Mostly C and Ds	8	7
Previous experience in a police and youth program	Yes	28	24
	No	91	76

For police participants, there were no significant differences on any of the demographic variables between those who completed both pre- and post-test surveys and those who completed only pre-tests. On average, police officers had been in their role for just over 10 years, with a range of 2 to 26 years. Figure 2 shows the distribution of

Figure 2. Number of years as a police officer ($N = 34$).



the number of years participants had served as police officers for this sample. Table 2 provides a summary of the demographic characteristics of the police participants.

Table 2. *Demographic Characteristics of Police Participants (N = 34)*

Demographic	Groups	N	%
Gender	Male	27	79
	Female	7	21
Ethnicity	Caucasian	32	94
	Latino/Hispanic	2	6
Past experiences with youth	One-day Youth Interaction Training	18	53
	Past police and youth programs	8	30
	Any youth program	21	62
	Coach or mentor	20	61
	Any one of these experiences	28	82
	Parent	23	68

*One police officer did not complete the demographic information

Program Components

All funded programs needed to meet a number of requirements, which provided some consistency across programs. Each program had to include youth participants ages 12 to 18, and police officers interacting in non-enforcement roles in activities or events that were enjoyable for both groups, such as a ropes course or bowling. Every program had to include a team-building component, leadership opportunities for youth, and a community service project. In addition, each program had to serve at least some at-risk youth, as defined by the program, and include more than one session. Finally, programs were not allowed to use police-oriented curriculum such as DARE, police academies, or police explorer activities, as these place police in a teaching role.

Besides the required components, programs were allowed to tailor other elements to their specific community. As a result, programs

differed on a number of factors, such as size of the program, number and frequency of meeting times, and the types of events and service projects selected. Some examples of the community service projects chosen were Stuff-a-Bus (a charity event in which donations were made by community members to fill a bus and be given to those in need), cleaning up the town walking and bike trails, and working with senior citizens. Program length ranged from 2 months to 11 months and the number of times the programs met ranged from 5 to 26 times.

Design

A pre-post survey design was utilized in this study. Surveys were created for both participant groups to measure changes in the attitudes and opinions of police and youth toward each other. Surveys were completed before the start of the program, as well as at the end of the program. Program staff administered the surveys. Before the program began, a 1-day orientation was provided during which the evaluation team discussed strategies and tips for administering the surveys with the program staff. At their first session, the staff began by having the police and youth complete their surveys separately. The sites were encouraged to give participants enough room to complete the surveys so they were not influenced by others looking at their answers. Participants were given a study identification number that provided anonymity for participants so they would feel more comfortable answering the survey questions honestly. Program staff then collected the surveys and mailed them to the

evaluation team for analysis. Similar procedures were followed on the last session of the program, and participants used the same identification number so their pre- and post-surveys could be matched. The study did not use a comparison group since one was not readily available.

Measures

In addition to the scales described below (see also Table 3 and Appendix A), pre-test surveys asked questions about demographic information and previous experiences interacting with youth or police, respectively. Youth were asked their age, grade, gender, ethnicity, typical grades in school, and whether they received free and reduced lunch. They were also asked if they had participated in a Police and Youth Program before, and whether their past interactions with police were mostly positive or mostly negative (or whether they had no previous interactions). Police were asked to provide their gender, ethnicity, and the number of years they had been an officer. They were then asked about their past experiences; that is, whether they had been an SRO, parent, or a coach/mentor. Finally, they were asked whether they had completed the police

Table 3. Overview of Study Measures

Construct	Range of Scores	Sample Item	α (T1)	α (T2)
Youth				
Attitudes toward police	1 [Strongly Disagree] – 5 [Strongly Agree]	It is possible for police and youth to get along	.90	.87
Community involvement	1 [Strongly Disagree] – 5 [Strongly Agree]	I have things I can offer to others	.89	.87
Program experience	1 [Never True] – 5 [Almost Always True]	I felt I made a contribution	-	.89
Police				
Attitudes toward youth	1 [Strongly Disagree] – 5 [Strongly Agree]	Teenagers are motivated	.76	.81
Ability to work with youth	1 [Not at all Confident] – 5 [Very Confident]	How confident are you in your ability to start a conversation with youth	.76	.81
Perceived impact of police on youth	1 [Strongly Disagree] – 5 [Strongly Agree]	Positive interactions with youth are an important part of community policing efforts	.80	.89

training offered in Connecticut focusing on adolescent development and ways to better interact with youth.

The post-tests included the pre-test scales and eight additional open-ended questions about participants' experiences in the program. Further descriptions of the attitude scales are provided below.

Our first research question was *does participation in these positive Police and Youth Interaction Programs improve youths' general attitudes toward police as well as their feelings about their community?*

To answer the first research question two scales were used:

- *Attitudes toward police scale.* Youth attitudes toward police were measured with a scale that was modified from scales used by Fine et al. (2003) and Webb and Marshall (1995). The scale consisted of 14 items that asked youth to evaluate each statement about police from 1 (strongly disagree) to 5 (strongly agree). Two items were reverse coded, and an overall score was calculated by averaging across all 14 items. Higher scores indicated more positive attitudes toward police. Alpha reliability for this and all other study instruments are summarized in Table 3.
- *Youth community involvement.* A 7-item scale measured how engaged youth were in the community. The items were selected from the larger Positive Youth Development Inventory (Arnold, Nott, & Meinhold, 2012). Respondents rated each item on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). An overall score was calculated using the average of the items, and higher scores indicated greater community engagement.

Our second research question was: *does participation in these positive Police and Youth Interaction Programs improve police officers'*

general attitudes toward youth as well as their perceived impact on youth through their police role?

This question was answered using the following three scales:

- *Police attitudes toward youth.* Police attitudes toward young people and, in particular, their expectations of youths' behaviors and intentions were measured using a 10-item scale derived from a survey used in a prior police-youth evaluation (Center for Applied Research in Human Development, 2008) and questions used by Rabois and Haaga (2002). Similar to the youth participants, police officers were asked to evaluate the degree to which they agreed with the 10 statements about youth on a scale of 1 (strongly disagree) to 5 (strongly agree). An overall score was calculated for each participant by averaging across all 10 items. A higher score suggested more positive attitudes toward youth.
- *Police self-efficacy in working with youth.* Police officers' opinions about their own ability to interact with youth successfully were measured with a 16-item scale that was developed for this study. Items were rated from 1 (not at all confident) to 5 (very confident). An average score was calculated, with higher scores indicating greater confidence in working with youth.
- *Police perceived impact on youth.* Police officers' perceptions about the impact the police can have on youth were measured using a 5-item scale, selected from questions used in a prior police-youth evaluation (Center for Applied Research in Human Development, 2008). Officers rated each item on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). An overall score was calculated by averaging the five items. Higher scores reflected a greater perceived impact on youth.

The final research question was *whether police and youth participants were satisfied with the program and whether they enjoyed this type of*

intervention program. In order to answer this question, the following questions were used:

- *Police and youth satisfaction questions.* Police and youth participants were asked to complete eight open-ended and Likert questions on the post-test surveys regarding their satisfaction with the program. Participants were asked to report how often they attended the program and how they would rate the program overall. In addition, they were asked what their favorite part of the program was and what could be done to improve the program. Finally, they were asked whether the community service project was a good way for the police and youth to interact; their favorite and least favorite part of the community service project; and how much influence they had in selecting the community service project.

Data Analysis

Changes in attitudes and opinions from pre-test to post-test were analyzed using paired sample *t*-tests. One-way ANOVAs, repeated measures ANOVA, and independent sample *t*-tests were also used to test differences in the amount of change seen across subgroups of the sample, as well as differences in baseline opinions and attitudes. The qualitative data from the open-ended questions on the post-test survey regarding satisfaction with the program were transcribed into a database. Each participant's response to a particular question was turned into a list and the responses were grouped according to similarity of answers. The most common or predominant responses are reported here.

Results

Youth Attitudes Toward Police

Before analyzing changes in attitudes, we examined whether youths' past experiences with police prior to beginning the program influenced their baseline (T1) attitudes toward police. Youth participants were asked to indicate whether

they had previous experiences with police by choosing among three possible responses: (a) no, (b) yes, and they were mostly positive, and (c) yes, and they were mostly negative. A one-way ANOVA was conducted to test differences on youths' scores on the *Attitudes Toward Police Scale* among the three resulting groups, which showed a significant effect of type of past experiences with police on baseline attitudes toward police ($F(3, 181) = 15.18, p < .001$). A Tukey's post-hoc test revealed that those who reported negative past experiences with police ($M = 3.22, SD = .53$) reported significantly more negative attitudes toward police at the beginning of the program than those with positive past experiences ($M = 4.14, SD = .49, p < .001$) or no past experiences ($M = 4.07, SD = .50, p < .001$). There was not a significant difference in attitudes toward police at baseline between those who had reported no past experiences with police and those who reported positive past experiences ($p = 0.81$). Consistent with past studies, negative past experiences with police were found to negatively affect the attitudes youth held toward law enforcement officers in this study.

Overall, youth participants' attitudes toward police significantly improved from Time 1 ($M = 3.97$) to Time 2 ($M = 4.28; t(116) = -6.67, p < .001$). Looking at the individual items of the attitudes scale and using a Bonferroni correction of alpha, scores improved significantly on 11 of the 14 items. Of particular interest, at Time 2 youth reported significantly more positive feelings regarding the possibility of police and youth being able to get along ($t(117) = -4.04, p < .001$), their comfort level when seeing police on the street ($t(116) = -5.56, p < .001$), and police officers' level of respect toward teens similar to themselves ($t(114) = -3.70, p < .001$), compared to Time 1. These items suggest that those who participated in the program experienced interactions that improved their view and expectations of police officers.

Furthermore, the amount of change demonstrated on youths' attitudes scale scores from Time 1 to Time 2 was significantly different

depending on whether or not they had participated in a police and youth program previously. Youth who had no prior experience in a police and youth program ($M = 0.39$) reported a significantly greater amount of change in their attitudes toward police officers than those who had previously participated in a police and youth program ($M = 0.05$; $t(115) = -3.27, p = .001$). Changes in attitudes did not significantly differ across gender or age.

Youth also reported significantly greater community involvement at Time 2 ($M = 3.40$) than they did when they entered the program ($M = 3.30$; $t(117) = -2.47, p = 0.02$). To further examine the relationship between attitudes toward police and community involvement, the scores of these two scales were correlated at Time 1 and again at Time 2. At both time points, youths' reported attitudes toward police officers was significantly correlated with their level of community involvement (T1: $r = .33, p < .001$; T2: $r = .41, p < .001$). The positive relationship between these two factors suggests that as feelings in one area improved, feelings in the other area improved as well.

Police Attitudes Toward Youth

On the police side, the attitudes toward youth approached, but did not reach, significance, with a mean score of 3.43 at Time 1 and a mean score of 3.58 at Time 2 ($t(34) = -1.79, p = 0.08$). The number of years as a police officer did not predict the amount of change seen in officers' attitudes toward youth. Furthermore, no significant differences were found on the overall scores of police officer's sense of self-efficacy in working with youth or officers' perceived impact on youth scales.

However, police officers' average score on the scale measuring self-efficacy in working with youth at Time 1 was 4.48 on a 5-point scale, suggesting that police were very confident in their ability to work with youth before participating in this program. Most participating police officers (82%) reported having past experiences

interacting with youth through coaching, mentoring, or being an SRO. The same was true of police officers' perceived impact on youth. Their mean score at Time 1 was 4.43 out of a possible 5, meaning that police who participated in this program already recognized the potential impact they could have on youth before entering the program.

Program Satisfaction

Ninety-eight percent of youth participants rated their overall program experience as excellent or good. The youth overwhelmingly reported that they had fun in the program. A number of participants commented that it allowed them to see the police in a different light, and it gave them a chance to get to know them and learn that they are good people. According to one participant, the highlight of the experience was "learning that police officers were a lot more like normal people than we believe." Many youth noted that the police were very welcoming, and some youth also liked that they were able to try new things and overcome some of their fears in the program.

Police reported similar sentiments, with all of the police officers rating their overall program experience as excellent or good. They noted that they really enjoyed talking with the youth about life issues while in a non-law enforcement role and commonly reported that the best part of the program was "interacting with the youth" and "seeing the interest of the children in what the police do." Some police officers relayed anecdotes of seeing the youth around their community and enjoyed being able to say hello and have positive interactions with them. Police also noted satisfaction in seeing the youth change and grow. One officer commented that his or her favorite part was "helping kids reach their goals of completing difficult tasks."

The community service projects were rated as a good way for the two groups to interact because the projects allowed them to join together over a common goal and to improve the community. One teen reported that his or her favorite part of

the program was “being with the police officers and my friends while doing something productive for the community.” Another youth reported that he or she enjoyed “seeing people’s reactions about the events we put together.” Finally, a third participant noted that he or she “wished I knew about the program before senior year. It was a chance to just relieve stress and focus on helping the community.”

Overall, the qualitative data provide initial evidence that the Police and Youth Interaction Programs are successful in creating opportunities for positive relations between police and youth and improving the outlook of each group toward the other. The program provides youth with the opportunity to see police in a positive way and provides police with an opportunity to speak with youth in a context in which they are not in trouble with the law.

Discussion

The data suggest that in a short period of time, Police and Youth Interaction Programs can positively influence police and youth participants. The programs provide police and youth an opportunity to interact in non-law enforcement environments and create opportunities to alter the opinions of those in the opposite group through positive exposure. The program is particularly effective in improving youth participants’ attitudes toward police, especially those who had not previously participated in a police and youth program. Similar to previous literature (Friedman et al., 2004; Hurst, 2007), youth who characterized their previous experience with police as mostly negative reported significantly more negative attitudes at Time 1 than those with no experience or mostly positive experiences.

Youth also felt more connected to the community after completing the program. Past research suggests that negative opinions about one’s neighborhood are related to negative attitudes about police (Bradford et al., 2009; Leiber et al., 1998). This study suggests that the opposite

might also be true. At both the beginning and end of the program, youths’ reported attitudes toward police were significantly correlated with their score on the community involvement scale. That is, a positive attitude toward one’s neighborhood was associated with a positive attitude toward the police in this sample. This analysis did not examine the causal relationship between these two factors, and future studies may examine which factor directly influences the other.

Police participants began the program with a high level of confidence in their ability to work with youth and a strong understanding of the impact police could have on youth. One interesting question is whether their perceived ability matches their actual ability to interact with youth. However, the attitudes of police toward youth did improve somewhat (approaching significance) at the completion of the program. The amount of change shown from Time 1 to Time 2 was not influenced by the number of years the police officer had been serving in his or her role.

These findings cannot speak to two elements: (a) whether changes in attitudes and beliefs will lead to changes in behavior in the future and (b) whether the opinions of these participants are generalizable to other police officers or youth with whom they will interact in the future. Answers to these questions would require additional longitudinal data to be collected over time. In addition, this study was a pilot study and evaluation design focused solely on pre- and post-surveys. More intensive evaluation methods, including interviews or focus groups with participants and the inclusion of a comparison group, would improve the conclusions that could be drawn about the effectiveness of these programs.

There was also a large variation among programs with regard to program structure and dosage (frequency and duration). Greater uniformity across programs would allow for further analyses as to which elements of the program were most effective in improving the opinions of the youth and police. Alternatively, a greater number

of participants in each program would allow for cross-program analyses to determine whether some programs are more successful than others, as well as comparisons of sub-groups of participants.

The study offers initial evidence for the promise of programs that aim to provide positive interactions between police and youth as a means of limiting future negative interactions between the two groups. Future studies should replicate these findings with a larger sample of participants and among a more diverse sample. In this study, 75% of the youth participants were White, which prevented any analysis of disproportionate minority contact. However, 25% of the sample comprised children of color. Future studies should examine whether participation in this program by police officers influences their attributions and expectations that are based on race and ethnicity.

In addition, other aspects of police officer's attitudes and opinions should also be explored to see whether these programs influence attitudes that were not captured in the surveys used in the current study. Furthermore, the findings reported here examined attitudes and opinions only at the completion of the program. Long-term change for these participants should be tracked to see whether these short-term programs can produce long-term changes.

In line with attribution theory, the findings in this study suggest that positive experiences can alter negative perceptions, allowing participants to change their attitudes about those in the other

group. Specifically, creating opportunities for positive interactions between police and youth may be a viable way to improve opinions about members of the other group. This is particularly true when the program includes practical activities shared by police and youth, such as a community service project. The current findings suggest that a correlation may exist between youths' positive perceptions of their environments and positive attitudes toward the police. In this case, shared experiences in a positive environment lead to improved attitudes of youth toward police while improving the feelings of youth about their community.

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References

- Arnold, M. E., Nott, B. D., & Meinhold, J. L. (2012). *The Positive Youth Development Inventory Full Version*. Oregon State University.
- Bradford, B., Jackson, J., & Stanko, E. A. (2009). Contact and confidence: Revisiting the impact of public encounters with the police. *Policing and Society, 19*(1), 20–46.
- Brick, B. T., Taylor, T. J., & Esbensen, F. (2009). Juvenile attitudes towards the police: The importance of subcultural involvement and community ties. *Journal of Criminal Justice, 37*, 488–495.
- Brown, R. A., Novak, K. J., & Frank, J. (2009). Identifying variation in police officer behavior between juveniles and adults. *Journal of Criminal Justice, 37*, 200–208.
- Brunson, R. K., & Weitzer, R. (2011). Negotiating unwelcome police encounters: The intergenerational transmission of conduct norms. *Journal of Contemporary Ethnography, 40*, 425–456.
- Bugental, D. B., & Johnston, C. (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology, 51*, 315–344.
- Bugental, D. B., Johnston, C., New, M., & Silvester, J. (1998). Measuring parental attributions: Conceptual and methodological issues. *Journal of Family Psychology, 12*(4), 459–480.
- Center for Applied Research in Human Development. (2008). *Effective police interactions with youth: Training evaluation*. Retrieved from http://www.ct.gov/opm/lib/opm/cjppd/cjyyd/jjydpublishations/police_eval_full_report_final_september_2008.pdf
- Deater-Deckard, K., & Dodge, K. A. (1997). Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry, 8*(3), 161–175.
- Fine, M., Freudenberg, N., Payne, Y., Perkins, T., Smith, K., & Wanzer, K. (2003). "Anything can happen with police around": Urban youth evaluate strategies of surveillance in public places. *Journal of Social Issues, 59*(1), 141–158.
- Finn, P., & McDevitt, J. (2005). *National Assessment of School Resource Officers Programs: Final Project Report*. Report Published by the U.S. Department of Justice.
- Friedman, W., Lurigio, A. J., Greenleaf, R., & Albertson, S. (2004). Encounters between police officers and youths: The social costs of disrespect. *Journal of Crime and Justice, 27*(2), 1–25.
- Hinds, L. (2009). Youth, police legitimacy, and informal contact. *Journal of Police and Criminal Psychology, 24*, 10–21.
- Hopkins, N., Hewstone, M., & Hantzi, A. (1992). Police-Schools liaison and young people's image of the police: An intervention evaluation. *British Journal of Psychology, 83*, 203–220.
- Hurst, Y. G. (2007). Juvenile attitudes toward the police: An examination of rural youth. *Criminal Justice Review, 32*, 121–141.
- Jackson, A. (2002). Police-school resource officers' and students' perception of the police and offending. *Policing, 25*(3), 631–650.

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- LaMotte, V., Oullette, K., Sanderson, J., Anderson, S. A., Kosutic, I., Griggs, J., & Garcia, M. (2010). Effective police interactions with youth: A program evaluation. *Police Quarterly, 13*(2), 161–179.
- Leiber, M. J., Nalla, M. K., & Farnworth, M. (1998). Explaining juveniles' attitudes toward the police. *Justice Quarterly, 15*(1), 151–174.
- Liederbach, J. (2007). Controlling suburban and small-town hoods: An examination of police encounters with juveniles. *Youth Violence and Juvenile Justice, 5*, 107–124.
- Puzzanchera, C., & Kang, W. (2013). *Easy Access to FBI Arrest Statistics 1994-2010*. Retrieved from <http://www.ojjdp.gov/ojstatbb/ezaucr/>
- Rabois, D., & Haaga, D. A. F. (2002). Facilitating police-minority youth attitude change: The effects of cooperation within a competitive context and exposure to typical exemplars. *Journal of Community Psychology, 30*(2), 189–195.
- Scaglione, R., & Condon, R. G. (1980). Determinants of attitudes toward city police. *Criminology, 17*, 485–494.
- Slocum, L. A., Taylor, T. J., Brick, B. T., & Esbensen, F. (2010). Neighborhood structural characteristics, individual-level attitudes, and youths' crime reporting intentions. *Criminology, 48*(4), 1063–1100.
- Webb, V. J., & Marshall, C. E. (1995). The relative importance of race and ethnicity on citizen attitudes toward the police. *American Journal of Police, 14*(2), 45-66.

APPENDIX A

Youth Survey

Attitude Toward Police	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1. It is possible for youth and police officers to get along	1	2	3	4	5
2. Police officers help keep my neighborhood safe	1	2	3	4	5
3. Police officers and youth in my community can work together	1	2	3	4	5
4. Youth and police officers can have positive relationships	1	2	3	4	5
5. I feel comfortable when I see police on the street	1	2	3	4	5
6. Police officers have a positive role in society	1	2	3	4	5
7. I expect that the police I see on the street will bother my friends or me	1	2	3	4	5
8. I feel positively toward police officers	1	2	3	4	5
9. Police officers play an important role in stopping crime	1	2	3	4	5
10. I generally have positive interactions with police officers.	1	2	3	4	5
11. Police officers are respectful of people like me	1	2	3	4	5
12. Police officers don't communicate very well	1	2	3	4	5
13. Police officers show concern when you ask them questions	1	2	3	4	5
14. Police officers play an important role in making my neighborhood a better place	1	2	3	4	5

Attitude Toward Community	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I take an active role in my community.	1	2	3	4
2. I am someone who gives to benefit others.	1	2	3	4
3. I like to work with others to solve problems.	1	2	3	4
4. I have things I can offer to others.	1	2	3	4
5. I believe I can make a difference in my community.	1	2	3	4
6. I care about contributing to make the community a better place.	1	2	3	4
7. It is important to make a difference in the community.	1	2	3	4

Police Survey

Attitude Toward Youth	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Young people are positive assets to my community	1	2	3	4	5
2. Young people are hard-working	1	2	3	4	5
3. Teenagers are disrespectful	1	2	3	4	5
4. Teenage behavior is a major problem for police today	1	2	3	4	5
5. Teenagers are lazy	1	2	3	4	5
6. Young people are self-centered	1	2	3	4	5
7. Young people are thoughtful	1	2	3	4	5
8. Teenagers who make mistakes deserve a second chance	1	2	3	4	5
9. Teenagers are motivated	1	2	3	4	5
10. Teenagers are courteous	1	2	3	4	5

Self-efficacy in Working with Youth	Not at all confident	Somewhat not confident	Neutral	Somewhat confident	Very Confident
1. Develop positive relations with youth	1	2	3	4	5
2. Help youth develop to their potential	1	2	3	4	5
3. De-escalate conflict when interacting with youth	1	2	3	4	5
4. Serve as a role model for young people	1	2	3	4	5
5. Start a conversation with youth	1	2	3	4	5
6. Work on a community project with youth	1	2	3	4	5
7. Help to make a teen feel comfortable in a new group	1	2	3	4	5
8. Interact with youth from diverse backgrounds	1	2	3	4	5
9. Get youth to work together on a group project	1	2	3	4	5
10. Initiate a conversation with a young person	1	2	3	4	5
11. Ask a young person for help	1	2	3	4	5
12. Teach young people to be responsible	1	2	3	4	5

Self-efficacy in Working with Youth	Not at all confident	Somewhat not confident	Neutral	Somewhat confident	Very Confident
13. Teach youth about tolerance and diversity	1	2	3	4	5
14. Build rapport with youth and families from diverse backgrounds	1	2	3	4	5
15. Refer youth to appropriate community or crisis services	1	2	3	4	5
16. Relate to parents and family members following a youth offense	1	2	3	4	5

Perceived Impact on Youth	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. It is important for police officers to devote time to building positive relationships with youth	1	2	3	4	5
2. Interactions between patrol officers and youth make a positive difference in the lives of youth	1	2	3	4	5
3. Patrol officers can have a positive impact on youth without taking time away from their enforcement activities	1	2	3	4	5
4. Positive interactions with youth are an important part of community policing efforts	1	2	3	4	5
5. Police officers can help eliminate unequal treatment of minority youth	1	2	3	4	5

Implications of Self-Reported Levels of Hope in Latino and Latina Youth on Probation

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Abstract

Juvenile justice researchers and practitioners have focused more attention on studying risk factors for juvenile delinquency than on the positive psychological variables that may serve as potential protective factors for at-risk youth. To further understand the role of protective factors associated with desisting from delinquency, this study investigated the presence of self-reported hope within a sample of Latino/a youth on probation ($N = 153$) and the association of hope with risk for recidivism. Levels of hope were consistent between males and females. Latino/a youth on probation have significantly lower levels of self-reported hope than each of 5 diverse samples of youth from previously published studies. Results also reveal a moderately low correlation between hope and risk for recidivism. Implications for theory, research, and applied practice are discussed.

Introduction

Research on resilience suggests that individuals can and often do succeed despite significant disadvantages (Masten, 2001). Although social science disciplines have historically focused on prevention and intervention efforts related to traits and characteristics of mental illness, there has been a paradigm shift toward focusing on resilience (Richardson, 2002). The field of juvenile justice, however, largely continues to focus on mental illness, with numerous investigations studying risk factors for juvenile delinquency, antisocial personality disorder, and other mental disorders. To date, few investigations have examined the influence of protective factors for youth on probation despite the potential for targeted interventions (Kazemian, 2007). This study seeks to fill this gap in the juvenile justice literature by offering a preliminary investigation into hope, a possible protective factor, in a sample of Latino/a youth on probation.

Hope is characterized as a cognitive-motivational construct that includes a set of beliefs in one's own strength to achieve goals and overcome obstacles. Hope comprises three major components: goals, pathways, and agency (Snyder et al., 1997). *Goal-directed thinking* is the ability to conceptualize short- or long-term goals with variable probability and importance for attainment (e.g., "I will get an A in math"). *Pathways thinking* refers to the specific strategies generated through internal speech to achieve a goal (e.g., "I can think of many ways to get out of a jam"; Snyder et al., 1991). *Agency thinking* refers to the sustaining motivation to achieve conceptualized goals (e.g., "I am not going to be stopped"; Snyder et al., 1997). Individuals with high levels of hope exhibit goal-directed thinking, pathways thinking, and agency thinking, which includes motivation, a sense of self-efficacy, and a plan to achieve their goals (Snyder, Lopez, Shorey, Rand, & Feldman, 2003).

Based on resilience theory, increasing interest has been directed toward investigating protective factors, such as hope, which can buffer young people from the undesirable effects of risk factors for delinquency, such as dysfunctional families and low educational achievement (Sourander et al., 2006). Protective factors provide juveniles with the tools that allow them to surmount obstacles or persevere despite the presence of risk factors for delinquency (Seligman et al., 2005). Youth on probation who desist from delinquency do so despite significant risk factors. Although youth on probation tend to share many of the same risk factors at the onset of delinquency, there may be certain protective factors that are related to desistance from delinquency (Kazemian, 2007). Until recently, research on the influence of hope in children and adolescents has been lacking (Lopez, Rose, Robinson, Marques, & Pais-Ribiero, 2009). Scholarship on hope, including goal-directed thinking, pathways thinking, and agency thinking, has focused on investigating whether hope is a stable psychological trait, as opposed to a fluctuating cognitive

or emotional state, with mixed results. The few longitudinal studies of hope in adolescents have indicated that over a 1-year period, high levels of hope appeared to be a stable psychological trait (e.g., Valle, Huebner, & Suldo, 2006). Conversely, others have found hope to be malleable within a therapeutic context (Feldman & Dreher, 2012). Investigations of hope across genders have also been mixed. One study found hope was invariant between male and female adolescents (Edwards, Ong, & Lopez, 2007), while another found levels of hope declined in females during adolescence at a significantly steeper rate than it did in their male peers (Heaven & Ciarrochi, 2008). Recent research with children and adolescents reveals hope as a key indicator of psychological strength (Valle et al., 2006). Valle et al. (2006) found high levels of hope serve as a protective factor against internalizing problems. They found adolescents with high levels of hope reported higher levels of life satisfaction and used adaptive coping strategies when faced with significant stressors. These findings highlight the potential importance of hope for youth on probation; provide further insight into target areas for intervention if hope is malleable; and suggest that hope may need to be investigated separately for adolescents by gender.

Although hope has yet to be examined specifically within the juvenile justice population, the inverse of hope, or hopelessness, has been investigated. Hopelessness represents a lack of future orientation, which may cause a juvenile to discount future consequences of his or her behavior and, therefore, may contribute to the likelihood of persistent criminal offending. High rates of comorbidity have been observed between depression, of which hopelessness is a key component, and conduct disorder, which can lead to contact with the legal system (Ryan & Redding, 2004). For example, detainment in a juvenile detention facility resulting from delinquent acts characteristic of conduct disorder exacerbates feelings of hopelessness (Ryan & Redding, 2004). The research explored herein correlating hope

among non-juvenile justice involved adolescents with positive outcomes (e.g., Valle et al., 2006) and hopelessness with juvenile delinquency (e.g., Ryan & Redding, 2004) indicates the possibility of a positive relation between hope, a cognitive-motivational trait, and desistance from delinquent behavior among both females and males. Since hope shows promise for predicting desistance from juvenile delinquency, determining whether hope might act as a protective factor requires further investigation.

The Current Study

As researchers begin to examine positive psychological variables, such as hope, as potential protective factors against persistent youthful offending, it is important to consider differences in risk factors across genders and ethnicities. Gender differences in risk and protective factors for delinquency have been established (e.g., Hartman, Turner, Daigle, Exum, & Cullen, 2009). For example, repeated physical aggression toward children has been found to increase the risk of juvenile delinquency among boys, but not girls (Broidy et al., 2003). In addition, females involved in the juvenile justice system were found to have higher rates of symptoms of mental illness and, in particular, higher rates of internalizing symptoms (e.g., anxiety and depression) than their male counterparts, who were found to have higher rates of externalizing symptoms (e.g., aggression and agitation; Cauffman, Lexcen, Goldweber, Shulman, & Grisso, 2007).

Less is known about the cumulative effects of protective factors on the likelihood of juvenile offending, and research focused on female juvenile offenders is particularly scarce (Tracy, Kempf-Leonard, & Abramoske-James, 2009). Research specifically focused on Latino/a youth on probation is also scarce, despite recognition that the Latino/a¹ community in the United States is one

¹ The term *Latino/a* has often been used interchangeably with *Hispanic* in the literature to describe approximately the same set of people, although they have different sociopolitical origins. However, *Latino/a* is preferred as more inclusive and politically progressive (Comas-Díaz, 2001; Santiago-Rivera, Arredondo, & Gallardo-Cooper, 2002). Thus, we use the term *Latino/a*.

of the fastest growing populations in the country (Ennis, Ríos-Vargas, & Albert, 2011). Research focused on Latinos/as is particularly needed due to the disproportionate representation of minority youth in the juvenile justice system, despite evidence that they may not be involved in a greater number of crimes (Huizinga et al., 2007).

When compared to their African American and White peers, Latino/a youth on probation are at risk for poorer educational outcomes (Larson, Mehan, & Rumburger, 1998), less mental health service utilization (Rawal, Romansky, Jenuwine, & Lyons, 2004), and more family problems, all of which are risk factors for continued offending (Rivaux, Springer, Bohman, Wagner, & Gil, 2006). Although researchers have demonstrated racial and ethnic differences in risk factors for delinquency and treatment response (e.g., Rivaux et al., 2006), there is a lack of evidence to clarify which populations of youth on probation will respond most favorably to particular juvenile justice interventions (Wagner, 2003). Examining factors potentially associated with desistance from delinquency and recidivism, such as hope, may be particularly useful for Latino/a youth on probation, who have historically experienced poor outcomes associated with delinquency. Hope may be a particularly salient asset for Latino/a youth because they encounter unique obstacles compared with their White and African American peers, such as development of a positive bicultural identity (Phinney & Devich-Navarro, 1997) and related stressors such as those related to immigration status.

In this study, we (a) investigated levels of hope among Latino/a youth on probation by gender, (b) compared levels of hope between male and female youth on probation and previously published diverse samples of nondelinquent youth, and (c) related hope to risk for recidivism. These three analyses were selected to better understand hope as an individual-level protective factor for delinquency and to advance the development of theories and interventions related to youths' desistance from delinquency.

Method

Participants

We recruited a total of 189 participants for this study, nearly 25% of the approximately 800 youth who were in contact with the participating juvenile probation system when they were eligible for study inclusion. For the purposes of this study, only juvenile Latinos/as were retained as participants, based on demographic information obtained from probation records. The final sample consisted of 153 Latino/a youth on formal probation (82% of the original sample; male = 132, 85.2%) with a mean age of 15.82 years ($SD = 1.35$). The sample represented a heterogeneous offending history: 32.3% ($n = 50$) had no prior adjudications and the current offense represented the first contact with the juvenile probation department; 67.7% ($n = 105$) had a history of prior adjudications, with a mean of 3.22 ($SD = 3.59$) prior adjudications.

Measures

Children's Hope Scale. Youth participating in this study used the Children's Hope Scale (CHS; Snyder et al., 1997) a self-report measure of hope. The CHS contains six items using a 6-point Likert scale (1 = *none of the time* and 6 = *all of the time*). The six items alternate between subscales with three pathways-thinking items (e.g., "When I am having a problem, I can come up with lots of ways to solve it") and three agency-thinking items (e.g., "I think I am doing pretty well"). With respect to the scale's internal reliability, alpha coefficients have ranged from a median of 0.77 to 0.88 across studies (Gilman & Huebner, 2006; Snyder et al., 1997; Valle, Huebner, & Saldo, 2004). In the sample for this study, the CHS demonstrated adequate evidence of internal consistency (Cronbach's alpha = 0.79). Evidence of construct validity for the CHS is shown through positive correlations with other measures of well-being in a Mexican American population of youth, including Life Satisfaction ($r = 0.44$, $p < .01$), Support-Family ($r = 0.28$, $p < .01$),

Support-Friends ($r = 0.32$, $p < .01$), Positive Affect ($r = 0.49$, $p < .01$), and Optimism ($r = 0.41$, $p < .01$) (Edwards et al., 2007).

Santa Barbara Assets and Risks Assessment.

The Santa Barbara Assets and Risks Assessment (SB ARA; O'Brien, Jimerson, Saxton, Furlong, & Sia, 2001) was administered to study participants to measure risk for recidivism. It consists of 56 indicators in 12 domains. The SB ARA is a semi-structured interview protocol that is completed by a professional trained in its use and is based on data compiled from a variety of available sources (see Sharkey, 2003). The assessor rates each item on a 5-point, closed interval continuum (1 = *strong asset* to 5 = *strong risk*). The assessment is conducted when the youth enters probation and produces a risk score, which helps to determine the appropriate level of probation intervention and supervision based on probability for recidivism (see Sharkey, 2003, for more detailed scoring information). Preliminary examination has demonstrated that the SB ARA has adequate reliability (inter-rater $r > 0.85$, $\alpha = 0.86$) and convergent validity (Behavioral and Emotional Rating Scale, $r = -0.55$, $p < .01$; Ohio Youth Problem Severity scale, $r = 0.40$, $p < .01$; and the Orange County Risk Assessment, $r = 0.72$, $p < .01$ (Jimerson, Sharkey, O'Brien, & Furlong, 2004).

Procedures

We recruited participants through a central California county juvenile probation department. Over a period of 6 months, youth were notified of the study and asked to participate by their juvenile deputy probation officer (DPO) upon entry into the juvenile justice system, or while being detained by the juvenile justice system during the study period. DPOs offered participation to all juvenile probationers. A variety of self-report measures (including the CHS) and letters of informed parental consent and participant assent were provided in a "take home" packet to families upon entering probation. Alternatively, participants were asked to voluntarily participate in the

study by a DPO and authorized by their guardians during their detainment. Completed forms were returned to DPOs and researchers at regular intervals for data entry. The questionnaires were coded with each juvenile's personal identification number (PIN) so they could be matched with demographic and risk for recidivism data. Following recruitment, researchers received de-identified demographic and risk for recidivism data (SB ARA) from the probation department, which was matched by PIN. All procedures were approved by administrators of the county juvenile probation department and by the researchers' institutional review board.

The researchers selected 5 samples from previously published studies for mean group comparisons of hope against the current sample of youth on probation. The first comparison group was a normative sample of 699 adolescents ages 10 to 18 years (M age = 13.74, SD = 1.81) from three public middle schools and two public high schools from a rural school district in a southeastern state described by Valle et al. (2004). The second comparison sample was of 135 English-speaking Mexican American youth (M age = 14.22, SD = 1.06; female = 54%) from California, Kansas, and Texas (Edwards et al., 2007). The third comparison group was an ethnically heterogeneous group of 91 children (age range 9 to 17 years, female = 47%) with diagnosed arthritis, sickle cell anemia, and cancer (Snyder et al., 1997). The fourth comparison was a clinical sample from Snyder et al. (1997) of 143 youth who were, or had been, under treatment for cancer (age range 8 to 16 years, female = 51%). The fifth and final comparison sample was reported by Snyder and colleagues (1997) and represents an ethnically heterogeneous clinical sample of 170 boys with attention-deficit/hyperactivity disorder (ADHD).

Data Analyses

A series of separately conducted independent sample t -tests compared group means on the total scores from the CHS obtained from a

sample of Latino/a youth on probation to previously published samples. We excluded missing data through listwise deletion. To increase statistical power and reduce the rate of Type I error, we performed a Bonferroni adjustment based on the number of comparisons made for each measure ($CHS \alpha = .05 / 7 = .007$). We calculated bivariate Pearson product moment correlations to determine the relation between hope and risk for future recidivism. We performed all data screening required to meet appropriate statistical assumptions for analyses, including skewness, kurtosis, normality, population variance, and independent samples. All assumptions were met adequately and data analyses proceeded as planned.

Results

In the sample of youth on probation with complete self-reported CHS scores and gender data ($n = 150$; excludes missing gender or hope scale data, $n = 5$, 3.2%), a one-way ANOVA tested for cross-gender comparisons for hope; males ($n = 127$) reported a mean of 22.83 ($SD = 6.19$) and females ($n = 23$) a mean of 21.30 ($SD = 5.93$), which is not a statistically significant difference, $F(1, 148) = 1.19, p = .276$.

The mean scores for hope between Latino/a youth on probation and all 5 previously collected samples of children and adolescents as measured by the CHS were significantly different. The CHS scores from the total sample of Latino/a youth on probation ($n = 150$), $M = 22.59$ ($SD = 6.15$) excluded participants with missing CHS item data ($n = 5$, 3.2%). Latino/a youth on probation in the current sample reported significantly lower levels of hope than youth in all 5 of the comparison samples. See Table 1 for results.

To determine whether hope is related to risk prediction scores for Latino/a youth on probation, we performed a bivariate Pearson product moment correlation. Results demonstrated a significant but moderately low inverse correlation between CHS scores and SB ARA total risk for

Table 1. Results of Mean Comparisons of Latino/a Youth on Probation

Comparison Group	Reference	n	M(SD) CHS	M Difference	t	df
Normative youth	Valle et al., 2004	699	28.26 (5.41)	-5.67 [-6.65, -4.69]	11.36***	847
Mexican American youth	Edwards et al., 2007	135	26.10 (5.77)	-3.51 [4.90, -2.12]	4.95***	283
Youth with serious illness	Snyder et al., 1997	91	25.39 (5.05)	-2.80 [-4.31, -1.29]	3.66***	239
Youth with cancer	Snyder et al., 1997	143	25.84 (5.01)	-3.25 [-4.54, 1.96]	4.95***	291
Boys with ADHD	Snyder et al., 1997	170	25.49 (3.63)	2.90 [-4.00, -1.80]	5.21***	318

Note. *** = $p < .001$. The M Difference refers to the difference of self-reported CHS M scores in the current study sample of Latino/a youth on probation and the comparison group. Below the CHS M difference, the 95% CI is reported in brackets.

recidivism scores, $r(141) = -.24, p = .005$. Results suggested that as hope increases, risk for recidivism decreased.

Discussion

A shift in the social science research agenda documents the importance of identifying protective factors associated with resilience. However, there is a dearth of juvenile justice research on the influence of positive psychological traits in youth on probation. In this study, we attempt to address this gap by investigating the presence of hope in a sample of Latino/a youth on probation and how such traits may relate to desistance from recidivism.

Our sample of Latino/a youth on probation reports no significant differences in levels of hope by gender, which supports previous research finding nonsignificant gender differences in levels of hope among Mexican American youth (Edwards et al., 2007). However, these findings are inconsistent with Heaven and Ciarrochi's (2008) investigation demonstrating significantly lower levels of hope among adolescent females over time. Of note, the demographics of Heaven and Ciarrochi's study participants differed greatly from the current investigation, and the gender differences in hope were related to parenting style. Although

gender differences in risk factors for delinquency have been found for youth on probation (Broidy et al., 2003; Hartman et al., 2009), this study suggests there may be no gender differences in levels of hope. Future research is needed to further our understanding of the ways in which hope may differ by gender.

Results of our study demonstrate statistically significantly lower levels of hope in youth on probation than in samples of ethnically diverse, clinical, and normative populations. This finding supports previous research that youth in juvenile detention experience significantly greater levels of hopelessness (Ryan & Redding, 2004), and that both males and females in our study reported significantly more depressive symptoms, than adolescent females in the community (Cauffman et al., 2007). Although these findings indicate that Latino/a youth on probation have lower levels of hope than normative populations, it is surprising to find significantly lower levels when compared to populations of youth experiencing significant stressors, such as serious chronic and life threatening illnesses. This may be the result of differential developmental pathways for hope in youth who experience stressors such as illness, as opposed to those who experience stressors such as legal sanctions. For example, if youth on probation lack a specific goal—that is, if there is no goal to achieve—they will have less goal-directed thinking, as well as less agency and pathways thinking.

Youth on probation, compared to those with serious illness, have experienced numerous risk factors along the developmental pathway that led toward delinquency (e.g., physical abuse and/or neglect). It is likely that youth on probation

have also experienced barriers to goal development and hopeful thinking, such as repeatedly reinforced negative emotions and lack of adult modeling of hopeful thinking and positive behavior. Youth diagnosed with a serious illness have not necessarily experienced these same risk factors. In addition, youth with a serious illness may have a specific goal in mind, such as overcoming their illness, thus yielding higher levels of goal-directed thinking, and agency and pathways thinking, to achieve their goal. Longitudinal studies are necessary to test hope trajectories for youth along various developmental pathways and in response to stressors such as arrest, mental illness, or physical illness.

As expected, our study finds that hope and risk for recidivism are significantly and inversely related. We find a moderately low correlation between hope and risk for recidivism; that is, the higher the levels of hope at study onset, the lower the score on risk for recidivism. These results are consistent with previous findings that hope may function as an adaptive coping mechanism between stressors and outcomes for adolescents (Valle, Huebner, & Suldo, 2006). Our findings also indicate that levels of hope may help to determine whether youth will persist in or desist from delinquency. Hope may provide psychological strength and motivate youth to pursue more positive developmental pathways.

Implications and Future Directions

Our study's findings have merit across theoretical, research, and applied domains. Resilience theory can be further developed for youth on probation by applying knowledge that Latino/a youth on probation experience, on average, significantly lower levels of hope when compared to other youth. Theoretical implications also include an improved understanding of protective factors that can inform the development of prevention and intervention models to predict delinquency based on resilience theory. Current individualized assessment practices have not yet begun to investigate or incorporate the role

of positive psychological traits, such as hope, in interventions for youth on probation. However, interventions should be based on a thorough understanding of the relation between risk factors, protective factors, the intervention, and the resulting positive outcome (DeMatteo & Marczyk, 2005).

Future research is needed to determine whether policies promoting resilience and prevention of recidivism among Latino/a youth would be more effective if they remain general rather than gender-specific. In addition, future research should continue to explore gender differences with more gender balanced samples of youth on probation, in addition to exploring gender differences and measurement invariance across Latino/a populations and other nationally representative samples. Longitudinal research is needed to determine the feasibility of measuring levels of hope to predict outcomes for youth on probation. Future investigations should examine the relation between levels of hope and both first-time and repeat offenders, as well as the relation between hope and future recidivism for both groups. If hope is significantly related to future recidivism, it may indicate a focus for preventative interventions. Finally, future investigations should consider examining hope in Latino/a youth in relation to their country of origin, ethnic/cultural identity, level of acculturation, and generations or time spent living in the United States.

Our findings suggest that Latino/a youth on probation have significantly lower levels of hope than other youth, which may indicate enhanced risk for continued deleterious outcomes.

These youth may benefit from strengths-based approaches designed to develop protective factors such as hope (e.g., Te Riele, 2010). According to Gilman, Dooley, and Florell (2006), youth with low levels of hope may use rigid cognitive strategies that impede their development of strategies to achieve a goal. Perhaps interventions to target such ineffective cognitive strategies could improve outcomes for Latino/a youth on

probation (e.g., Feldman & Dreher, 2012). Efforts to increase levels of hope among Latino/a youth may help to prevent the onset of criminality or its continuation in this population.

Limitations

Although this research contributes to our understanding of the role of hope in Latino/a youth on probation, it is important to acknowledge the limitations of this study. First, plausible threats to its internal validity include the disproportionate number of males to females, and the lack of accounting for first-time offenders as opposed to multiple offenders in the sample. Second, as the majority of the sample is derived from a heterogeneous Latino/a population from one geographical region, our findings cannot be generalized to all youth on probation. Third, the SB ARA is a risk assessment instrument designed to predict risk for future recidivism and is not an indicator of actual reoffense or desistance. The SB ARA was administered at intake to Latino/a youth on probation, whereas the CHS was administered at any point during a youth's probation tenure. Fourth, although hope may be considered a stable trait (Valle et al., 2006), it may also be reactive to recent events (Snyder, 2002), which can affect levels of hope in both positive and negative directions. Therefore, it is possible that recent events that occurred close to the onset of the study, such as detainment in juvenile detention or contact with the juvenile justice system, may have influenced participants' levels of hope.

Another significant limitation includes the use of a convenience sample based on the willingness of parents and youth to consent to study participation and to return the required forms. A convenience sample of youth held in juvenile detention comprised a large proportion of the respondents. Low compliance by probation

officers in the study may also have influenced which youth were recruited. Comparing the risk and protective factors of youth held in custody with youth never held in detention may be also a confounding variable influencing these results.

Conclusion

The current study contributes to research on the presence of self-reported levels of hope in Latino/a youth on probation. The findings support previous research and establish a precedent for investigating hope in particular populations. Perhaps the most important findings are that Latino/a youth on probation demonstrate a significantly lower level of hope than other youth experiencing extreme stressors, and that hope is related to recidivism risk. Therefore, youth on probation who have low levels of hope may be at greater risk for future delinquent activities than youth who have high levels of hope. Future investigations are needed to determine the importance of cognitive motivational traits, such as hope, in risk assessment for future recidivism and prevention of youth delinquency.

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References

- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Brame, B., Dodge, K. A., Fergusson, D., . . . Vitaro, F. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. *Developmental Psychology, 39*, 222–245.
- Cauffman, E., Lexcen, F. J., Goldweber, A., Shulman, E. P., & Grisso, T. (2007). Gender differences in mental health symptoms among delinquent and community youth. *Youth Violence and Juvenile Justice, 5*, 287–307. doi:10.1177/1541204007301292
- Comas-Díaz, L. (2001). Culturally relevant issues and treatment implications for Hispanics. In D. R. Koslow & E. Salett (Eds.), *Crossing cultures in mental health* (pp. 25–42). Washington, DC: National Multicultural Institute.
- DeMatteo, D., & Marczyk, G. (2005). Risk factors, protective factors, and the prevention of antisocial behavior among juveniles. In K. Heilburn, N. E. Sevin Goldstein, & R. E. Redding (Eds.), *Juvenile delinquency: Prevention, assessment, and intervention* (pp. 19–44). New York, NY: Oxford University Press.
- Edwards, L. M., Ong, A. D., & Lopez, S. J. (2007). Hope measurement in Mexican American youth. *Hispanic Journal of Behavioral Sciences, 29*, 225–241. doi:10.1177/0739986307299692
- Ennis, S. R., Ríos-Vargas, M., & Albert, N. G. (2011). *The Hispanic population: 2010 census briefs*. Retrieved from <http://www.census.gov/prod/www/decennial.html>
- Feldman, D. B., & Dreher, D. E. (2012). Can hope be changed in 90 minutes? Testing the efficacy of a single-session goal-pursuit intervention for college students. *Journal of Happiness Studies, 13*, 745–759. doi:10.1007/s10902-011-9292-4
- Gilman, R., Dooley, J., & Florell, D. (2006). Relative levels of hope and their relationship with academic and psychological indicators among adolescents. *Journal of Social and Clinical Psychology, 25*, 166–178.
- Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35*, 311–319. doi:10.1007/s10964-006-9036-7
- Hartman, J. L., Turner, M. G., Daigle, L. E., Exum, M. L., & Cullen, F. T. (2009). Exploring gender differences in protective factors: Implications for understanding resiliency. *International Journal of Offender Therapy and Comparative Criminology, 53*, 249–277. doi:10.1177/0306624X08326910
- Heaven, H., & Ciarrochi, J. (2008). Parental styles, gender and the development of hope and self-esteem. *European Journal of Personality, 22*, 707–728. doi:10.1002/per.699
- Huizinga, D., Thornberry, T. P., Knight, K. E., Lovegrove, P. J., Loeber, R., Hill, K., & Farrington, D. P. (2007, July 28). *Disproportionate minority contact in the juvenile justice system: A study of differential minority arrest/referral to court in three cities. A report to the Office of Juvenile Justice and Delinquency Prevention*. Retrieved from <http://www.ojjdp.gov/dmc/>
- Jimerson, S. R., Sharkey, J. D., O'Brien, K. M., & Furlong, M. J. (2004). The Santa Barbara Assets and Risks Assessment to predict recidivism among male and female juveniles: An investigation of inter-rater reliability and predictive validity. *Education and Treatment of Children, 27*, 353–373.

- Kazemian, L. (2007). Desistance from crime: Theoretical, empirical, methodological, and policy considerations. *Journal of Contemporary Criminal Justice*, 23, 5–27. doi:10.1177/1043986206298940
- Larson, K., Mehan, H., & Rumberger, R. (1998, May). *Capturing Latino students in the academic pipeline*. P. Gándara (Ed.). Retrieved from <http://education.ucsb.edu/rumberger/papers.htm>
- Lopez, S. J., Rose, S., Robinson, C., Marques, S. C., & Pais-Ribiero, J. (2009). Measuring and promoting hope in school children. In R. Gilman, E. Huebner, & M. J. Furlong (Eds.), *The handbook of positive psychology in the schools* (pp. 37–50). New York, NY: Routledge.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227–238. doi:10.1037/0003-066X.56.3.227
- O'Brien, K. M., Jimerson, S. J., Saxton, J. D., Furlong, M. J., & Sia, A. B. (2001). *Santa Barbara Assets and Risks Assessment (SB ARA)*. Santa Barbara, CA: Authors.
- Phinney, J. S., & Devich-Navarro, M. (1997). Variations in bicultural identification among African American and Mexican American adolescents. *Journal of Research on Adolescence*, 7(1), 3–32.
- Rawal, P., Romansky, J., Jenuwine, M., & Lyons, J. S. (2004). Racial differences in the mental health needs and service utilization of youth in the juvenile justice system. *Journal of Behavioral Health Services & Research*, 31(3), 242–254.
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58, 307–321.
- Rivaux, S. L., Springer, D. W., Bohman, T., Wagner, E. F., & Gil, A. G. (2006). Difference among substance abusing Latino/a, Anglo, and African-American juvenile offenders in predictors of recidivism and treatment outcome. *Journal of Social Work Practice in the Addictions*, 6(4), 5–29. doi:10.1300/J160v06n04_02
- Ryan, E. P., & Redding, R. E. (2004). A review of mood disorders among juvenile offenders. *Psychiatric Services*, 55, 1397–1407.
- Santiago-Rivera, A. L., Arredondo, P., & Gallardo-Cooper, M. (2002). *Counseling Latinos and la familia: A practical guide*. Thousand Oaks, CA: Sage Publications.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421. doi:10.1037/0003-066X.60.5.410
- Sharkey, J. D. (2003). Examining the relationship between risk and protective factors and juvenile recidivism for male and female probationers. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, 64(6-A), 1976.
- Snyder, C. R. (2002). Rainbows in the mind. *Psychological Inquiry*, 13(4), 249–275.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., . . . Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570–585.
- Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, W. E., Ware, L., Danovsky, M., . . . Stahl, K. J. (1997). The development and validation of the Children's Hope Scale. *Journal of Pediatric Psychology*, 22, 399–421. doi:0146-8693/97/0600-0399

- 
- Snyder, C. R., Lopez, S., Shorey, H. S., Rand, K. L., & Feldman, D. B. (2003). Hope theory, measurements, and applications to school psychology. *School Psychology Quarterly, 18*, 122–139.
- Sourander, A., Elonheimo, H., Niemela, S., Nuutila, A., Helenius, H., Sillanmaki, L., . . . & Almqvist, F. (2006). Childhood predictors of male criminality: A prospective population-based follow-up study from age 8 to late adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*, 578–586. doi:10.1097/01.chi.0000205699.58626.b5
- Te Riele, K. (2010). Philosophy of hope: Concepts and applications for working with marginalized youth. *Journal of Youth Studies, 13*, 35–46. doi:10.1080/13676260903173496
- Tracy, P. E., Kempf-Leonard, K., & Abramoske-James, S. (2009). Gender differences in delinquency and juvenile justice processing: Evidence from national data. *Crime & Delinquency, 55*, 171–215. doi:10.1177/0011128708330628
- Valle, M. F., Huebner, E. S., & Suldo, S. M. (2004). Further evaluation of the Children's Hope Scale. *Journal of Psychoeducational Assessment, 22*, 320–337. doi:10.1177/073428290402200403
- Valle, M. F., Huebner, E. S., & Suldo, S. M. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology, 44*, 393–406. doi:10.1016/j.jsp.2006.03.005
- Wagner, E. F. (2003). Conceptualizing alcohol treatment research for Hispanic/Latino/a adolescents. *Alcoholism: Clinical and Experimental Research, 27*, 1349–1352.

COMMENTARY: Do Youth Mentoring Programs Work? A Review of the Empirical Literature

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Abstract

Mentoring programs represent one of the oldest forms of community-based interventions for at-risk youth, dating back to the progressive era of the first juvenile court at the turn of the 19th century (Blakeslee & Keller, 2012; Tanenhaus, 2004). While programs such as Big Brothers Big Sisters of America (BBBS) have existed for nearly a century (Blakeslee & Keller, 2012) others, such as Amachi, were developed at the turn of the 20th century (Bruster & Foreman, 2012). This article reviews the empirical literature on youth mentoring. The literature reveals, despite the championing of BBBS as an evidence-based program, youth mentoring programs have varying outcomes but overall tend to show a positive, yet weak, impact on educational outcomes and delinquency (Jolliffe & Farrington, 2007). International comparisons are similarly mixed, with educational outcomes and developmental perceptions more commonly studied and cited than delinquency outcomes. Best practices in program administration, mentoring, and evaluation are highlighted.

Introduction

Mentoring relationships represent one of the oldest community-based youth interventions, dating back to the genesis of the first juvenile court in Chicago during the late 1800s when probation officers provided guidance and supervision to youthful offenders in lieu of more damaging alternatives such as institutionalization (Blakeslee & Keller, 2012; Tanenhaus, 2004). Indeed, such formal interventions were rooted in the progressive era as a response to increased poverty at the hands of industrialization, immigration, and urbanization. The highly renowned Big Brothers Big Sisters of America (BBBS) mentoring program, for example, began in 1904 in New York City and today consists of over 375 agencies serving more than 210,000 youth across the United States (Blakeslee & Keller, 2012). However, not until the past two decades has a growing body of empirical literature begun to develop and mature from which to better understand the goals, operations, and outcomes of youth mentoring programs. This article summarizes the literature, beginning with a brief overview of relevant theories, followed by a summary of mentoring programs' effectiveness

as derived from the empirical literature. The article continues with a short examination of vulnerable populations, problems of connecting at-risk youth with mentors, guidance for future program evaluations, best practices for mentoring programs, guidance for mentors, and an international comparison of effectiveness. The article concludes with advice pertinent to researchers, program administrators, and funding organizations. This article is designed to introduce the many complexities of youth mentoring. Readers are encouraged to seek out the various sources contained throughout for more detailed information on a given subject area.

Theoretical Perspective

Youth mentoring programs did not originate within a theoretical framework of an academic philosophy, but rather from the philanthropic aims of community advocates and social work practitioners (Dubois, Doolittle, Yates, Silverthorn, & Tebes, 2006). Youth mentoring literature over the past two decades makes these origins clear. Nonetheless, attempts have been made to retroactively apply theoretical models and constructs, such as those described below, to mentoring programs to aid in our understanding of their underlying assumptions, purposes, and structures. Keeping in mind that a theory is a proposed connection between variables and their relatedness, what follows is a brief introduction to the core tenets of attachment theory, acceptance-rejection theory, social support theory, host provocation theory, oppression theory, sociomotivational theory, relevant criminological theories, and how they relate to mentoring relationships.

Attachment theory refers to the impact that close interactions and caring behaviors of caregivers can have on the quality of youths' future social relationships and behaviors (Britner, Balcazar, Blechman, Blinn-Pike, & Larose, 2006). Poor attachment and bonding with parents can lead to a variety of behavioral problems and reluctance to trust adults. Some studies have shown positive

mentoring relationships can improve parent-child relationships (e.g., Rhodes, 2002; as cited in Britner et al., 2006).

Acceptance-rejection theory posits many behavioral outcomes of youth are the product of their parents' initial acceptance or rejection. Rejection, as found in various self-report studies, is associated with developmental, behavioral, and psychological problems in children, youth, and adults that may include substance abuse and delinquency (Britner et al., 2006). Acceptance, on the other hand, is associated with greater generosity, empathy, and helpfulness toward others. As such, individuals who feel accepted by their parents are more likely to have positive peer relations, higher perceptions of life satisfaction, and less psychological stress than those who perceive themselves to be rejected (Britner et al., 2006; Rohner & Britner, 2002).

Social support theory emphasizes the cumulative advantages that are realized when at-risk youth are connected to social relationships capable of providing material and interpersonal resources not otherwise accessible (Britner et al., 2006). Examples of valuable resources include specific vocational skills, educational support (e.g., helping with homework, completing applications for college admission and financial aid), and practical resources (e.g., transportation).

Host provocation theory contends the basis for juvenile delinquency is rooted in a variety of provocative and negative living conditions of youth (Blechman, Fishman, & Fishman, 2004; as cited in Britner et al., 2006). These conditions include impoverished living conditions, dilapidated housing, exposure to delinquent peers, low self-control (i.e., poor internal controls), and lack of parental supervision or informal community controls (i.e., poor external controls). It is argued such conditions contribute to the onset, prevalence, and persistence of delinquency. As such, effective parenting, along with positive mentors and role models, can protect at-risk youth by providing greater supervision and shielding them

from association with delinquent peers or other negative influences (see also Day, 2006).

Oppression theory concerns the impact of poverty on youth, but is applied specifically to those youth who possess minority status and mental or physical disabilities in combination with abject poverty (Block, Balcazar, & Keys, 2002; Britner et al., 2006). This theory highlights the distinct cumulative disadvantage of this population. These individuals are more likely to suffer from feelings of helplessness and have a poor outlook on future prospects. In such cases, mentors who share similar characteristics can prove to be positive powerful role models.

Sociomotivational theory presents three core facets of mentoring relationships as the necessary prerequisite for positive prosocial change among youth (Britner et al., 2006; Larose & Tarabulsy, 2005): relatedness, autonomy, and competence as relevant to the educational or community setting. In other words, youth are reliant on mentors to provide guidance, but also autonomy. The mentor provides an opportunity for youth to engage with their community through informed decision-making. Ideally, this improved autonomous awareness will encourage youth to seek out other community services. At its core, the mentor must provide structure (i.e., transfer knowledge) and guidance while involving and allowing the mentee to make his or her own decisions. Furthermore, the ability of a mentor to engage a mentee is contingent on the emotional attachment, trust, and bond formed between the two individuals. When the bond is strong and the mentor provides encouragement and support consistently, it is hypothesized the youth will experience positive outcomes and become more amenable and trusting of other community resources.

Clearly, the theories applied herein have been referenced predominantly by the social work and child welfare literature. However, several of these theories are also complemented by a variety of criminological theories (see Cullen & Agnew, 2006; Kubrin, Stucky, & Krohn, 2009; Mutchnick,

Martin, & Austin, 2009; Vold, Bernard, & Snipes, 2002; Williams & McShane, 2004). Host provocation theory, for example, makes essentially the same assertion as that of *general strain theory* (Agnew, 2006). Namely, the presence of noxious stimuli can induce stress and frustration, which may manifest itself as an increased propensity for delinquency. In addition, the lack of internal and external controls correlates well with control theories, such as *self-control* (Gottfredson & Hirschi, 2006) and *social bond* (Hirschi, 2006), while *differential association* is clearly relevant to the concept of delinquent peers (Sutherland & Cressey, 2006). The theory of *social disorganization* complements host provocation and oppression theories (Sampson & Wilson, 2006; Shaw & McKay, 2006).

These theories provide a framework to help us understand the basis, rationale, and operation of youth mentoring programs. They also serve as the basis for empirical examination. It is expected that providing youth with positive mentoring opportunities will improve a variety of outcomes, including better social relationships (i.e., attachment theory) and parental connectedness (i.e., acceptance-rejection). Ideally, mentors will expose youth to prosocial social networks that can lead to a variety of positive opportunities (i.e., social support theory). Sociomotivational theory supports the need for mentors to nurture the cognitive development, independence, and emotional needs of the mentee. Theories such as host provocation, oppression, strain, self-control, social bond, differential association, and social disorganization represent barriers mentors may face and need to address as they interact with youth. The following sections will explore the experiences, operations, and outcomes of specific mentoring programs in greater depth.

Review of Youth Mentoring Programs and Evaluations

Youth mentoring, at its core, is designed to be a *corrective experience* for at-risk youth who have experienced poor relations with parents or other caregivers (Grossman, Chan, Schwartz, & Rhodes, 2012). Defined more broadly, mentoring

programs are designed to improve child well-being in terms of three overarching domains: cognitive development, health and safety, and social and emotional stability (Herrera, DuBois, & Grossman, 2013; Jekielek, Moore, & Hair, 2002). Specifically, mentors can help youth better understand, express, and regulate their emotions. Such improvements enable more prosocial interactions with caregivers, peers, and other adults.

A variety of mentoring programs exist, including BBBS, Amachi, Cincinnati Youth Collaborative (CYC), and Mentoring Children of Prisoners (MCP) (Broussard, Mosley-Howard, & Roychoudhury, 2006; Bruster & Foreman, 2012; Grossman et al., 2012; Lemmon & Verrechia, 2009; Mihalic, Irwin, Elliott, Fagan, & Hansen, 2001). The National Mentoring Partnership's (a.k.a., MENTOR) database recognizes more than 5,000 mentoring programs serving approximately three million youth (Blakeslee & Keller, 2012). Some programs have existed for nearly a century (e.g., BBBS) while others (e.g., Amachi, CYC) have been around for less than two decades.

BBBS has been the most extensively examined mentoring program to date (Grossman et al., 2012; Grossman & Tierney, 1998; Herrera et al., 2007; Herrera, Grossman, Kauh, & McMaken, 2011). Recognized as a model program by the Office of Juvenile Justice Delinquency and Prevention (OJJDP) through the Blueprints for Violence Prevention initiative and subsequently deemed an evidence-based program (Lemmon & Verrechia, 2009; Mihalic et al., 2001; Mihalic, Fagan, Irwin, Ballard, & Elliott, 2004), BBBS has been identified as an effective intervention for elementary to high school age youth. Specifically, BBBS serves youth ages 6 to 18, often from disadvantaged communities and single-parent households (Mihalic et al., 2004). Volunteer mentors are screened, trained, and carefully matched with mentees. Mentors commit to meeting their mentees three or more times a month for a total of 5 or more hours and engaging in mutually agreed upon activities, such as attending after-school events, sporting events, walking in a park, and

going to a library. A program coordinator regularly makes contact with the mentor, mentee, and parent to monitor the relationship. An 18-month evaluation of eight BBBS programs revealed that youth engaged in a mentoring program were 46% less likely to begin using drugs, 27% less likely to begin using alcohol, 32% less likely to be involved in assault, less likely to skip school, and had improved academic attitudes and peer and family relations. Finally, the rigorous review of mentoring programs conducted by OJJDP found BBBS to be the only program to be extensively evaluated and demonstrably capable of reducing drug use and delinquency (Mihalic et al., 2004).

Amachi, a program originating in Philadelphia as a collaboration between BBBS and faith-based organizations, derived its name from the West African word for "who knows but what God has brought us through this child" (Bruster & Foreman, 2012). Unlike BBBS, which targets all youth in need, Amachi focuses specifically on youth whose parents or relatives are incarcerated. The program was developed in 2000 and today there exist roughly 350 Amachi mentoring programs across the United States, serving more than 300,000 youth. Early evaluation studies of Amachi found that youth who were engaged in a 12-month or longer mentoring relationship felt more confident about education and their grades, and had improved school attendance. A large proportion of mentees also reportedly ceased using drugs or alcohol (Juvocy, 2003; as cited in Bruster & Foreman, 2012; see also Smith, 2012).

Amachi has much in common with BBBS and operates in a similar fashion, but with an exclusive focus on youth with incarcerated parents (Smith, 2012). While the program is championed as a faith-based initiative, it does not require its mentors or mentees to be of a particular religious affiliation. Like BBBS, mentors are screened and trained prior to being matched with a mentee. Mentors can be volunteers or recruited through local churches and congregations. The mentoring is one-on-one and mentors are expected to commit to at least a 1-hour weekly meeting or two

2-hour meetings per month. Amachi originally started with funding from the Pew Charitable Trusts and continues to seek sustainable funding from various sources in addition to Pew.

Two additional programs, the CYC and MCP, have also been associated with some positive findings in the literature. CYC was developed as a grassroots effort by educators and government professionals in 1987 as a response to increased dropout rates in Cincinnati public schools (Broussard et al., 2006). The mentoring program focuses its efforts on tutoring, postsecondary education, and youth employment. Said to have matched more than 1,000 youth from grades 3 to 12 with mentors, the program focuses specifically on inner-city impoverished male and female youth (95% of whom live in poverty) who are predominantly African American. Unlike BBBS and Amachi, which are community-based, CYC possesses a strong, school-based component that involves pairing mentees with paid youth advocates who supervise academic progress in addition to other activities, such as weekly meetings, home visits, and building relationships with the mentees' relatives.

Researchers conducted group interviews with CYC mentees/students, youth advocates, and parents (Mosley-Howard, Broussard, & Roychoudhury, 2001; as cited by Broussard et al., 2006). According to their self-reports, mentees/students who met, on average, at least four times a week with a youth advocate perceived the program to be effective in enabling positive prosocial changes in their behavior and academic prospects. Specifically, mentees were appreciative of the youth advocates' ability to keep them focused and motivated on school work as opposed to loitering on the street or arguing with teachers. Unsurprisingly, the youth advocates believed they were making a difference and cited assistance with completing college applications and financial aid forms as distinct signs of progress. Conversely, parents voiced a need for greater communication with the youth advocates. Parents also expressed dismay as to why some,

but not all, of their children could be involved in the program. At the most extreme, some parents indicated feelings of frustration, believing their authority as a parent had been undermined by the youth advocate. Unfortunately, no systematic data has been collected on mentees aside from anecdotal evidence from the youth advocates, which greatly impairs the program's evaluability.

MCP, like Amachi, is a national initiative aimed at providing mentors for youth with incarcerated parents. The MCP program conducted at the Seton Youth Shelters (SYS), located in Virginia Beach, Virginia was developed in 1985 to aid youth in crisis and foster family reunification (Bruster & Foreman, 2012). Youth who enter SYS may stay from 1 to 90 days, depending on their needs. The service is provided at no cost to needy youth. While there, they attend public school and receive individual, family, and group counseling. In 2006 it was recognized that a large proportion of admissions were for youth with incarcerated parents, and a mentoring program was developed to provide these youth, ages 10 to 11, with positive adult role models. These mentors provided one-on-one time with at-risk youth, provided prosocial avenues for recreation, and encouraged educational achievement. Like other youth mentoring programs, MCP requires weekly mentor-mentee meetings with structured activities such as assistance with homework, trips to the library, and special events (e.g., sports).

Since its inception, MCP has paired 206 youth with mentors. Of those matches, 60% remained intact for 1 year or longer. The majority of early terminations, about 24%, were caused by extenuating circumstances of the mentor, mentee, or the mentee's family that were beyond their control (e.g., moving, deployment, illness, or crisis). Only approximately 10% of premature terminations were due to communication issues. Bruster & Foreman (2012) utilized a survey of children and their caregivers to gauge perceptions of the program's effectiveness by asking about the parent's incarceration and issues concerning housing, interventions, mental health, and communication.

With the majority of mentees being African American (54%) and male (64%), their findings revealed that families held positive opinions of the mentoring program. Mentees, in particular, felt mentors were supportive and motivated them to do better academically.

A variety of other mentoring programs exist, including Across Ages, The Buddy System, Building Essential Life Options Through New Goals (BELONG), Career Beginnings, Campus Partners in Learning, Hospital Youth Mentoring Program, Linking Lifetimes, Raising Ambition Instills Self-Esteem (RAISE), and Sponsor-A-Scholar (Jekielek et al., 2002). These programs, like those already mentioned, share many common elements. In particular, each program supports close positive relationships between at-risk youth and caring adults who are community volunteers. Programs usually provide clear guidelines for the frequency and substance of the contact between youth and mentors. However, there are differences, such as the ways in which they organize and provide services (e.g., life skills training, academic tutoring, and community service). Overall, these mentoring programs demonstrate the consistent trend of improving educational outcomes, resulting in improved attitudes toward school, fewer unexcused absences, and a higher likelihood of attending college. Youth in these programs also tend to be less likely to use drugs or alcohol than youth who are not in these programs. In some cases, youth are less likely to engage in delinquent behaviors, though this finding is not consistent across programs. Furthermore, mentoring has shown to improve parent-youth relations and youths' sense of self-worth. Mentoring has also reportedly improved mentees' perceptions of elders and encouraged greater generosity and caring for others. Such benefits appear to hold true even for high-risk youth. However, these programs do not seem to have an effect on parental relations or school absences (Herrera et al., 2013; Tolan, Henry, Schoeny, Bass, Lovegrove, & Nichols, 2013).

Recently, a variety of systematic reviews and meta-analyses were conducted on youth mentoring programs. As mentioned previously, OJJDP's systematic evaluation utilized a rigorous methodology, finding that only BBBS had been appropriately evaluated and had a substantive, though perhaps modest, positive impact on youth outcomes (i.e., academic improvement, delinquency reduction; Mihalic et al., 2001, 2004). OJJDP did not conduct a meta-analysis, however, meaning that cumulative evaluative results could lead one to alternate conclusions. The Substance Abuse and Mental Health Services Administration (SAMHSA), relying on meta-analytical techniques, for example, found only a mentoring program known as Across Ages to be suitable as a model program, whereas BBBS was deemed an effective (i.e., promising) program (Rhodes, 2008). SAMHSA's interest is in behavioral and psychological outcomes; OJJDP's interest is in criminological outcomes.

More recent reviews and meta-analyses, therefore, prove especially informative (Dubois, Holloway, Valentine, & Cooper, 2002; Dubois, Portillo, Rhodes, Silverthorn, & Valentine, 2011; Jolliffe & Farrington, 2007; Rhodes, 2008; Tolan et al., 2013). As Rhodes (2008) explains, there is a great deal of literature devoted to the interests of youth mentoring interventions but a paucity of evaluative research, and few methodologically rigorous, outcome evaluations. Several primary studies have provided evidence that youth mentoring programs can work for some and have improved social, academic, and behavioral outcomes (DeWit et al., 2006; Dubois et al., 2002; 2011; Grossman & Tierney, 1998; Herrera et al., 2007, 2011; Karcher, 2005; Keating, Tomashina, Foster, & Allesandri, 2002). Dubois and colleagues' meta-analyses (2002; 2011) revealed positive effects of youth mentoring programs, but the strength of the effects of such programs overall were weak. That said, the variation in effect sizes across studies was substantial. The researchers found that well-structured programs with clear goals and expectations, and continued

mentor support, had the strongest effects. In a more recent meta-analysis of 46 youth mentoring program evaluations, researchers found moderate effect sizes in reducing delinquency, aggression, and drug use and improving academic functioning (Tolan et al., 2013). Finally, Jolliffe & Farrington (2007) examined the impact of youth mentoring on juvenile recidivism. With 18 relevant studies located for inclusion, their meta-analysis revealed an overall significant but weak effect. Furthermore, while 7 studies demonstrated a significant positive effect, the other 11 possessed null or negative but nonsignificant results. Of the many attempts to comprehensively integrate the literature, the need for randomized experimental evaluations continues. The outcomes of these meta-analyses were contingent on the methodology of the studies included, as well as on differences among the youth, mentors, and program characteristics (Rhodes, 2008).

To summarize, there are numerous youth mentoring programs across the country. They vary in terms of setting (school vs. community-based) and target population (e.g., high-risk, youth with incarcerated parents), yet conceptually they are similar. Most programs recruit volunteers, conduct screening and matching assessments, and support the mentoring relationship. Evaluation research has occurred more recently in the past two decades. A moderate number of studies have been evaluated in a variety of meta-analyses. The results of these studies, along with the many primary studies, have exposed a common trend. Specifically, youth mentoring programs tend to work well in fostering improved mentee attitudes toward school, behavior, and social relationships with peers and others. Less demonstrated is their effect on reducing delinquency or justice-related outcomes, although there has been some limited support that these programs are effective in reducing youths' drug and alcohol use. Overall, the strength of mentoring programs has generally been regarded as positive, but weak to moderate. The following sections aim to

provide guidance on practices that may enhance the mentoring experience and support positive outcomes.

Vulnerable Populations

As the previous section implied, the effectiveness of mentoring programs can vary due to a multitude of circumstances. That said, this section identifies a number of vulnerable populations that may benefit from mentoring programs. These include abused and neglected youth, youth with disabilities, pregnant and parenting adolescents, juvenile offenders, academically at-risk students, urban youth, youth with incarcerated parents, and youth with co-occurring risk factors.

More than five million youth are referred to the services of a child protective agency in any given year, with roughly 900,000 found to be victims of abuse or neglect (Britner et al., 2006). Perpetrators are most often the parents. More than 500,000 children are living in foster care. Research has shown neglected and abused youth are more likely than other youth to have their mentoring matches end prematurely (Grossman & Rhodes, 2002; Rhodes, Haight, & Briggs, 1999). The difficulties in maintaining matches with adult mentors are often connected to an inability to trust others as a product of their abuse. Nevertheless, foster care youth have been found to benefit from mentoring and reportedly exhibit significant improvements in self-esteem.

Approximately 11% of students between the ages of 6 and 13 in the United States receive special education services as a result of physical or mental impairment and disabilities (Britner et al., 2006). Youth with disabilities have been found to benefit from adult mentors who also have disabilities. These mentors are able to assist youth in developing strategies for overcoming their impairments, promoting greater independence and autonomy. Peer mentors with disabilities have also demonstrated effectiveness. That said, mentors without disabilities have also still been

able to influence these youths positively in terms of educational goals.

Forty-three in 1,000 females between the ages of 15 and 19 experience pregnancy (Britner et al., 2006). Research has shown mentors for pregnant teenagers or adolescent parents can lower levels of depression, improve access to support networks, and encourage adolescents to seek out other social services. In addition, studies have shown mentored adolescent parents are less likely to abuse their children.

Juveniles account for approximately 2.3 million arrests in a given year, roughly 17% of all arrests and 15% of all arrests for violent crime (Britner et al., 2006). One of the difficulties with assessing mentoring of juvenile offenders is the many interventions to which they are exposed. In effect, it can become difficult for researchers to parse out which interventions, actors, or systems are the sources of change for juveniles. In one study comparing mentoring with skills training, the authors found skills training to be more cost effective, leading to a 14% reduction in recidivism (Blechman, Maurice, Buecker, & Helberg, 2000). Such a finding is not surprising given the relatively weak impact of mentoring on juvenile recidivism as reported in Jolliffe & Farrington's (2007) meta-analysis.

An estimated 15% of American youth will fail to graduate high school in a given year (Britner et al., 2006). African American male youth residing in impoverished inner-city urban areas are at the greatest risk for dropping out of school (Pettit, 2012). Dropping out is often related to poor performance in school previously (Britner et al., 2006). As such, delays and difficulties beginning early in elementary school accumulate, leading to greater risk for failure and dropout in high school. School-based mentoring has often been less effective than community-based programs. Nonetheless, school-based mentoring has been found to increase positive attitudes toward school, self-esteem, a willingness to help others, improved grades, and a reduction in school absences (Britner et al., 2006; Grossman et al., 2012).

Urban youth living in impoverished neighborhoods are especially vulnerable to negative community influences and delinquency (Broussard et al., 2006). Only anecdotal evidence of the effectiveness of programs such as CYC, as already mentioned, is available. Nevertheless, this evidence highlights the positive perceptions of African American youth on the mentor's ability in such programs to keep them focused on academics and away from the street.

Fifty-four percent of inmates are parents, and more than 2.7 million children have parents behind bars (i.e., prison or jail; Bruster & Foreman, 2012; Pew, 2013). In other words, 1 in 28 children has an incarcerated parent. When categorized by race, African American children are the most likely to have an incarcerated parent, with a rate of 1 in 9, followed by Hispanic children with a rate of 1 in 28, and White children with a rate of 1 in 125. Roughly 80% to 90% of incarcerated parents have some form of contact with their children (e.g., telephone, letters, visits). For many, the telephone or handwritten letters are the most common form of contact. Approximately 53% of African American inmates reportedly speak to their children at least once a month. The rate of contact is higher for African Americans than for Whites (40%) or Hispanics (36%; Bruster & Foreman, 2012); perhaps this is an artifact of African Americans' disproportionate rates of incarceration (see Pettit, 2012; Tonry, 2011; Wacquant, 2009; Western, 2008). In terms of daily contact, incarcerated female offenders (14% to 27%) are more likely to stay in touch than male offenders (9% to 18%). Youth who visit their incarcerated parents on a regular basis and possess a positive relationship tend to exhibit fewer behavior problems (Bruster & Foreman, 2012). Furthermore, when an inmate maintains contact with his or her family, the inmate's behavior while incarcerated has been shown to improve and the likelihood of recidivism is reduced. The children of incarcerated adults typically reside with the other parent or a close relative (e.g., grandparent). Only approximately 12% of children with incarcerated parents are

placed in foster care. In the case of incarcerated fathers, the child is most often placed with the mother (90%). However, only 28% of incarcerated mothers have reported the child being left in the care of the father.

As reported by the Pew Charitable Trusts (2013), having an incarcerated parent hurts children educationally and financially. Families with an incarcerated father, in particular, bring home approximately 22% less income than other families. Furthermore, these youth are more likely to be expelled or suspended from school for behavioral problems, roughly 23% compared to 4% for other youth. Programs such as Amachi, MCP, and SYS are based on the recognition that youth with incarcerated parents are at increased risk for delinquency and in need of prevention or intervention. Evaluations of the effectiveness of these programs to date rely on anecdotal data from mentees, mentors, and parents (Broussard et al., 2006; Bruster & Foreman, 2012). The results are largely positive and show increases in reported measures of self-esteem and commitment to education. However, other studies on the impact of juvenile recidivism and delinquency must lead one to be, at best, cautiously optimistic about such programs' effectiveness in reducing the onset and persistence of delinquency among youth with incarcerated parents (Jolliffe & Farrington, 2007).

Youth with co-occurring risk factors, much like those addressed by *oppression theory*, mentioned previously, possess multiple risk factors for juvenile delinquency such as neglect, poverty, disabilities, and/or mental illness. These youth are even more disadvantaged and have greater needs than other youth (Britner et al., 2006). However, the literature to date has not classified youth from a multidimensional perspective of converging disadvantages. Given the generally positive, though perhaps weak-to-moderate effect of mentoring programs on academic outcomes and self-esteem, it would seem reasonable to hypothesize such programs would have the same effects on youth who possess multiple or a combination of risk factors.

These vulnerable populations are a source of both optimism and skepticism for the state of youth mentoring programs and their evaluations. It generally appears that mentoring programs have an impact on youth, even youth with a variety of disadvantages, but the effect is likely to be limited and weak. Furthermore, program results can be quite dispersed, with larger effects on certain youth in certain circumstances as opposed to others (Rhodes, 2008). Perhaps part of the disparity in evaluation findings is a product of youth with varying degrees of risk and needs. Modern day pretrial, probation, and parole agencies rely heavily on risk/needs assessment instruments (e.g., LSI-R, COMPASS) to appropriately categorize, manage, and provide relevant services to defendants, probationers, and parolees (Andrews, Bonta, & Hoge, 1990; Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Dowden & Andrews, 2004; Taxman & Thanner, 2006). In fact, a great deal of effort has been expended in some cases to empirically validate such instruments. Yet the youth mentoring literature makes only a passing mention of screening and inclusion criteria. It is clear programs are employing a set of inclusion criteria but it is unclear how that inclusion informs the matching of mentors to mentees, or how, and whether, inclusion criteria inform program evaluation.

Issues of Accessibility and Support

While youth mentoring programs hold promise for youth at greatest risk for educational problems and delinquency, their ability to obtain and match youth with prosocial adults is a complicated endeavor that encounters many barriers. First, those most in need of mentors often live in impoverished neighborhoods where locating suitable mentors is difficult (Hamilton & Hamilton, 2010). Furthermore, those who would often serve as the best mentors lead busy lives. Even when appropriately matched, differing schedules can complicate match experiences. Finally, the length of time that mentors and mentees spend together can be limited by time constraints. If too little

time is afforded, the impact may be trivial and the focus more on fun time than substantive, goal-oriented endeavors. In such cases mentors can experience burnout and feel they have been taken advantage of.

Although not explicitly identified in the literature in relation to youth mentoring, there should be some thoughtful discussion of the impact of returning, desisting offenders who participate and work in prevention and intervention programs. The reason for this trend, as Maruna's (2001) book clearly articulates, comes from ex-convicts' desire to not only renew their lives but to repackage their past life in a positive light. In other words, they use their past criminal behaviors to serve a larger purpose: that is, to help them guide wayward youth and turn them away from an antisocial lifestyle. In addition, many lack the skills for other conventional jobs and under such circumstances their criminal experiences can be construed as marketable (Pettit, 2012). However, there is some inherent danger in utilizing former offenders in prevention and intervention strategies.

Violence interrupters (a.k.a., street workers), for example, have been used in some gang intervention programs designed to intervene in gang conflicts as they arise (Ritter, 2009). The reasoning is that former, supposedly denounced, gang members know the social networks of gangs in their areas and are better equipped to know when, where, and how, to intervene in gang conflicts than those who have not previously been involved in gangs. There are two primary dangers present when utilizing violence interrupters: (a) the former offender may be placed in danger, and (b) former offenders may take advantage of legitimate program resources to engage in illegal activities (Klein & Maxson, 2006).

Violence interrupters represent an extreme example. No doubt mentoring programs would be careful in their selection of mentors but, nevertheless, former offenders do sometimes participate. Mentoring programs should consider what former, desisting offenders can and cannot offer

youth. They can serve as powerful role models for delinquent youth and demonstrate success through prosocial means. What some youth in inner-city ghettos refer to as "being real" illustrates the enhanced legitimacy afforded to former offenders. On the other hand, they could symbolize an inappropriate sense of normalcy; that offending, whether minor drug offenses or otherwise, is part of the inner-city transitioning process to adulthood. Mentoring research to date seems to have focused on satisfaction and outcome measures but appears to have neglected the heterogeneous characteristics of the mentors.

Guidance for Future Evaluation

Dubois and colleagues (2006) recommend a three-stage process of program evaluation for youth mentoring. The first stage, *pre-intervention*, concerns the development of the research design, piloting, refinement, and preliminary analyses. At this early stage the focus is on individual and population studies. In other words, what are the needs of the individuals and how do those needs relate to the larger population and resources available within the community? The first stage also concerns ways to minimize any harm youth may encounter when engaged in the program. The second stage, *intervention*, represents the process of using early research findings and collaboration with stakeholders to inform current program strategies and prepare for more in-depth evaluations. At this stage a full-scale efficacy trial is recommended, and evaluation procedures should include satisfaction perceptions from mentors and mentees, program benefits, costs, cost-effectiveness, and a cost-benefit ratio. Finally, the third stage, *preventative service system intervention research*, concerns the impact of the intervention on youth outcomes. Care should also be taken to ensure program fidelity (see also Wheeler, Keller, & DuBois, 2010). Finally, cost-effectiveness/cost-benefit analyses will provide a bottom line for the program's overall value.

In addition, Deutsch and Spencer (2009) provide a variety of measures worthy of consideration

by youth mentoring programs. These can be divided into hard (e.g., employment, education, training) and soft (e.g., self-esteem, personal development) outcomes. Furthermore, measures can be differentiated in terms of mentoring relationship outcomes and mentoring program outcomes. Mentoring relationship outcomes include duration (e.g., closure rates, average length of matches, percentage of matches maintained beyond 1 year); frequency/consistency of contact (i.e., dosage); connection (i.e., bond between mentor and mentee); mentor approach (developmental vs. instrumental); and mentor/mentee satisfaction. Though some scales exist, many require further validation of their psychometric properties (Dubois et al., 2006; Deutsch & Spencer, 2009). Mentoring program outcomes include screening criteria, program expectations of the mentors (i.e., commitment), training provided to mentors, structured activities provided for mentors and mentees by the program, and methods of monitoring relationships. The combination of Dubois et al.'s (2006) outcome-laden recommendations and Deutsch and Spencer's (2009) multiple domain perspective provides a host of measures needed to more fully document and understand the processes and impact of youth mentoring.

Best Practices for Mentoring Programs

Deutsch & Spencer (2009) provide seven best practices for youth mentoring programs that are rooted in empirical findings. These include (a) select experienced mentors, (b) set expectations at the outset, (c) provide ongoing training, (d) support parental involvement, (e) provide structured activities, (f) utilize a community-based versus school-based approach, and (g) systematically monitor the program. A valuable resource, MENTOR (2009) similarly provides guidance on best practices in the conduct of youth mentoring programs. MENTOR's report provides guidance on program management, program evaluation, recruitment, screening, training, matching, monitoring/support, and closure.

Bottom-line, mentoring works best when matches meet for at least 4 hours a month and relations stay intact for at least 1 year (Grossman et al., 2012; Jekielek et al., 2002; MENTOR, 2006). It is worth noting that in a recent study of high-risk youth mentoring, Herrera and colleagues (2013) did not find the length of the match or rematching to have a distinguishable impact on outcomes, although they did find a noticeable decrease in the overall benefits of mentoring on those who were rematched. Nonetheless, selecting experienced mentors who come from helping backgrounds is particularly important for sensitive youth who have been abused or neglected (Grossman et al., 2012; Herrera et al., 2013). Although research has not typically focused on parents, a study by Spencer, Collins, Ward, and Smashnaya, (2010) demonstrates parents are important stakeholders in the mentor-mentee relationship and their involvement can be vital to the relationship's longevity. Parents often serve as collaborators in suggesting appropriate activities and strong mentor-parent relationships instill confidence and trust that allow for a healthier bond to form with mentees. Mentoring does not work when matches are prematurely terminated, typically within the first 3 months (Grossman et al., 2012; Rhodes, Spencer, Keller, Liang, & Noam, 2006). School-based mentoring (SBM) matches tend to end sooner than community-based matches (CBM). The average length of matches in SBM is about 5 months compared to 1 year for CBM (see also MENTOR, 2006). While early terminations yield no positive impact on youth, they also do not negatively impact the youth. However, rematched youth tend to have more negative outcomes. This could be due, in part, to feelings of rejection from the last match. Finally, youth in high-stress situations matched with college student mentors are more likely to experience early terminations.

Mentoring Styles

Various authors have recognized differences in mentoring styles (Karcher & Nakkula, 2010; Keller

& Pryce, 2012; Lock et al., 2006; Pryce & Keller, 2013; Pryce, 2012; Thomson & Zand, 2010). While often characterized as a dichotomy, Karcher and Nakkula (2010) explain that mentors exist on a continuum of two overarching dispositions: (a) *developmental*, in which the focus is on bonding and making emotional connections, and (b) *instrumental* (or prescriptive), in which the focus is on specific goals and outcomes. Karcher and Nakkula recognized mentoring styles can change over time and used three dimensions to characterize mentor and mentee interactions. First, *focus* pertains to whether the objective of the mentor-mentee interaction is primarily emotional or goal-oriented. It is possible for an emotional interaction to have goals but the goals are secondary. Likewise, a goal-oriented mentor may infuse opportunities for emotional connection but this is of secondary importance. Second, *purpose* refers to whether the interaction is intended to meet conventional adult (i.e., skills for adulthood) or youth (i.e., play) needs. Finally, *authorship* concerns the method by which the mentor and mentee come to agree on a given activity. The activity could be at the discretion of the mentor, collaboratively agreed upon by both, or deferred solely to the youth.

Keller and Pryce's (2012) study of 26 new BBBS relationships in three schools in low-income urban areas, using interviews and questionnaires, developed four relationship characterizations. First, the *teaching assistant/tutor* relationship focused on school work. The *friend* participated in playing games and conversation. The *sage/counselor* went a step further than being a friend by offering sound advice and a greater concern for the mentees' well-being. Finally, the *acquaintance* represented mentoring relationships that were experiencing difficulty or awkwardness. Of these distinct relationship typologies, those in sage/counselor relationships expressed the most positive outcomes, with reductions in depressive symptoms and aggressive behavior. Not surprisingly, the acquaintance relationships featured the poorest outcomes, including an increase in

aggressive behaviors. Keller and Pryce (2012) specifically highlight the importance of being attentive to youths' needs, staying positively engaged, and supporting the mentee's learning needs and development.

While Karcher and Nakkula (2010) and Keller and Pryce (2012) each characterized a continuum of mentoring styles and interactions, it is clear that both *laissez-faire* (i.e., those that are understructured) and solely prescriptive mentoring styles (i.e., those that are overly structured) are not effective. Finally, while many mentoring programs will possess various training materials to assist mentors, Manza and Patrick's (2012) question-and-answer styled book is particularly insightful and intuitive.

International Comparison

A variety of evaluations have been conducted across the globe on youth mentoring programs, which often share the same goals and aspirations as those in the United States (Bodin & Leifman, 2011; Brown et al., 2009; Farruggia, Bullen, Solomon, Collins, & Dunphy, 2011; Goldner & Mayselless, 2009; Newburn & Shiner, 2006). In Britain, as in the United States, mentoring programs were found to increase involvement in education, training, and work, but were less successful in reducing delinquency (Newburn & Shiner, 2006). Sweden's attempt to prevent adolescents' substance abuse through mentoring was unsuccessful, showing no statistically significant results (Bodin & Leifman, 2011). The study conducted in Sweden suffered from a low response rate and the program had a high number of premature terminations. A study in Israel by Goldner & Mayselless (2009) of the Perach mentoring program found improvements in academic adjustment, social support, and well-being, but did not examine delinquency.

A unique study in Rwanda examined adult mentors' impact on youth-headed households resulting from a high prevalence of AIDS. It found mentors helped ameliorate youth grief, youth

perceived greater adult support, and youth had a slight decrease in rates of depression (Brown et al., 2009). Finally, a meta-analysis of 22 mentoring programs targeting at-risk socio-economically disadvantaged youth in New Zealand found no significant impact on educational or delinquent outcomes (Farruggia et al., 2011). It has been argued that one-on-one mentoring may be culturally inappropriate, especially for groups such as the Maori and Pasifika, who value group needs over individual ambitions. Four mentoring programs have included culturally appropriate components yet they still failed to demonstrate substantive outcomes.

Conclusion

Youth mentoring programs do work, but not always. Furthermore, what works depends to some extent on what outcomes are deemed most important. For example, if the aim is to reduce delinquency then, unfortunately, there is limited evidence to suggest youth mentoring programs are effective (Rhodes, 2008). If educational outcomes and self-esteem are considered valuable, then one may have a more cognizant argument. Overall, results are still not as favorable as one would hope, with effects often being weak or, at best, moderate in strength. However, with more than 5,000 youth mentoring programs in existence across the country, it is clear there are many evaluations yet to occur that could prove informative to this growing body of empirical literature (Blakeslee & Keller, 2012). Furthermore, the literature that does exist has been developed predominantly within the last two decades.

As Rhodes (2008) noted, meta-analyses are subject to variations across studies; the overall effects documented are often the results of a number of positive studies tempered by a variety of low-impact or negative studies associated with a high number of premature terminations (e.g., Bodin & Leifman, 2011). Indeed, it may not be a matter of whether mentoring programs work but rather *when* they work. This review of the research has demonstrated that mentoring

programs are most likely to work when matches possess longevity and structure, promote youth autonomy, and represent a balance of emotional and goal-oriented activities. They do not work when matches terminate prematurely or sensitive youth are matched with casual, inexperienced mentors (see also Herrera et al., 2013).


Although OJJDP formally recognized BBBS as an *evidence-based program* based on a rigorous evaluation associated with a positive impact, the cumulative evidence of effectiveness of mentoring programs as demonstrated by a variety of meta-analyses is less convincing (Dubois et al., 2002; Jolliffe & Farrington, 2007; Rhodes, 2008). Not only is more research needed, especially longitudinal research, but the research needs to take a more systematic and collaborative focus that recognizes a variety of process and outcome measures (Dubois et al., 2006; Deutsch & Spencer, 2009). Besides stable funding to ensure fidelity, youth mentoring programs need to support mentors with ongoing training, continue to provide structured activities, and collect the data needed for short-term and long-term evaluations.

Although research leading to more definitive outcomes is needed, especially in terms of delinquency, youth mentoring programs overall have been demonstrated to work, as a variety of meta-analyses have illustrated (Dubois et al., 2011; Herrera et al., 2013). Although mentoring programs' impact may be weak or moderate in strength, and programs will experience both successes and failures in their matches, these programs are, by and large, positively influencing the lives of youth. Considering that the time spent between mentors and their mentees is limited (an hour or two a week), the evidence that such programs have an impact at all speaks to the potential they possess. Furthermore, in terms of cost-benefit, most programs comprise volunteer mentors, presenting a substantial value to the community. Going forward, the question of mentoring should not be concerned so much with *can* or *does* it work, but rather, *when* and *how* does it work, and how can it be improved?



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References

- Agnew, R. (2006). Pressured into crime: General strain theory. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential Readings* (pp. 201–209). Los Angeles, CA: Roxbury Publishing Company.
- Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice & Behavior*, *17*(1), 19–52.
- Blakeslee, J. E., & Keller, T. E. (2012). Building the youth mentoring knowledge base: Publishing trends and coauthorship networks. *Journal of Community Psychology*, *40*(7), 845–859.
- Blechman, E. A., Maurice, A., Buecker, B., & Helberg, C. (2000). Can mentoring or skill training reduce recidivism? Observational study with propensity analysis. *Prevention Science*, *1*, 139–155.
- Block, P., Balcazar, F., & Keys, C. (2002). Race, poverty and disability: Three strikes and you are out! Or are you? *Social Policy*, *33*, 34–38.
- Bodin, M., & Leifman, H. (2011). A randomized effectiveness trial of an adult-to-youth mentoring program in Sweden. *Addiction Research and Theory*, *19*(5), 438–447.
- Bonta, J., Rugge, T., Scott, T.-L., Bourgon, G., & Yessine, A. K. (2008). Exploring the black box of community supervision. *Journal of Offender Rehabilitation*, *47*(3), 248–270.
- Britner, P. A., Balcazar, F. E., Blechman, E. A., Blinn-Pike, L., & Larose, S. (2006). Mentoring special youth populations. *Journal of Community Psychology*, *34*(6), 747–763.
- Broussard, C. A., Mosley-Howard, S., & Roychoudhury, A. (2006). Using youth advocates for mentoring at-risk students in urban settings. *Children & Schools*, *28*(2), 122–127.
- Brown, L., Thurman, T. R., Rice, J., Boris, N. W., Ntaganira, J., Nyirazinyoye, L., ... Snider, L. (2009). Impact of a mentoring program on psychosocial wellbeing of youth in Rwanda: Results of a quasi-experimental study. *Vulnerable Children and Youth Studies*, *4*(4), 288–299.
- Bruster, B. E., & Foreman, K. (2012). Mentoring children of prisoners: Program evaluation. *Social Work in Public Health*, *27*, 3–11.
- Cullen, F. T., & Agnew, R. (2006). *Criminological theory: Past to present: Essential readings* (3rd ed.). Los Angeles, CA: Roxbury Publishing Company.
- Day, A. (2006). The power of social support: Mentoring and resilience. *Reclaiming Children and Youth*, *14*(4), 196–198.
- Deutsch, N. L., & Spencer, R. (2009). Capturing the magic: Assessing the quality of youth mentoring relationships. In N. Yohalem, R. C. Granger, and K. J. Pittman (Eds.), *Defining and measuring quality in youth programs and classrooms: New directions for youth development* (pp. 47–70). Wiley Periodicals, Inc.
- DeWit, D. J., Lipman, E., Manzano-Munguia, M., Bisanz, J., Graham, K., Offord, D. R., ... Shaver, K. (2006). Feasibility of a randomized controlled trial for evaluating the effectiveness of the Big Brothers Big Sisters community match program at the national level. *Children and Youth Services Review*, *29*, 383–404.

- Dowden, C., & Andrews, D. A. (2004). The importance of staff practices in delivering effective correctional treatment: A meta-analysis of core correctional practices. *International Journal of Offender Therapy and Comparative Criminology*, 48, 203–214.
- Dubois, D. L., Doolittle, F., Yates, B. T., Silverthorn, N., & Tebes, J. K. (2006). Research methodology and youth mentoring. *Journal of Community Psychology*, 34(6), 657–676.
- Dubois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs: A meta-analytical review. *American Journal of Community Psychology*, 30, 157–197.
- Dubois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12(2), 57–91.
- Farruggia, S. P., Bullen, P., Solomon, F., Collins, E., & Dunphy, A. (2011). Examining the cultural context of youth mentoring: A systematic review. *Journal of Primary Prevention*, 32, 237–251.
- Goldner, L., & Maysel, O. (2009). The quality of mentoring relationships and mentoring success. *Journal of Youth Adolescence*, 38, 1339–1350.
- Gottfredson, M. R., & Hirschi, T. (2006). A general theory of crime. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential Readings* (pp. 228–240). Los Angeles, CA: Roxbury Publishing Company.
- Grossman, J. B., Chan, C. S., Schwartz, S. E. O., & Rhodes, J. E. (2012). The test of time in school-based mentoring: The role of relationship duration and re-matching on academic outcomes. *American Journal of Psychology*, 49, 43–54.
- Grossman, J. B., & Rhodes, J. E. (2002). The test of time: Predictors and effects of duration in youth mentoring relationships. *American Journal of Community Psychology*, 30, 199–219.
- Grossman, J. B., & Tierney, J. P. (1998). Does mentoring work? An impact study of the Big Brothers Big Sisters program. *Evaluation Review*, 22, 403–426.
- Hamilton, S. F., & Hamilton, M. A. (2010). Building mentoring relationships. In M. J. Karcher and M. J. Nakkula (Eds.), *Play, talk, learn: Promising practices in youth mentoring: New directions for youth development* (pp. 141–144). Wiley Periodicals, Inc.
- Herrera, C., DuBois, D. L., & Grossman, J. B. (2013). *The role of risk: Mentoring experiences and outcomes for youth with varying risk profiles*. New York, NY: Public/Private Ventures. Retrieved March 6, 2014 from http://www.mdrc.org/sites/default/files/Role%20of%20Risk_Final-web%20PDF.pdf
- Herrera, C., Grossman, J. B., Kauh, T. J., Feldman, A. F., McMaken, J., & Juvocy, L. Z. (2007). *Making a difference in schools: The Big Brothers Big Sisters school-based mentoring impact study*. Philadelphia, PA: Public/Private Ventures.
- Herrera, C., Grossman, J. B., Kauh, T. J., & McMaken, J. (2011). Mentoring in schools: An impact study of Big Brothers Big Sisters school-based mentoring. *Child Development*, 82, 346–361.
- Hirschi, T. (2006). Social bond theory. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential readings* (pp. 219–227). Los Angeles, CA: Roxbury Publishing Company.

- Jekielek, S. M., Moore, K. A., & Hair, E. C. (2002). *Mentoring programs and youth development: A synthesis*. Washington, DC: Edna McConnell Clark Foundation. Retrieved March 6, 2014 from <http://www.childtrends.org/wp-content/uploads/2002/08/mentorrrpt.pdf>
- Jolliffe, D., & Farrington, D. P. (2007). *A rapid evidence assessment of the impact of mentoring on re-offending: A summary*. Cambridge University. Retrieved November 10, 2013 from http://www.youthmentoring.org.nz/content/docs/Home_Office_Impact_of_mentoring.pdf
- Karcher, M. J. (2005). The effects of developmental mentoring and high school mentors' attendance on their younger mentees' self-esteem, social skills, and connectedness. *Psychology in the Schools*, 42, 65–77.
- Karcher, M. J., & Nakkula, M. J. (2010). Youth mentoring with a balanced focus, shared purpose, and collaborative interactions. In M. J. Karcher and M. J. Nakkula (Eds.), *Play, talk, learn: Promising practices in youth mentoring: New directions for youth development* (pp. 13–32). Wiley Periodicals, Inc.
- Keating, L. M., Tomashina, M. A., Foster, S., & Allesandri, M. (2002). The effects of a mentoring program on at-risk youth. *Adolescence*, 37, 717–734.
- Keller, T. W., & Pryce, J. M. (2012). Different roles and different results: How activity orientations correspond to relationship quality and student outcomes in school-based mentoring. *Journal of Primary Prevention*, 33, 47–64.
- Klein, M. W., & Maxson, C. L. (2006). *Street gang patterns and policies*. New York, NY: Oxford University Press.
- Kubrin, C. E., Stucky, T. D., & Krohn, M. D. (2009). *Researching theories of crime and deviance*. New York, NY: Oxford University Press.
- Larose, S., & Tarabulsy, G. M. (2005). Mentoring academically at-risk students: Processes, outcomes, and conditions for success. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (pp. 440–453). Thousand Oaks, CA: Sage Publications.
- Lemmon, J. H., & Verrechia, P. J. (2009). A world of risk: Victimized children in the juvenile justice system—An ecological explanation, a holistic solution. In P. Benekos & A. Merlo (Eds.), *Controversies in juvenile justice and delinquency* (pp. 131–171). Newark, NJ: LexisNexis.
- Lock, R. H., Lee, S. H., Theoharis, R., Fitzpatrick, M., Kim, K. H., Liss, J. M., ... Walther-Thomas, C. (2006). *Intervention in School and Clinic*, 41(4), 233–240.
- Manza, G., & Patrick, S. K. (2012). *The mentor's field guide: Answers you need to help kids succeed*. Minneapolis, MN: Search Institute Press.
- Maruna, S. (2001). *Making good: How ex-convicts reform and rebuild their lives*. Washington, DC: American Psychological Association.
- MENTOR (2006). *Mentoring in America 2005: A snapshot of the current state of mentoring*. Alexandria, VA: MENTOR/National Mentoring Partnership.
- MENTOR (2009). *Elements of effective practice for mentoring*. Alexandria, VA: MENTOR.

- Mihalic, S., Fagan, A., Irwin, K., Ballard, D., & Elliott, D. (2004). *Blueprints for violence prevention*. Washington, DC: U.S. Department of Justice Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved November 9, 2013 from <https://www.ncjrs.gov/pdffiles1/ojjdp/204274.pdf>
- Mihalic, S., Irwin, K., Elliott, D., Fagan, A., & Hansen, D. (2001). *Blueprints for violence prevention*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved October 8, 2013 from <https://www.ncjrs.gov/pdffiles1/ojjdp/187079.pdf>
- Mutchnick, R. J., Martin, R., & Austin, W. T. (2009). *Criminological thought: Pioneers past and present*. Upper Saddle River, NJ: Prentice Hall.
- Newburn, T., & Shiner, M. (2006). Young people, mentoring and social inclusion. *Youth Justice*, 6(1), 23–41.
- Pettit, B. (2012). *Invisible men: Mass incarceration and the myth of Black progress*. New York, NY: Russell Sage Foundation.
- Pew Charitable Trusts (2013). *Collateral costs: Incarceration's effect on economic mobility*. Washington, DC.
- Pryce, J. M. (2012). Mentor attachment: An approach to successful school-based mentoring relationships. *Child and Adolescent Social Work Journal*, 29, 285–305.
- Pryce, J. M., & Keller, T. E. (2013). Interpersonal tone within school-based youth mentoring relationships. *Youth & Society*, 45(1), 98–116.
- Rhodes, J. E. (2008). Improving youth mentoring interventions through research-based practice. *American Journal of Community Psychology*, 41, 35–42.
- Rhodes, J. E., Haight, W. L., & Briggs, E. C. (1999). The influence of mentoring on the peer relationships of foster youth in relative and nonrelative care. *Journal of Research on Adolescence*, 9, 185–201.
- Rhodes, J. E., Spencer, R., Keller, T. E., Liang, B., & Noam, G. (2006). A model for the influence of mentoring relationships on youth development. *Journal of Community Psychology*, 34(6), 691–707.
- Ritter, N. (2009). CeaseFire: A public health approach to reduce shootings and killings: Strategies that address serious health threats can also reduce crime. *NIJ Journal*, 264, 20–25
- Rohner, R. P., & Britner, P. A. (2002). Worldview mental health correlates of parental acceptance-rejection: Review of cross-cultural and intracultural evidence. *Cross-Cultural Research: Journal of Comparative Social Science*, 36, 16–47.
- Sampson, R. J., & Wilson, W. J. (2006). A theory of race, crime, and urban inequality. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential readings* (pp. 102–108). Los Angeles, CA: Roxbury Publishing Company.
- Shaw, C. R., & McKay, H. D. (2006). Juvenile delinquency and urban areas. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential readings* (pp. 95–101). Los Angeles, CA: Roxbury Publishing Company.

- Smith, T. J. (2012). *The least of these: Amachi and the children of prisoners*. Philadelphia, PA: Public/Private Ventures.
- Spencer, R., Collins, M. E., Ward, R., & Smashnaya, S. (2010). Mentoring for young people leaving foster care: Promise and potential pitfalls. *Social Work, 55*(3), 225–234.
- Sutherland, E. G., & Cressey, D. R. (2006). A theory of differential association. In F. T. Cullen and R. Agnew (Eds.), *Criminological theory: Past to present: Essential readings* (pp. 122–125). Los Angeles, CA: Roxbury Publishing Company.
- Tanenhaus, D. S. (2004). *Juvenile justice in the making*. New York, NY: Oxford University Press.
- Taxman, F. S., & Thanner, M. (2006). Risk, need, responsivity (RNR): It all depends. *Crime & Delinquency, 52*(1), 28–51.
- Thomson, N. R., & Zand, D. H. (2010). Mentee's perceptions of their interpersonal relationships: The role of the mentor-youth bond. *Youth & Society, 41*(3), 434–445.
- Tolan, P., Henry, D., Schoeny, M., Bass, A., Lovegrove, P., & Nichols, E. (2013). *Mentoring interventions to affect juvenile delinquency and associated problems: A systematic review*. Oslo, Norway: The Campbell Collaboration. Retrieved March 6, 2014 from <http://www.campbellcollaboration.org/lib/project/48/>
- Tonry, M. (2011). *Punishing race: A continuing American dilemma*. New York, NY: Oxford University Press.
- Vold, G. B., Bernard, T. J., & Snipes, J. B. (2002). *Theoretical criminology* (5th ed.). New York, NY: Oxford University Press.
- Wacquant, L. (2009). *Prison of poverty*. Minneapolis, MN: University of Minnesota Press.
- Western, B. (2008). *From prison to work: A proposal for a national prisoner reentry program*. Washington, DC: The Brookings Institution.
- Wheeler, M., Keller, T., & DuBois, D. L. (2010). Review of three recent randomized trials of school-based mentoring. *Social Policy Report, 24*, 1021. Retrieved March 6, 2014 from http://www.mentoring.org/downloads/mentoring_1273.pdf
- Williams, F. P., III, & McShane, M. D. (2004). *Criminological theory* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.



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