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Foreword

Welcome to the fourth issue of the *Journal of Juvenile Justice*. For the Office of Juvenile Justice and Delinquency Prevention (OJJDP), this peer-reviewed journal provides a venue to engage the juvenile justice community in an ongoing dialogue about what works in juvenile justice and what is worth further examination or replication. Equally, we want to know what does not work and why, and encourage our partners in the field to test whether innovative programs and initiatives can improve on models already identified as evidence-based. Our goal is to ensure that sound theory underlies all our juvenile justice programming and that we continue to move the field forward by demonstrating how evidence can be successfully infused into policy and practice.

Before coming to OJJDP, I served as a trial lawyer at the Defender Association of Philadelphia for 27 years and as the chief of the Juvenile Unit for 16 years. It should come as little surprise that I bring to my job as OJJDP Administrator deep concerns about the daunting challenges that children who have entered the juvenile justice system face. If we are to help them successfully navigate the difficult process of growing up and become contributors to their communities, it is imperative that we examine the issues that hinder their potential and look to the latest science to discover how we can best help them.

In this issue, we continue to present articles that are informative and have practical application to those of us who work with youth. You will find articles on whether family-focused juvenile probation services effectively reduce recidivism, the strains on serious juvenile offenders adjusting to incarceration, and the one family, one judge model of decision making in juvenile dependency and delinquency cases. Because OJJDP has long recognized the need for research to understand how experiences at an early age can have wide-ranging effects on a child's life, we have articles on the effects of parental and teacher rejection among court-involved adolescent females, an evaluation of the impact of Functional Family Therapy on the behavior of at-risk youth, and resiliency factors and decision making among underserved youth.

One of the key components of OJJDP's mission is the development and dissemination of knowledge garnered through research and evaluation. Our goal is to foster intelligent discussion on how to prevent juvenile delinquency and victimization and improve the juvenile justice system. We are interested in hearing from our readers about what you would like to see in future issues of this journal, and of course, if you are a researcher, we are very interested in your manuscripts.

As I begin my leadership at OJJDP, I look forward to a long and rewarding conversation on matters of juvenile justice—a conversation fueled in part by the ideas and knowledge shared in this journal. I encourage your involvement and contributions.

Robert L. Listenbee
Administrator of the Office of Juvenile Justice
and Delinquency Prevention

Family-Focused Juvenile Reentry Services: A Quasi-Experimental Design Evaluation of Recidivism Outcomes

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Keywords: reentry interventions, juvenile offenders, family therapy, recidivism, Parenting with Love and Limits™

Abstract

Previous studies have evaluated the effects of community-based, family-focused juvenile probation services on recidivism. Many states are beginning to use such services as part of reentry programming for youth released from residential custody. Little is known, however, about whether these models effectively reduce rates of reoffending among youth transitioning from confinement. The current study used a quasi-experimental design to compare the family-focused Parenting with Love and Limits™ (PLL) reentry services with standard aftercare offered through the St. Joseph County Probate Court in Indiana. We used intent-to-treat and protocol adherence analyses to evaluate recidivism outcomes. Youth released from PLL had lower rates of reoffending than those receiving standard aftercare, with statistically significant differences found for subsequent rates of juvenile readjudication. Effect sizes for the intervention ranged from -0.112 for rearrest to -0.221 for readjudication. Lengths of service were significantly shorter for the treatment sample than for the matched comparison group by an average of 2 months, suggesting that the intervention can serve more clients per year than standard aftercare while reducing costs associated with residential commitment. Findings have important implications for research and the implementation of juvenile reentry programs and strategies.

Introduction

Nationally, juvenile arrest rates have declined to their lowest levels since 1980 (Puzzanchera & Adams, 2011). However, recidivism rates for youth released from juvenile correctional facilities have failed to keep pace. The number of arrests involving juveniles in the United States declined by 17% between 2000 and 2009 (Puzzanchera & Adams, 2011), yet recidivism trends reported by various states either have remained relatively stable or revealed only incremental decreases over time (Feyerherm, 2011; Florida Department of Juvenile Justice, 2011; Noreus & Foley, 2012; Pate, 2008; Rogan, 2008; Virginia Department of Corrections, 2011). Overall rates of recidivism for juveniles released from residential commitment are high. The Casey Foundation reports that 68% to 82% of these

youth are rearrested within two years of release, and 38% to 58% are subsequently adjudicated or convicted for a new offense (Mendel, 2011).

Aftercare services in the juvenile justice system have historically been underfunded and have emphasized surveillance and community restraint, with little in the way of treatment interventions designed to address offender risks and needs, or the family and community dynamics to which youth return following residential commitment (Bouffard & Bergseth, 2008). Many states are looking to community-based juvenile reentry services that engage parents and caregivers in the treatment process as a way to reduce high rates of recidivism among youth released from correctional custody. These family-focused interventions are based on the theory that the family plays a pivotal role in reducing risk—directly, through social support and the exercise of supervision and guidance, and indirectly, by mitigating the influence of antisocial peers, antisocial thought patterns, and other potential risk factors.

Prior Research

Community-based programming has been found in several systematic reviews to provide larger effect sizes in reducing recidivism than traditional institutional interventions. For example, Andrews and colleagues (1990) found that the positive effects of appropriate correctional treatments in residential facilities were smaller than those in community-based facilities (0.20 for residential versus 0.35 in the community). In addition, the negative effects of inappropriate programming were more pronounced in residential settings (-0.15) than in the community (-0.06). Lipsey (2009) reported that recidivism effect sizes were largely similar whether juveniles at a given risk level received treatment services within the community or in a residential setting. Expanding upon their earlier research, Andrews and Bonta (2006) reached similar conclusions about the effectiveness of community-based treatment, finding the mean effect size of appropriate institutional programming was less than that of appropriate community-based programming (0.17 versus 0.35, respectively).

One of the advantages of community-based treatment for delinquent youth is that it offers the opportunity to intervene not only with the youth, but also to target risk factors associated with parents and the family. Juvenile offenders released from confinement often return to disorganized, chaotic family environments. The youth may have attained skills while in residential commitment, but the family may have remained largely unchanged in the interim. Addressing this issue becomes critical to reducing juvenile recidivism. Greenwood (2008) notes that "the most successful community-based programs are those that emphasize family interactions, probably because they focus on providing skills to the adults who are in the best position to supervise and train the child" (p. 198).

Family factors have a well-established link to antisocial behavior among youth, from classic research conducted by the Gluecks during the 1950s to today (Henggeler & Borduin, 1990; Quinn, 2004). Utilizing an ecological systems framework, Patterson and colleagues (1992) developed a social interactional, coercive family process model that mapped the developmental progression of antisocial boys to future delinquency and crime, with a focus on the influence of poor parental family management skills (Patterson, Reid, & Dishion, 1992). Longitudinal research from Patterson, Forgatch, Yoerger, & Stoolmiller (1998) found that family relationships and functions were related to the development of antisocial behavior in boys. They found that poor parental family management skills—such as disrupted parental discipline and inadequate monitoring—were strongly related to early antisocial behavior, arrest before age 14, and chronic offending by age 18. While intrafamilial dynamics have a strong influence, other researchers have pointed out that the involvement of family members themselves in anti-social behavior and crime is a risk factor for anti-social behavior among youth (Eddy & Reid, 2002). Further, meta-analytic

reviews of the literature list negative parent-child relationships and poor parenting practices as being among the stronger predictors of delinquency (Andrews & Bonta, 2006; Lipsey & Derzon, 1998).

A number of community-based, family-centered treatment models have been used as front-end, diversionary or probation interventions with positive results (Butler, Baruch, Hickey, & Fonagy, 2011; Gordon, Graves, & Arbuthnot, 1995; Henggeler, Melton, & Smith, 1992; Sexton, & Turner, 2010; Winokur Early, Hand, Blankenship, & Chapman 2012). Among these are Functional Family Therapy (FFT), Multi-Systemic Therapy® (MST), Multidimensional Treatment Foster Care® (MTFC), Parenting with Love and Limits™ (PLL), and other programs aimed not only at treating the offender, but at strengthening the family as the enduring social environment and source of social control for youth. Strong empirical evidence of the effectiveness of many of these programs has resulted in their being designated as evidence-based or model programs by groups such as the University of Colorado Blueprints for Violence Prevention project (Mihalic, Irwin, Elliott, Fagan, & Hansen, 2001), the Substance Abuse and Mental Health Administration's National Registry of Evidence-Based Programs and Practices (http://www.nrepp.samhsa.gov), and the Model Programs Guide from the Office of Juvenile Justice and Delinquency Prevention (OJJDP) (http://www.ojjdp.gov/mpg/).

There is additional evidence for the effectiveness of generic family counseling services in reducing juvenile recidivism (Lipsey, Howell, Kelly, Chapman, & Carver, 2010). In a recent meta-analysis, Lipsey and colleagues (2010) found that family counseling programs showed positive effects on recidivism in general—and although model programs produced varying degrees of positive results, "some no-name programs produced effects even larger than those found for the model programs" (p. 26). Yet, not all family counseling programs have achieved positive results. Further research is needed to identify specific characteristics that distinguish those that work from those that do not, as well as those that are effective as juvenile reentry interventions.

Juvenile Aftercare

Evidence on the effectiveness of juvenile reentry services in general is relatively scant. Research has tended to support the finding that intensive aftercare supervision alone is ineffective in reducing juvenile recidivism (Bouffard & Bergseth, 2008; Petersilia & Turner, 1993). Large-scale, federally funded initiatives have been undertaken over the last two decades to reform juvenile aftercare through the implementation of intensive supervision models that incorporate case management and treatment services focused on offender risks, needs, and strengths, including the Intensive Aftercare Program (IAP) (Altschuler & Armstrong, 1994) and the Serious and Violent Offender Reentry Initiative (SVORI) (Winterfield & Brumbaugh, 2005). Demonstration IAP programs have been introduced in Colorado, Nevada, and Virginia and included a randomized clinical trial. While some intermediate outcomes such as shorter lengths of commitment were reported for treatment participants, researchers found little difference in the prevalence of reoffending between the treatment and comparison groups over a 12-month follow-up period (Wiebush, Wagner, McNulty, Wang, & Le, 2005). Similarly, results of the impact of SVORI programming showed few differences in official post-release arrest or incarceration between those receiving SVORI and those not in the treatment group (Lattimore & Steffey, 2009). While SVORI could be characterized as an "overlay" intervention used to enhance or expand existing programs (Lattimore & Visher, 2009), the null findings generally reported with the official measures of recidivism underscore the need for additional research to identify effective aftercare models and strategies for delinquent youth.

The National Reentry Resource Center Advisory Committee on Juvenile Justice recently

highlighted promising or emerging practices for youth reentry, including: 1) cognitive-behavioral approaches reflective of adolescent brain development, 2) strengths-based strategies emphasizing positive youth development, 3) meaningful family and community engagement in the process, 4) emphasis on education and employment, and 5) development of lifelong connections to facilitate successful transition to adulthood (Bilchik, 2011). What emerges from integrating these practices is a comprehensive system of care. In a growing number of communities, agencies are formally collaborating to provide a wide array of individualized services and support networks for youth reentry using a "wraparound" case management strategy (Burns & Goldman, 1999; VanDenBerg, Bruns, & Burchard, 2008). Unifying efforts among community social service agencies, initiatives such as Wraparound Milwaukee (Kamradt, 2000), Connections in Clark County, Washington (Koroloff, Pullman, Savage, Kerbs, & Mazzone, 2004), and the Repeat Offender Prevention Program (ROPP) in California (State of California Board of Corrections, 2002) have developed wraparound models that have been evaluated and found to reduce juvenile recidivism and improve youth behaviors, socialization, and academic performance. These findings support the need for reentry models that effectively mobilize community resources in the delivery of comprehensive, individualized systems of care for youth.

Family-Focused Reentry Services

A number of jurisdictions have experimented with the use of family-focused treatments as part of reentry programming for youth released from residential commitment. Examples include:

- New York State Office of Children and Family Services (OCFS) initiated MST interventions in March 2000 for youth released from OCFS residential facilities (Mitchell-Herzfeld et al., 2008).
- Maryland Department of Juvenile Services (DJS) recently expanded evidence-based programming through the implementation of FFT services with youth released from residential commitment in Baltimore (Rogan, 2008; VisionQuest, 2012).
- Washington State Department of Social and Health Services piloted the Family Integrated Transitions™ (FIT™) Program in 2001. The program provides a combination of evidence-based approaches including MST, Dialectical Behavior Therapy (DBT), Motivational Enhancement Therapy, and Relapse Prevention Services (Aos, 2004).

Similar programs have been established on a smaller scale in communities around the country. Most, however, have not been fully evaluated. In their meta-analysis of systematic reviews on correctional rehabilitation, Lipsey and Cullen (2007) found that although there have been studies of such evidence-based programs, few separated out effects of community-based versus residential treatment. In addition, few outcome evaluations specifically examined the impact of family-focused juvenile reentry interventions (Lipsey & Cullen, 2007). Two exceptions are the interventions implemented through the New York Office of Children and Family Services and the Washington State Department of Social and Health Services.

Mitchell-Herzfeld and colleagues (2008) evaluated the impact of the pilot implementation of MST services with youth released from New York's OCFS facilities. Contrary to positive outcomes achieved when MST has been used as a diversionary intervention, MST was not effective in decreasing recidivism among the aftercare population in New York. Rearrest rates were generally high for youth released from both MST and the control groups, ranging from 85% to 90%. Furthermore, boys in the MST group were significantly more likely than those in the control group to be rearrested for a violent felony offense following program completion. The receipt of MST services increased the odds of reconviction among girls in the pilot study and increased

the likelihood of boys being reincarcerated. The authors concluded that two primary factors contributed to the results in New York: 1) the severity of problems facing OCFS youth and their families, which included high rates of mental health and substance abuse problems; and 2) the decision to use MST as a reentry intervention rather than as a front-end diversionary treatment. The latter was deemed problematic because MST therapists had greater difficulty engaging youth and their families and in reducing negative peer associations among youth, both inhibited by their residential incarceration preceding MST services (Mitchell-Herzfeld et al., 2008).

In contrast to the New York experience with MST, the evaluation of the Washington State FIT aftercare program yielded positive outcomes for youth who received FIT treatment (Aos, 2004; Trupin, Kerns, Walker, DeRobertis, & Stewart, 2011). The FIT model was pilot tested with youth identified in Washington to be at high risk for reoffending following release from a residential facility—specifically, those with co-occurring substance abuse and mental disorders (Trupin, Turner, Stewart, & Wood, 2004). Researchers found the pilot implementation of the model, which combined multiple evidence-based approaches, significantly lowered rates of felony recidivism for youth who received the treatment compared with offenders who were eligible for FIT but did not reside in one of the four counties in Washington in which FIT was being tested. Mean adjusted reconviction, felony reconviction, and violent felony reconviction outcomes had effect sizes of -0.126, -0.289, and -0.093, respectively. In a subsequent evaluation of FIT, Trupin and colleagues (2011) found that although participation in the program was associated with a 30% reduction in felony recidivism, this reduction did not appear related to overall, violent felony, or misdemeanor recidivism. Although some results have been promising, more research on the application of family-focused models with juvenile reentry populations is needed.

In summary, although evidence has accumulated on the effectiveness of front-end, community-based services in reducing juvenile recidivism (Aos, Barnoski, & Lieb, 1998; Barton, Alexander, Waldron, Turner, & Warburton, 1985; Henggeler, Cunningham, Pickrel, Schoenwald, & Brondino, 1996; Szapocznik & Williams, 2000), less is known about their impact on and application with juvenile offenders transitioning from residential confinement back to the community. Historically overlooked in the juvenile justice system, aftercare programming has had scant success in reducing the prevalence, frequency, or seriousness of reoffending (Lattimore & Visher, 2009); MacKenzie, 1999; Wiebush et al., 2005).

Studies have documented the effectiveness of family therapy interventions in preventing delinquency (Lipsey et al., 2010). Yet, when applied with juvenile reentry populations, the results have not always been positive (Mitchell-Herzfeld et al., 2008). Further research is needed to determine whether family-focused juvenile reentry programs can effectively reduce recidivism, and whether specific treatment and implementation strategies are more effective than others with youth transitioning from residential confinement back to their families and communities. The current research seeks to address these issues and fill this gap in the empirical evidence on juvenile aftercare.

Current Study

This study sought to broaden the evidence base by evaluating the impact of a manualized reentry intervention with youth and their families using group and family therapy, begun while the youth were incarcerated and continuing through transition and into aftercare. Specifically, we evaluated the effectiveness of a new program, PLL Reentry, by comparing process (program completion, length of service) and recidivism (rearrest, readjudication, and recommitment) outcomes for youth receiving services compared with a matched sample of youth receiving standard aftercare services in the study site. The program engaged families early on in the service delivery process using

motivational interviewing techniques; individual, group, and family therapy; trauma and wound work; and a wraparound case management approach to transitioning youth back to the community. The study is therefore a critical step in expanding the knowledge base about the overall effectiveness of family-focused juvenile reentry, as well as the impact of specific programming and implementation strategies.

Program Description

PLL began in 2000 as a family-focused system of care for at-risk and delinquent youth and their families (Sells, 1998). The intervention was initially implemented as a diversion and probation overlay service for court-involved youth, with demonstrated success in reducing behavioral problems and recurring substance abuse (Smith, Sells, Rodman, & Reynolds, 2006), as well as subsequent juvenile justice system involvement among youth served (Hand, Winokur Early, & Blankenship, 2011). PLL has been replicated in 13 states and in Holland, and has received an Exemplary rating in the OJJDP *Model Programs Guide* (http://www.ojjdp.gov/mpg/). In 2007, PLL introduced its reentry model as part of a pilot demonstration project implemented through the St. Joseph County Probate Court in Indiana.

Based on a family systems framework, PLL Reentry targets juvenile offenders ages 14 to 17 who have serious emotional and behavioral problems, including aggression, criminality, drug or alcohol abuse, sexual offending, conduct disorder, running away, and/or chronic truancy. PLL Reentry is a program (Sells, 1998; Smith et al., 2006; Sells, Smith & Sprenkle, 1995) that integrates principles of structural family therapy with comprehensive fidelity protocols (Sells, 2002). The approach is grounded in Family Systems Theory, which has support in the literature to be an effective method for reducing adolescent conduct disorders (Lambie & Rokutani, 2002; Rowe, Parker-Sloat, Schwartz, & Liddle, 2003; Springer & Orsbon, 2002).

PLL Reentry is divided into three implementation stages: Stage I—Intensive, Stage II—Transition, and Stage III—Aftercare (Table 1). Juvenile aftercare services have historically begun after a youth's release from residential commitment. PLL Reentry begins with the youth and family during the period in which the youth is confined. Continuity in services is established by having the same PLL therapist work with the youth and family from the initial commitment stage through aftercare and post-release treatment. The model is designed to facilitate a youth's readiness for change and increasing commitment to the program, thereby reducing overall lengths of confinement and earlier release to the community. On average, Stage I lasts approximately 3 months, Stage II lasts approximately 1 to 2 months, and Stage III involves receiving 3 months of services in the community, with additional interventions and relapse prevention sessions as needed (Sells & Souder, 2007).

Research Questions

Using a quasi-experimental design, the current study examined the effectiveness of PLL Reentry in reducing lengths of residential confinement and reducing juvenile recidivism. We compared the outcomes of youth receiving PLL (treatment group) with those of a matched sample of youth who received standard aftercare programming (comparison group) in the study site.

The questions that guided the research were, first, does the family-focused treatment intervention reduce residential lengths of service compared with standard programming? This is of particular importance given recent research (Bouffard & Bergseth, 2008) suggesting the failure of MST to reduce recidivism among reentry youth, which may have been due in part to services not formally beginning until a youth's release from confinement. Greater involvement with negative peers exacerbated by longer lengths of confinement may also have contributed to these results (Bouffard & Bergseth, 2008).

Table 1. **PLL Reentry Model**

Stage	Stage I Intensive (3 months)	Stage II Transition (1–2 months)	Stage III Aftercare (3 months)
Youth Commitment Status	Residential Commitment	Residential Commitment	Post-Commitment
Treatment Components	• **Motivational Interviewing:** 1 to 2 sessions lasting on average 1 hour in duration • **Parent-Only Group Modules:** conducted in the community lasting 2 hours on average per group: – Group 1: Why Juveniles Have Serious Emotional and Behavioral Programs – Group 2: How to Stop Button-Pushing – Group 3: How to Create an Aftercare Plan – Group 4: Role Play Aftercare Delivery – Group 5: Troubleshooting Aftercare Plan – Group 6: How to Restore Lost Nurturance • **Family Therapy I—Setting the Terms for Aftercare:** 3 to 4 family therapy sessions lasting 1½ to 2 hours in duration • **Family Therapy II—Customizing the Aftercare Plan:** 3 to 4 additional family therapy sessions lasting 1½ to 2 hours in duration • **Benchmark Meeting:** The family, PLL Reentry therapist, probation officer, and residential facility staff meet to review youth's performance in residential program, change in assessed risks and needs, aftercare plan and family participation	• **No Parent-Only Group Modules** • **Family Therapy III—Role Playing & Troubleshooting:** Four sessions lasting 2 hours in duration focused on family role play practice, implementation of the aftercare plan, and preplan troubleshooting to address transition obstacles and techniques for handling resistance • **Transition Services:** Wraparound services in the community are identified and arranged including job and/or vocational placement, school reintegration, medication management, and mentoring • **Benchmark Meeting:** The family, PLL Reentry therapist, probation officer, and residential facility staff meet to review youth's performance in residential program, change in assessed risks and needs, aftercare plan and prepare for transition	• **Family Therapy IV—Aftercare Maintenance:** Therapy sessions occurring 2 to 4 times per week over the course of a minimum of 3 months, depending on need, and including participation of community wraparound stakeholders as applicable • **Relapse Prevention:** Calls backs to family every 30 days for 3 months post-graduation from PLL Reentry to monitor aftercare plan progress and address any obstacles • **Refresher Sessions:** Additional family therapy sessions as needed if relapse is imminent or has occurred

Source: Parenting with Love and Limits (2011).

Second, which group achieves lower rates of reoffending: those receiving family-focused reentry services that begin while the juvenile is incarcerated and employ specific treatment strategies (such as motivational interviewing; individual, group and family therapy; trauma and wound work; and wraparound case management) or those receiving standard aftercare services? We examined multiple measures of the prevalence and severity of reoffending, including rates of rearrest, felony arrest, readjudication, felony adjudication, and recommitment. We hypothesized that committed youth receiving the family-focused reentry would achieve lower rates on each of these outcomes than youth who received standard aftercare services.

Methods

During the 18-month period from August 2007 to February 2009, all eligible juvenile offenders transitioning from residential commitment back to the community in St. Joseph County, Indiana, were assigned to receive PLL Reentry services. Prior to that time, the county had used traditional community restraint and supervision reentry services with youth. Seeking a more effective mechanism for curbing juvenile recidivism, the county pilot tested the PLL Reentry model with all youth released from residential commitment. A youth was deemed ineligible for program referral only if a parent or caregiver was unavailable, which did not occur in the study site. Because the intervention was pilot tested with all eligible youth, an experimental design was not possible. Instead, we used a quasi-experimental design featuring a comparison group identified through official records of committed youth released to standard probation services during the 18-month period preceding the implementation of PLL Reentry.[1]

Study Sample

The current analysis examined a total of 354 cases, which consisted of all 201 cases of youth released from standard reentry services in the study site during the 18 months preceding PLL implementation (February 2006 to August 2007) and all 153 PLL cases processed during the following 18-month period (August 2007 to February 2009). PLL cases were matched to standard reentry cases using propensity score matching (PSM), yielding 153 pairs of treatment and comparison reentry cases.

Dependent Variables

We examined a number of output and outcome measures in addressing the study research questions, including rates of program completion, lengths of service, and five measures of subsequent reoffending and placement. The first measure was reported only for youth served by PLL Reentry, as they were deemed to have received a treatment intervention or dosage; this was operationally in contrast to compliance with the conditions of standard aftercare supervision tracked for youth in the comparison group. The PLL Reentry completion rate provided an indicator of program retention and was defined as any case designated by the St. Joseph County Probate Court as having successfully completed the requirements of the intervention. Program completion requirements included the following criteria:

- Family completion of five or more parent-only group modules;
- Youth and family completion of eight or more family therapy sessions;
- No reports of curfew violations or running away over the course of service delivery;
- No reports of school truancy or failing grades;
- No reports of law violations or problems in the home over the course of service delivery; and
- Stabilization of any mental health issues, as applicable.

Length of service was measured as the number of days between a youth's admission to residential commitment and release from the treatment or comparison group services. In addition, given that PLL Reentry providers maintained records of client referral and exit dates, it was also possible to measure the specific length of service delivery for PLL services. This measure, however, could not be calculated for comparison group youth, as there was no comparable reentry treatment dosage period.

We used five measures of recidivism: rearrest, felony arrest, readjudication, felony readjudication, and recommitment. Arrest rates provide an indicator of subsequent court involvement and system impacts, but do not necessarily indicate that a youth has been found to have committed

[1] Court personnel in the study site indicated they were aware of no statutory or procedural differences in the administration of juvenile aftercare services during the period from February 2006 to February 2009 that might have influenced outcomes, with the exception of the addition of PLL Reentry services to all cases between August 2007 and February 2009.

a subsequent crime. As such, the study also examined whether youth were subsequently adjudicated for a juvenile offense. We tracked these measures uniformly for all study youth for 12 months following release from either treatment or comparison services. Additional outcomes included the nature of subsequent arrests and adjudications, with classifications including felony, misdemeanor, or status offense.

Independent Variables

The primary independent variable of interest was participation in the family-focused juvenile reentry program versus standard aftercare probation services (yes/no). Demographic and offender characteristics of youth in the treatment and comparison groups were used in the matching process, as well as in subsequent analyses examining the study outcomes. Youth characteristics included gender (male/female), race (White/non-White), ethnicity (Hispanic/non-Hispanic), average age at release from reentry services (in years), most serious current offense (felony, misdemeanor, or non-law violation[2]), number of prior juvenile adjudications, and most serious prior adjudicated offense (felony, misdemeanor, or non-law violation).

Data Sources

The St. Joseph County Probate Court maintains jurisdiction over all juvenile matters and is responsible for tracking official offender case information in the Quest Case Management System (Courts, 2009). The PLL Reentry program simultaneously maintained a reporting system and tracked all youth receiving services in the study site. We obtained socio-demographic, legal, and service delivery data from the PLL Reentry system. We cross-referenced information on offender histories, dates of service delivery, and sociodemographic data against official court data extracted from the Quest system by St. Joseph County staff. We used the Quest extracts as the official source for determination of youth served, outcome measures, and independent variables for the treatment and comparison reentry groups.

Data Analysis

We used PSM to achieve an equivalent comparison group from the population of reentry youth who received services during the 18 months before PLL implementation. For the evaluation, we used the probabilities produced by a logistic regression model to calculate the propensity score as the probability of a youth being assigned to PLL Reentry versus standard reentry services. We adopted an intent-to-treat approach (all matches that were admitted to services with intent to treat, without regard to completion status) to help reduce the bias that occurs when youth with more difficult problems drop out or are rejected due to noncompliance. The intent-to-treat approach aims to determine the outputs and outcomes of the treatment as implemented in the study site, which includes implications for placement and retention policies, as well as model fidelity and practitioner competence. We also used a second protocol adherence approach, selecting youth who complied with program requirements and completed services, to focus on the efficacy of the treatment.

Sample Characteristics

The majority of the total study sample involved male (88%), non-White (54%) offenders ages 16 to 18 at the time of release from reentry services (Table 2). Slightly less than one-half the sample were White youth (47%), 44% were African American, slightly less than 9% were classified as multiracial, and 7% were Hispanic. Felonies were the most serious offenses for which youth in the sample were disposed to residential confinement, applying to slightly more than half (51%). Almost as many youth (45%) were disposed to residential confinement for misdemeanors, and less than 5% were confined for non-law infractions. The majority of the full sample had a prior

[2] Non-law violations included violations of probation, status offenses, and civil infractions.

Table 2. **Sample Characteristics**

	Total Sample (N=354)	PLL Reentry (N=153)	Standard Reentry (N=201)
Gender			
Percent male	87.6	91.5	84.6
Percent female	12.4	8.5	15.4
Race			
Percent White	46.5	49.6	44.3
Percent African American	44.4	42.5	45.7
Percent Native American	0.3	0.7	0.0
Percent Multiracial	8.8	7.2	10.0
Ethnicity			
Percent Hispanic	7.1	8.5	6.0
Age at release (years)—Mean (SD)	17.2 (1.18)	17.4 (1.13)	17.1 (1.21)
Most serious current offense			
Percent felony	50.8	59.4	44.3
Percent misdemeanor	44.6	38.6	49.2
Percent non-law violation	4.6	2.0	6.5
Total prior adjudications—Mean (SD)	1.07 (1.24)	1.01 (1.17)	1.10 (1.29)
Most serious prior adjudication			
Percent felony	28.0	28.8	27.3
Percent misdemeanor	17.8	18.3	17.4
Percent non-law violation	11.6	10.5	12.5
No prior adjudication	42.6	42.4	42.8
Percent followed 12 months	100.0	100.0	100.0

adjudication, most involving a felony. Before their current offense, which resulted in residential placement and subsequent aftercare programming, youth in the sample had an average of one prior adjudicated offense. We tracked all 354 youth in the sample for recidivism through official records for a period of 12 months post-release from reentry or standard probation aftercare services.

We initially examined differences in the treatment and comparison samples using bivariate analyses (Table 3). PLL served a higher percentage of males, Whites, and Hispanics than were served through standard aftercare programming. On average, youth in the standard reentry sample had less serious offense histories than those in the treatment sample. Slightly less than 60% of the PLL Reentry sample had a felony as the most serious current offense. In contrast, youth receiving standard aftercare services were more often committed for a misdemeanor or non-law violation. The treatment sample was somewhat older than the comparison group at the time of release. To control for sampling bias associated with the propensity to have been served by standard reentry services as opposed to PLL Reentry, a logistic regression model, including the variables examined at the bivariate level, was calculated. It is important to note that these were measures unaffected by the treatment of interest and thus appropriate for use in estimating the propensity for placement to the intervention. Furthermore, although some of the variables may have been significantly related to one another and therefore collinear, propensity score estimation (PSE)

Table 3. **Baseline Covariates Before and After Propensity Score Matching (PSM)**

		Standard Reentry (SR)		PLL Reentry to Post-PSM SR
	PLL Reentry (N=153)	Post-PSM (N=153)	Pre-PSM (N=201)	Test Statistic (*p* Value)
Percent male	91.5	92.8	84.6*	$\chi2 = 0.18$ (0.67)
Percent White	49.6	45.8	44.3	$\chi2 = 0.47$ (0.49)
Percent Hispanic	8.5	4.6	6.0	$\chi2 = 1.93$ (0.17)
Age at release (years)—Mean (SD)	17.4 (1.13)	17.3 (1.21)	17.1 (1.21)	KS = 0.86 (0.45)
Most serious current offense				
Percent felony	59.4	62.8	44.3*	$\chi2 = 0.34$ (0.56)
Percent misdemeanor	38.6	32.0	49.2*	$\chi2 = 1.43$ (0.23)
Percent non-law violation	2.0	5.2	6.5*	$\chi2 = 2.36$ (0.13)
Total prior adjudications—Mean (SD)	1.01 (1.17)	0.83 (1.06)	1.10 (1.29)	KS = 0.69 (0.73)
Most serious prior offense				
Percent felony	28.8	27.5	27.3	$\chi2 = 0.07$ (0.80)
Percent misdemeanor	18.3	15.0	17.4	$\chi2 = 0.59$ (0.44)
Percent non-law violation	10.5	11.1	12.5	$\chi2 = 0.03$ (0.86)

*$p<.05$. Test of significant difference between treatment and pre-PSM samples. *Note:* KS = Kolmogorov-Smirnov.

is less focused on parameter estimation of the model and more focused on achieving balance in the covariates (Augurzky & Schmidt, 2001). In addition, Stuart (2010) notes that the inclusion of variables that are unrelated to treatment assignment are of little influence in the propensity score model. Rather, the potential for an increase in bias is more likely to result from the exclusion of important confounders (Stuart, 2010).

We used the probabilities generated from the model as the estimate of the propensity score (Table 4). Based on the multivariate analysis, the significant variables that distinguished juveniles in PLL versus standard reentry were age and the nature of the most serious current offense

Table 4. **Logistic Regression of Placement in Treatment Group Pre-PSM**

	Estimate	S.E.	Wald	Signif.	Exp(B)
Gender (male)	.502	.362	1.930	.165	1.652
Race (White)	.130	.228	.326	.568	1.139
Ethnicity (Hispanic)	.234	.439	.285	.593	1.264
Age at release	.251	.097	6.632	.010	1.285
Worst current offense (felony)	.623	.224	7.756	.005	1.864
Total prior adjudications	-.131	.109	1.452	.228	.877
Worst prior (non-law violation)	-.067	.356	.035	.852	.936

(p<.10). Using the propensity scores, we matched each PLL Reentry case to the nearest neighboring standard reentry case with the exact same or closest score. Nearest neighbors were selected at random to avoid bias, with unselected cases replaced in the pool for the next PLL match.

The matching procedure yielded 153 pairs of PLL and standard reentry cases. Following the PSM adjustments, the final sample compositions were more balanced than the non-matched groups. Examination of the covariates following the PSM protocol revealed no statistically significant differences between the treatment and matched comparison groups (refer back to Table 3).

Results

One of the primary goals of family-focused reentry services is the effective engagement of parents and caregivers in juvenile rehabilitation. We hypothesized that this engagement would foster change not only within the youth, but also within the family to which the youth returns following release from residential confinement. Prior research cited difficulties engaging families after youth returned to the community as a decided obstacle to full model service delivery. Rather than beginning services after youth were released from residential confinement, PLL Reentry began group and family therapy while the youth was still committed. This model characteristic may have contributed to the program completion rates. Of the 153 cases admitted, 124 (81%) successfully completed the program. All of the female clients and their families completed services, while 79% of the males and their families completed services. A smaller proportion of African American youth (74%) completed services compared with White (87%) and Hispanic youth (77%). Younger youth exhibited higher rates of completion than youth who were older at the time of release, with 83% of youth under age 17 completing PLL Reentry services compared with 79% of youth who were age 19 or older.

Much has been written of the deleterious impact of justice system involvement on future outcomes for youth. The current study hypothesized that successful family engagement early in the rehabilitative process would decrease overall lengths of service.[3] The findings support the hypothesis, as the average length of service for the non-matched standard reentry sample was just under 2 months longer than the PLL sample. When we examined length of service for the 153 matched pairs, the difference between the treatment and comparison group was significantly larger ($t = 2.63$, $df = 219$, $p < .01$, two-tailed), with matched reentry youth averaging 442 days of service and PLL Reentry youth averaging 371 days of service. Treatment youth who successfully completed the PLL model requirements achieved a slightly lower average of 363 service days between the start of residential placement and completion of aftercare programming.

We examined recidivism outcomes for the treatment and matched comparison reentry samples from both an intent-to-treat approach and from a protocol adherence approach. The former examined the effect of the intervention for all youth admitted to the program, regardless of whether services were successfully completed. The latter approach examined outcomes for participants who completed the full course of treatment. The results of the intent-to-treat protocol presented in Table 5 reveal that recidivism prevalence rates were lower for youth admitted to PLL Reentry services than recidivism rates for their counterparts admitted to standard aftercare programming. This held true for rates of rearrest (29.4% versus 34.6%), as well as rates of readjudication (17.7% versus 26.8%), a difference that was statistically significant at the 0.05 level. The rate of recommitment for the treatment group was 33% lower than that for the comparison group. When we considered the severity of reoffending as

[3] As discussed in the Methods section, length of service was measured from the beginning of residential confinement to the completion of reentry services for both the treatment and comparison groups. It was not possible to determine distinct aftercare service delivery periods for the reentry comparison group, as the standard surveillance and restraint probation services did not permit tracking of a treatment dosage or duration.

Table 5. **Treatment and Comparison Group Outcomes, Intent-to-Treat Approach (n = 306)**

	PLL Reentry	Matched Standard Reentry	t-Test Statistic[a]	df[b]	Significance (2-tailed)
Rearrest rate	29.4%	34.6%	0.98	303	0.33
Felony arrest rate	17.7%	23.5%	1.27	301	0.20
Readjudication rate	17.7%	26.8%	1.93	297	0.05
Felony adjudication rate	7.2%	13.7%	1.87	282	0.06
Recommitment rate	16.3%	21.6%	1.17	301	0.25
Average length of service (days)[c]	370.9	441.9	2.63	219	0.01

[a] Mean differences between the samples were tested for significance using independent samples t-tests.
[b] Degrees of freedom vary when equality of variances is not assumed.
[c] Length of service includes duration from start of residential commitment to release from reentry.

Table 6. **Treatment and Comparison Group Outcomes, Protocol Adherence Approach (n=248)**

	PLL Reentry	Matched Standard Reentry	t-Test Statistic[a]	df[b]	Significance (2-tailed)
Rearrest rate	28.2%	34.7%	1.09	245	0.28
Felony arrest rate	15.3%	23.4%	1.61	240	0.11
Readjudication rate	16.9%	25.8%	1.71	240	0.09
Felony adjudication rate	6.5%	12.9%	1.72	226	0.09
Recommitment rate	13.7%	20.2%	1.35	240	0.18
Average length of service (days)[c]	363.7	434.9	2.47	173	0.02

[a] Mean differences between the samples were tested for significance using independent samples t-tests.
[b] Degrees of freedom vary when equality of variances is not assumed.
[c] Length of service includes duration from start of residential commitment to release from reentry.

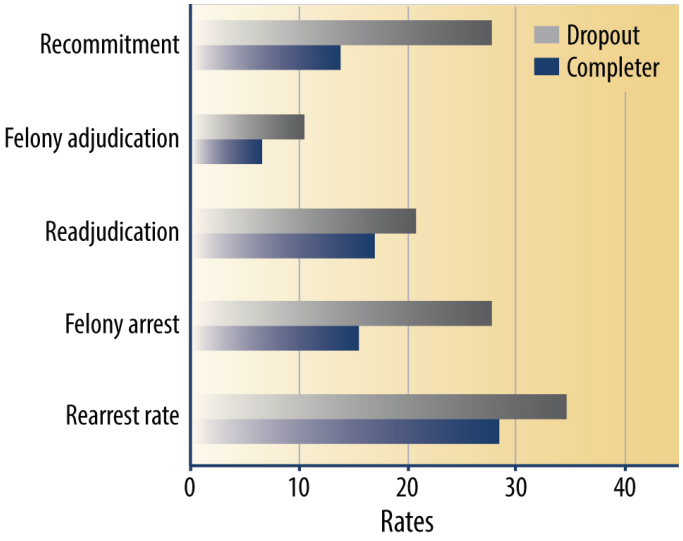
measured by subsequent felony arrests and adjudications, the rates were again lower for the treatment sample. Of particular note, the rate of felony adjudications for youth released from standard reentry services was nearly double that of the PLL Reentry group (13.7% and 7.2%, respectively), a difference that was statistically significant at the 0.10 level ($t = 1.87$, $df = 282$, $p = .06$, two-tailed). The magnitude of the treatment effect for readjudication was measured using Cohen's *d*, which produced an effect size of -0.221. For rearrest, the effect size was -0.112, for felony arrest, -0.144, and for felony adjudication, -0.214. The outcome for recommitment 12-months post-release had an effect size of -0.133.

We further evaluated the impact of PLL Reentry on subsequent juvenile justice system involvement among participants using a protocol adherence approach (Table 6). We examined outcomes for the cases in which the youth and family completed the full course of PLL Reentry services, and outcomes for their matched pairs within the comparison group (*n*=248). Rates of reoffending among youth completing PLL Reentry were lower than for those of the sample of all cases admitted to the program, suggesting an association between completion of the full course of treatment and improved outcomes. The treatment group outperformed the comparison sample on each measure. The results revealed more pronounced differences between the samples on rearrest, felony arrest, and recommitment than found with the intent-to-treat analysis. Slightly less than 17% of the PLL youth were readjudicated compared with 25.8% of the comparison group, and 13.7% of PLL youth were recommitted

compared with 20.2% of the youth completing standard reentry. The severity of reoffending was greater among comparison cases, with a felony adjudication rate nearly double that of the treatment group. Effect sizes for these results ranged from -0.139 to -0.219. For rearrest, the effect size was -0.139; for felony arrest, -0.204; for readjudication, -0.217; for felony adjudication, -0.219; and an effect size of -0.172 corresponded to the mean differences between the groups on subsequent residential confinement.

Although mean differences between the treatment and comparison samples were generally larger with the protocol adherence analysis than the intent-to-treat approach, they were not large enough to reach statistical significance at the 0.05 level. This was, in part, due to the smaller sample of completion cases. Those completing PLL Reentry did, however, exhibit lower rates of reoffending on all five outcome measures than youth who dropped out of treatment (Figure 1).

Figure 1. **Outcomes for PLL Reentry Completers vs. Dropouts**



Summary and Conclusions

Study results from multi-year, multi-site, federally funded aftercare initiatives have found scant evidence that intensive aftercare programming reduces the prevalence or seriousness of subsequent juvenile court involvement. The empirical literature is replete with evidence of the effectiveness of community-based and family-focused juvenile justice programs in reducing recidivism among youth disposed to diversion and probation. In contrast, little is known about the effectiveness of such programs used as reentry interventions with youth transitioning from residential confinement back to their communities and families. Even less is known about which reentry program components work and which do not. The results of this study suggest that PLL family-focused reentry services, when implemented with both youth and their families early in the juvenile's residential confinement period, can reduce the prevalence and seriousness of subsequent offending among youth served.

The current study sought to expand the research by evaluating a widely used family-focused intervention, not as a front-end diversionary service, but rather as an aftercare program for youth transitioning from residential confinement. Using a quasi-experimental design, the study examined the impact of PLL Reentry on juvenile recidivism compared with a matched sample of youth who received standard aftercare programming through the St. Joseph County Probate Court in Indiana. The evaluation was situated in a "real world" setting, and although an experimental randomized trial was not possible, biases were minimized through the use of propensity score matching. Data were analyzed using both an intent-to-treat approach and a protocol adherence approach.

PLL Reentry was piloted for the first time in St. Joseph County, with a total of 153 cases admitted between August 2007 and February 2009. During that time, all youth transitioning from residential commitment were referred to the aftercare intervention. Eighty-one percent of the youth and families admitted to the program completed PLL Reentry services. This is in contrast to lower rates (73% overall, 70% for boys, and 82% for girls) reported in New York when MST was used as an aftercare intervention (Mitchell-Herzfeld

et al., 2008). Family involvement in the PLL treatment process began early, while the youth was still in residential placement. Rather than waiting to engage the family until after the youth was released from confinement, starting earlier may have improved the likelihood that youth would complete the full dosage of services.

All of the female clients admitted to the treatment program completed services, while 79% of the males met the completion requirements. A greater proportion of White clients completed the program than did African American or Hispanic participants. Sample sizes were small however, particularly since only 9% of the treatment sample consisted of female juvenile offenders. Nonetheless, the findings warrant further evaluation of the PLL Reentry family engagement and implementation process to better understand for whom services appear to work, as well as mechanisms for addressing any service delivery issues with youth for whom the intervention is less effective.

Program treatment components were designed to foster reductions in lengths of confinement, thereby moderating the adverse effects associated with incarceration, including those resulting from commingling with negative peers. The combined length of services for residential commitment and aftercare required just over 14½ months for the matched standard reentry cases, compared with 12.2 months for those receiving PLL Reentry, a difference of 71 days. This suggests that PLL Reentry can serve more clients in a year than the prior reentry services model while reducing costs associated with residential commitment. This potential benefit ultimately depends on the extent to which the intervention significantly reduces recidivism among youth served.

Results from the current research indicate that in addition to potential cost savings, the family-focused reentry program also reduced recidivism compared with standard aftercare programming in the study site. Across both the intent-to-treat and protocol adherence approaches, compared with the matched standard reentry sample, youth receiving PLL Reentry had lower rates of subsequent justice system involvement on all five indicators of recidivism prevalence and seriousness measured. We found significant treatment and comparison group differences in rates of readjudication in the intent-to-treat analyses, with the observed rate for the matched reentry sample more than 51% higher than that of the treatment sample. The prevalence of rearrest was lower for PLL cases than it was for the matched comparison group, as was the rate of felony arrests. The direction of these results are opposite those found in New York with MST reentry services (Mitchell-Herzfeld et al., 2008), and similar to those found with Washington's use of the FIT program (Aos, 2004). The magnitude of the difference between the treatment and comparison groups is contrasted with Lipsey's (2009) meta-analysis of 548 studies in which 1-year rearrest rates were approximately 6 percentage points lower for youth receiving the target intervention compared with those who did not receive the treatment.

Overall rates of readjudication were lower for PLL Reentry compared with treatment as usual in the study site. Eighteen percent of the youth admitted to the treatment program were subsequently adjudicated for a juvenile offense within 1 year of program completion, compared with 27% of those in the comparison group. Outcomes from the evaluation of the FIT Program revealed 18-month rates of conviction for juvenile or adult offenses of 42% for the treatment and 48% for the comparison groups (Aos, 2004). The magnitude of the mean treatment effects were measured using Cohen's *d,* with intent-to-treat effect sizes of -0.112 for rearrest, -0.133 for recommitment, -0.214 for felony adjudication, and -0.221 for readjudication. These findings are similar to those reported by Lipsey (2009) when examining the effects of family counseling programs on recidivism, and to those of Aos (2004) in reporting effect sizes of -0.126 and -0.289 for

any adjudication/conviction and felony adjudication/conviction.[4] Finally, completion of the full treatment intervention, as opposed to a reduced dosage, appears related to improved outcomes. Completers had lower rates of rearrest, felony rearrest, adjudication, felony adjudication, and recommitment than youth who dropped out of the PLL Reentry program.

The study was not without its limitations. A relatively small sample size was used in examining the effectiveness of the reentry model with juvenile offenders released from residential confinement in a northern Indiana county with a population just under 267,000, of which 79% is White and 25% is under age 18. The analysis used data from the court database, which was limited in terms of information related to the details of treatment both for the PLL Reentry and the standard aftercare groups. Research should be expanded to increase sample sizes and should make an attempt to capture more data relative to risk factors associated with recidivism, especially in the areas targeted for treatment through the PLL model.

Data related to the involvement of family and the effects on family interaction and parenting functions would also increase our understanding of the use of family-based interventions as aftercare. In addition, data related to the implementation of the PLL model at the St. Joseph site would help to analyze factors related to engagement of the youth and his or her family with the therapeutic process. While the results appear to support the hypotheses that PLL Reentry would achieve shorter lengths of confinement and lower rates of reoffending compared with traditional aftercare, the data and analyses offer no insight as to the specific strategies, services, or outside factors accounting for these findings. Possible reasons for the positive outcomes include cognitive-behavioral change in youth and/or parents, improved family functioning or communication, competent and committed staff, or perhaps increased attention stemming from program participation. The nature of the initial pilot implementation of PLL Reentry and the use of administrative data did not permit the collection or analysis of pre/post measures that might narrow the reasons for the positive results found. Additional research that incorporates assessment of youth and family change metrics, as well as indicators of staff and program characteristics for both the treatment and comparison groups, is necessary to more fully evaluate the effectiveness of this reentry model.

These limitations notwithstanding, the preliminary results from the initial implementation and evaluation of PLL Reentry offer support for the use of family-focused aftercare with youth transitioning back to their homes and communities following residential commitment. Key programmatic questions remain. What service components contributed to the reduced rates of reoffending? What implementation strategies were critical in the service delivery process? While a comprehensive process evaluation is needed to adequately address these questions, a few explanations are considered.

The current results suggest that the timing of service delivery may be a critical factor. Mitchell-Herzfeld and colleagues (2008) concluded that MST failed to reduce recidivism among New York youth committed to residential facilities because the constellation of problems facing the family were severe, and because MST was used as a post-release service. While PLL Reentry was used post-release, services began with not only the youth, but also the family, approximately 4 months before residential discharge. As such, total treatment duration ranged on average between 7 and 9 months compared with the 3 to 5 months reported by Mitchell-Herzfeld and colleagues. The earlier start of services and the effective engagement of the family before their child's release appear to have contributed to

[4] ^ Note the negative effect sizes reported were computed to illustrate the negative association between the treatment and control/comparison groups, with the former having lower rates of recidivism; therefore, the magnitude of the effect was provided relative to the direction of this association. The effect is nonetheless a positive one in terms of the intervention successfully reducing recidivism.

reduced lengths of residential confinement and lower rates of recidivism. The use of individual, group, and family therapy services implemented before discharge and designed to address the severity of problems faced by families, including problems regarding communication, trauma, and supervision, for example, may have equipped parents and youth with the tools necessary to more effectively handle the youth's transition back to the family and community. The strengthened bonds may, in turn, have aided youth in the process of abstaining from additional criminal activity.

The PLL Reentry model also used a separate manualized curriculum tailored to the aftercare population, as opposed to the front-end diversion population. Consistency in service delivery was facilitated by use of the same PLL therapist working with the youth and family, from residential commitment to release from reentry services. The model likewise incorporated a wraparound case management approach to aftercare in which teams consisting of the PLL Reentry therapist, school personnel, job placement counselors, psychiatrists and psychologists, and mentors worked collectively to address the unique needs of the youth and family. While the theoretical implications of this strengths-based approach are well established (Hawkins, Catalano, & Miller, 1992), further research is needed to explore the effects of these specific service components with reentry youth and to examine the impact of the timing of service delivery to identify strategies for achieving better outcomes. It is also important to understand what types of youth best respond to family-focused reentry services, as well as those for whom such interventions are less effective. This initial evaluation of the PLL Reentry model produced promising results, but further replication of the intervention in urban and rural areas, as well as with varying types of offenders (e.g., sex offenders, violent offenders, youth with a history of severe substance use, etc.) is needed. The research on juvenile aftercare services is still in its relative infancy. We hope that the results of the current evaluation help to expand the empirical evidence on the effectiveness of family-focused reentry services in reducing the prevalence and severity of juvenile recidivism.

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An Outcome-based Evaluation of Functional Family Therapy for Youth with Behavioral Problems

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Key Words: Behavior problems, family therapy, juvenile delinquency, intervention, needs assessment

Abstract

This article presents results of an evaluation of Functional Family Therapy (FFT), an intervention implemented to address the behavioral problems of at-risk youth in the state of New Jersey. FFT is a model clinical family intervention designed to assist adolescents and their families in preventing further delinquency and violent behavior by enhancing support and communication within the family. We employed a pre-post comparison group design to compare intervention outcomes for youth who received FFT with matched youth who received individual therapy or mentoring. The dependent variable was a change in the risk and protective factors for both youth and their parents, as derived from the Strengths and Needs Assessment (SNA) tool. Although the analysis reveals significant positive improvements in a few domains for both the treatment and the comparison group, only youth who received FFT exhibited a significant reduction in emotional and behavioral needs and risk behaviors. The effectiveness of the intervention may vary by gender, race, age, and ethnicity. We present recommendations for policy and future research.

Introduction

Practitioners, policymakers, and researchers continually seek effective interventions to reduce delinquent and predelinquent behavior among adolescents. Despite a significant reduction in juvenile arrests in recent years, their arrest rates for violent offenses remain high. In 2010 in the United States, nearly 13% of arrestees were under age 18. Data indicate that juveniles committed more than 13% of all violent crimes and nearly 23% of all property crimes (Uniform Crime Reports, 2010).

Although youth are commonly believed to be more capable of behavioral changes and more amenable to intervention than are adults, many programs fail to show positive effects on

delinquency. Some researchers claim that many interventions focus narrowly on youth individual characteristics and fail to address contextual sources of delinquent behavior among youth (Alexander & Sexton, 2002; Gordon, Graves, & Arbuthnot, 1995). According to Andrews and colleagues (1990), for an intervention to be successful, it should address multiple levels of needs and risks among young offenders. Lipsey (2009) reviewed 548 study samples and found that "therapeutic" interventions that included counseling or skills training were more effective than interventions that focused on deterrence and control. Both Andrews and colleagues (1990) and Lipsey (2009) reported that, overall, cognitive-behavioral therapeutic interventions based on social learning and skill building were the most effective types of interventions for adolescents. One example of such intervention is family therapy. In fact, a number of researchers believe that family therapy is the most effective and comprehensive form of therapeutic intervention for at-risk youth (Alexander & Sexton, 2002; Alexander, Pugh, Parsons, & Sexton, 2000; Gordon et al., 1995; Henggeler & Bourdin, 1990).

Among the various types of family therapy approaches, Functional Family Therapy (FFT) and Multisystemic Therapy (MST) have been recognized by various governmental (Office of Juvenile Justice and Delinquency Prevention) and nongovernmental agencies (Center for the Study and Prevention of Violence at the University of Colorado) as model programs for delinquent youth. Lipsey, Howell, Kelly, Chapman, and Carver (2010) found both interventions to be effective but point out that the variations in implementation and in the characteristics of participating youth influence their effectiveness. FFT is a model clinical family intervention designed to assist at-risk adolescents and their families in preventing further delinquency and violent behavior by enhancing support and communication within the family. While FFT focuses on improving family dynamics, MST intervenes in the wider network of institutions (e.g., family, peers, school, treatment agencies, etc.) in which delinquent youth are enmeshed (Henggeler & Bourdin, 1990).

This article presents the results of a quasi-experimental evaluation comparing the outcomes of at-risk youth enrolled in FFT with matched youth who were placed in individual therapy or mentoring. In our study, FFT was provided by the Children at Risk Resources and Interventions—Youth Intensive Intervention Program (CARRI-YIIP), whereas individual therapy or mentoring was provided by Youth Case Management (YCM). CARRI-YIIP is a program that provides services to youth and families that include parenting education, home visits, and counseling. YCM is a management program that refers children and youth with behavioral and emotional problems to various programs within the community.

The primary goals of the interventions were to prevent future delinquency by reducing the dangerous behavior of adolescents, decreasing family levels of need, and increasing the strengths of youth and their caregivers.

We employed the Strengths and Needs Assessment (SNA) (Lyons, 2009; Lyons, Weiner, & Lyons, 2004; Caliwan & Furrer, 2009), an information management decision support tool, to gather information in a standardized way with a focus on youth functioning across life domains. This tool not only provided a clinical evaluation for the clients but also measured research outcomes for this study.

The SNA was completed in consultation with each client and family by the therapists for the treatment group and by the case managers for the comparison group. The SNA was completed in the beginning and at the end of each intervention, thus allowing for a pre- and post-assessment.

Early FFT evaluation studies were experiments; however, they tended to exclusively employ small samples of White adolescent males. Our study is atypical in several respects. Focusing on the effectiveness of FFT as implemented by the CARRI-YIIP in New Jersey, the sample came from a

single county in New Jersey. Although the sample area was geographically narrow, our sample of 72 adolescents and families was larger and more diverse with respect to gender, race, and ethnicity than the samples in the early studies and more accurately reflected the population of at-risk youth in the United States as a whole. Our sample also represented a more diverse group of youth in terms of reasons for their referral to the program.

Although a randomized experiment would have been preferable, we think that the pre-post design with matching control group is an appropriate design alternative. In our evaluation study, we examined whether FFT in its present form is effective with youth and whether its impact varies by gender, age, race, and ethnicity. We also think that our dependent variable, based on risk and protective factors, is an important advance in researching the effect of an intervention on specific life domains. In sum, the current study contributes to the body of literature on FFT and the effectiveness of youth interventions in general.

Prior Research on Functional Family Therapy

Originally developed in the late 1960s and early 1970s, FFT is designed to serve at-risk youth ages 11 to 18 (Sexton & Alexander, 2004). Parents or other caregivers are included in the therapy. The siblings (or other significant family members) can also be included in the intervention.

FFT is a short-term intervention, usually completed within 3 months. FFT comprises three discrete stages: engagement and motivation, behavioral change, and generalization. During the engagement and motivation phase, the therapist focuses on building an alliance with families and on reducing negativity and blaming. The behavioral change stage is devoted to altering behaviors of adolescents and their family members that have led to conflict. During this stage, the therapists typically work on positive communication and parenting, problem solving, and conflict management. During the generalization phase, families learn how to generalize and sustain positive behavioral and relational changes and how to use relevant community resources (Sexton & Alexander, 2004).

FFT is a highly structured intervention. Each therapist is trained, supervised, and monitored for fidelity to the model through a Web-based system and offsite supervision (Sexton & Alexander, 2004). A successful FFT therapist must not only adhere to the model but also must be flexible in dealing with diverse clients and their particular circumstances.

Some of the research on FFT has focused exclusively on the therapists and their role in delivering this intervention. Although not directly related to this study, research on the therapists helps to illuminate the nature of this intervention. In 2010, Sexton indicated in his study with youth on probation that the effectiveness of FFT in reducing recidivism depended on therapist adherence to the FFT model. However, Alexander, Barton, Schiavo, and Parsons (1976) found that although "training skills" might be necessary for therapists to ensure that their clients return for another session, such skills are at the same time insufficient to secure successful therapy outcomes. Positive emotions during therapy sessions seem to play a particularly helpful role in the engagement phase of a family intervention (Sexton & Schuster, 2008). A strong client-family-therapist alliance is also crucial in reaching positive outcomes in family therapy. Unbalanced alliances are predictive of early withdrawal from therapy (Robbins, Turner, Alexander, & Perez, 2003). This pattern suggests that active participation on the part of all clients should be emphasized from the beginning of therapy (Mas, Alexander, & Turner, 1991).

The effectiveness of FFT has been rigorously evaluated, but most of those studies date from shortly after its inception. Alexander and Parsons (1973) reported that only 26% of adolescents randomly assigned to FFT reoffended, compared with 47% and 73% of adolescents assigned to control groups who received other types of family therapy. In another study, Klein, Alexander, and Parsons (1977) randomly assigned 86 families

to four treatment conditions. The researchers found a significant reduction in recidivism among FFT participants (20%) compared with those who received no treatment (40%) or who participated in an alternative treatment (59% and 63%). In 1985, Barton, Alexander, Waldron, Turner and Warburton reported that status offenders in the FFT group had recidivism levels of 26% compared with those in the control group, at 51% (Alexander & Sexton, 2002). Subsequently, Gordon, Arbuthnot, Gustafson, & McGreen (1988) compared delinquent youth who received FFT intervention with those who received only probation. They found that the treatment group had a recidivism rate of 11% after 2.5 years, while the comparison group's recidivism rate was 67%. The most recently published study by Sexton (2010) indicates that FFT is effective in significantly reducing recidivism rates among young parolees when the therapists delivering FFT adhere to the model.

On the other hand, in 2007 Aultman-Bettridge reported no significant differences in post-program risk factors and recidivism between delinquent girls participating in FFT and delinquent girls who did not participate. Aultman-Bettridge's research calls for more studies on the effectiveness of FFT among different groups of clients.

Data and Methods

This study was approved by the New Brunswick/Piscataway IRB at the University of Medicine & Dentistry of New Jersey (UMDNJ) and by the John Jay College of Criminal Justice IRB in New York City. The goal of this research was to compare the outcomes of youth who received FFT with those who received individual therapy or mentoring. To reduce selection bias, we used pre-post matched comparison group design. We chose a quasi-experimental design because random assignment to either the treatment or the comparison group was impossible.

The Strengths and Needs Assessment

The source of data for this study was the SNA, a comprehensive clinical and research tool (Lyons, 2009). The Services Tracking Form, an instrument created specifically for this research project by the first author, provided supplementary data on the basic facts regarding treatment, such as the number of sessions and the types of referrals.

The SNA is a slightly revised version of the Child and Adolescent Needs and Strengths (CANS) assessment (Lyons, Weiner, & Lyons, 2004). The goal of the SNA is to provide clinical data that can be easily translated into service delivery. The most unique and advantageous feature of the SNA is its ratings of the strengths and needs of adolescent clients and their parents. The scores on each item guide decisions about treatment placement and offer valuable information on client outcomes (Anderson, Lyons, Giles, Price, & Estle, 2003; Lyons, Griffin, & Fazio, 1999). In addition, aggregated item scores give standardized psychometric measures for outcome evaluation (Lyons, 2009).

Research on the CANS and SNA suggests that they exhibit face, construct, concurrent, and predictive validity and also show good interrater and auditor reliability (Anderson & Estle, 2001; Anderson et al., 2003; Lyons, 2009; Lyons et al., 2004). In this study, the reliability of the SNA was further enhanced through a training module and a review of client records. The CARRI-YIIP therapists and YCM case managers were trained either in person or through a secure Internet site and subsequently received a Web-based SNA certification. The training included scoring vignettes of real cases (Caliwan & Furrer, 2009). Since the SNA was used for clinical decisions and treatment placement, the accuracy of the SNA was also continuously assessed and affirmed.

The SNA includes seven dimensions: Life Domain Functioning (13 items), Child Strengths (9 items), Acculturation (3 items), Caregiver Strengths (6 items), Caregiver Needs (5 items), Child Behavioral/Emotional Needs (9 items), and Child

Risk Behaviors (10 items). The therapists rate both the youth and the caregiver with respect to each item within each subscale, on a scale ranging from 0 (no evidence of problem; no need for service) to 3 (severe; need and priority for an intervention). We recoded the items so that higher scores represented improvement. Each scale was computed as the mean of the relevant items. We obtained seven scales: the Life Domain Scale, the Child Strengths Scale, the Acculturation Scale, the Caregiver Strengths Scale, the Caregiver Needs Scale, the Child Behavioral/Emotional Needs Scale, and the Child Risk Behaviors Scale.

The life domains (13 items) included items related to dimensions of family, school, and vocational functioning. Family life, personal achievements, and community involvement were potential sources of child strengths (9 items). Acculturation (3 items) dealt with language and culture. The caregiver strengths (6 items) were based on caregivers' involvement with their child and on the level of stability they provided at home. Mental and physical health problems were some of the needs recorded for caregivers (5 items). The child behavioral and emotional needs assessed in the SNA (9 items) were impulsivity, depression, anxiety, anger control, and substance abuse, along with others. Child risk behaviors (10 items) enumerated in the SNA included suicide risk, self-mutilation, danger to others, sexual aggression, running away, delinquency, and fire setting.

We administered the SNA before and after the intervention. Our sample consisted of 72 adolescents: 36 in the treatment and 36 in the comparison group. The data were collected between 2005 and 2007. The treatment group included youth referred to the CARRI-YIIP by Probation (42%), Family Crisis Intervention Unit (25%), Family Court (14%), and Divisions of Youth and Family Services (8%), among others. Eighty-one percent of the cases were mandated to participate in the FFT. To be eligible for either group, youth had to be between the ages of 11 and 17; live with a parent or guardian; and have a history of aggressive behavior, destruction of property, or chronic truancy. Youth with serious criminal behavior, drug or alcohol use, or mental health problems were not eligible.

Fidelity to the FFT model was ensured in a number of ways. Each therapist had to complete annual FFT Site Certification Training. Therapists were monitored via a Web-based system (FFT Clinical Services System) and assisted weekly by an offsite national FFT consultant via conference calls. An onsite FFT certified supervisor also provided ongoing supervision and oversight.

The comparison group consisted of 36 youth managed by YCM, a case management program that makes referrals to service providers in the community, including CARRI-YIIP. Rather than using a single treatment provider for the comparison group, we selected YCM because this agency refers clients to treatment providers across Middlesex County. The comparison group therefore included youth referred to any treatment provider in the county, with the exception of CARRI-YIIP.

This study's comparison group was selected by the YCM case managers and overseen by the YCM supervisor. The youth were originally referred from various sources, including Children Mobile Response and Stabilization Services, the Division of Youth and Family Services, and parents. All these youth met CARRI-YIIP's eligibility criteria. The YCM case manager linked youth to services needed to stabilize them in the community while they remained with their families. Several training sessions were conducted by research staff, with YCM case managers to assist them in identifying appropriate cases for this study. The youth in this comparison group were referred either to individual therapy (34 adolescents) or mentoring (2 adolescents).

On average, the FFT intervention lasted 3.4 months and the YCM interventions lasted 4.5 months. Because quantitative data collected from the YCM sample was stripped of all identifying information, participant consent for the release of information was not required.

Results

Demographic Characteristics and the Test of Difference Between Treatment and Control Groups

The majority of the 72 youth who participated in this study were males (approximately two-thirds in both groups) with an average age slightly older than 15. The treatment group was 36% African American and 36% Latino; the comparison group was 44% African American and 33% Latino. Intergroup differences in race, ethnicity, and age distribution were not statistically significant. More characteristics of the sample are presented in Table 1.

Table 1. **Demographic Characteristics of Adolescents (N = 72) by Groups**

Variables	CARRI-YIIP (N=36)		YCM (N=36)	
	Number	Percent	Number	Percent
Gender				
Male	25	69	22	61
Female	11	31	14	39
Race/ethnicity				
African American	13	36	16	44
Latino	13	36	12	33
White	7	19	5	14
Other	3	8	3	8
Mean age	15.5		15.1	

We conducted a one-way ANOVA to test for differences in the duration of treatment and in the seven SNA dimensions. We were unable to employ other more sophisticated statistical techniques, such as propensity score matching, because our sample size was not large enough. Using propensity score with small sample sizes might have led to skewed results (Shadish, Cook, & Campbell, 2002).

As Table 2 shows, we found no significant differences between the treatment and comparison groups. These results suggest that the treatment and the comparison groups were comparable with respect to gender, race, ethnicity, length of stay in the program, and all seven SNA dimensions. This permitted further analysis and simple between-group comparison of the outcomes.

In analyzing differences within the samples, we were interested in finding out whether there was a variation in admission to CARRI-YIIP and YCM by age or gender. We employed seven scales derived from the initial SNA to compare genders and age groups within each sample. As expected, after conducting the *t*-test, we found that nearly all variances were not significant. However, a couple of significant differences were evident. First, males scored higher on the Child Strengths Scale than females in the treatment group ($t = 2.163$, $p < 0.05$). Second, in the treatment group, older

Table 2. ***F*-test to Test for Matching the Samples (N=72)**

Variables	CARRI-YIIP Mean (S.D.)	YCM Mean (S.D.)	*F*	d.f.	*p*
Length of time in program	249 (107)	273 (143)	.621	1	.433
Life Domain Scale (LD)	3.16 (.31)	3.04 (.35)	2.262	1	.137
Child Strengths Scale (CS)	2.78 (.47)	2.64 (.52)	1.609	1	.209
Acculturation Scale (AC)	3.84 (.31)	3.87 (.29)	.208	1	.650
Caregiver Strengths Scale (CRS)	3.43 (.43)	3.47 (.48)	.141	1	.708
Caregiver Needs Scale (CN)	3.82 (.22)	3.86 (.22)	.646	1	.424
Child Behavior Emotional Needs Scale (CB)	3.17 (.45)	3.17 (.37)	.001	1	.978
Child Risk Behavior Scale (CR)	3.61 (.22)	3.51 (.27)	2.628	1	.109

Note. The higher score indicates more identifiable strengths as measured by the SNA.

adolescents (ages 15–17) scored higher on the Life Domain Scale ($t = 4.892$, $p < 0.001$) and on the Acculturation Scale ($t = 3.232$, $p < 0.01$) than younger adolescents (ages 11–14).

These results indicate that males enter the CARRI-YIIP program with a higher number of identifiable strengths than females. This suggests the interesting possibility of a divergent threshold for girls and boys, above which they are labeled as at-risk and included in the treatment group. The findings also show that older adolescents tend to score higher than younger adolescents on measures of life functioning and acculturation. This pattern could reflect greater maturity among older adolescents.

The goal of the study was to measure the effects of FFT relative to services received in the comparison group. Pre- and post-intervention comparisons (see Table 3) reveal that neither the treatment nor the comparison group changed significantly from pre- to post-intervention on the Acculturation Scale, the Caregiver Strengths Scale, or the Caregiver Needs Scale. In contrast, both groups showed significant improvement on the Life Domain Scale, the Child Strengths Scale, and the Child Risk Behaviors Scale. The difference between initial and discharge assessment on the Life Domain Scale ($t = 5.712$), Child Strengths Scale ($t = 3.312$), and the Child Risk Behaviors Scale ($t = 4.288$) for youth in the treatment group was significant ($p < 0.001$). Similarly, the difference between initial and discharge assessment on the Life Domain Scale ($t = 3.843$), Child Strengths Scale ($t = 2.332$), and Child Risk Behaviors Scale ($t = 2.684$) for youth in the comparison group was also significant (at $p < 0.001$ for the first scale and at $p < 0.01$ for the latter two scales). These findings suggest that the treatment interventions provided by both the CARRI-YIIP and YCM had a positive effect on adolescents, particularly in reducing risk behavior, increasing their strengths, and improving their functioning across key life domains (i.e., home, school, and community).

Table 3. **Pre- and post-intervention comparisons between the Treatment and Comparison Groups (T-test, N=72)**

		CARRI-YIIP (N=36)		YCM (N=36)	
Scale[a]	Assessment	Mean	*P*	Mean	*p*
LD scale	Initial	3.16		3.04	
	Discharge	3.49***	.000	3.26***	.000
CS scale	Initial	2.78		2.64	
	Discharge	2.94**	.002	2.74*	.026
AC scale	Initial	3.84		3.87	
	Discharge	3.89	.096	3.89	.160
CRS scale	Initial	3.44		3.47	
	Discharge	3.46	.754	3.29	.051
CN scale	Initial	3.82		3.86	
	Discharge	3.83	.661	3.86	.869
CB scale	Initial	3.17		3.17	
	Discharge	3.44***	.000	3.23	.091
CR scale	Initial	3.61		3.51	
	Discharge	3.78***	.000	3.57*	.011[a]

[a] LD scale: Life Domain; CS scale: Child Strengths; AC scale: Acculturation; CRS scale: Caregiver Strengths; CN scale: Caregiver Needs; CB scale: Child Behavioral/Emotional Needs; CR scale: Child Risk Behaviors.

Note. Significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (paired *t*-test) for initial and discharged differences.

We did note one significant difference between the treatment and the comparison groups. Specifically, we found a significant positive change on the Child Behavioral/Emotional Needs Scale in the treatment group ($t = 3.979$, $p < .0\ 001$) but not in the comparison group. FFT appeared to exert a positive influence on behavioral and emotional needs among youth, but the interventions from YCM did not.

Notable Significant Differences Between Groups by Demographic Characteristics

To further this analysis, we examined the changes between the initial and discharge SNA according to age and gender in the domains that were significant in the prior analysis: Life Domain, Child Strengths, Child Behavioral/Emotional Needs, and Child Risk Behaviors. As presented in Table 4 and measured by *t*-test comparisons, we found significant pre-post improvements

Table 4. ***T*-test by Subsamples (N=72)**

Scale[a]	Subsamples	CARRI-YIIP (N=36)				YCM (N=36)			
		Mean (I)	Mean (D)	*t*	*P*	Mean (I)	Mean (D)	*t*	*P*
LD	Male	3.16	3.49***	5.016	.000	3.03	3.26**	3.620	.002
	Female	3.15	3.47*	2.714	.022	3.07	3.25	1.773	.100
	White	3.22	3.41*	2.524	.045	3.05	3.34	1.393	.236
	African American	3.23	3.46**	3.660	.003	3.06	3.22*	2.289	.037
	Latino	3.07	3.51**	3.570	.004	2.96	3.26*	2.766	.018
	11–14 years old	3.42	3.57*	2.538	.044	3.09	3.27*	2.201	.048
	15–17 years old	3.10	3.46***	5.440	.000	3.02	3.25**	3.109	.005
CS	Male	2.89	3.07**	3.730	.001	2.67	2.79**	3.306	.003
	Female	2.55	2.66	1.031	.327	2.59	2.65	.658	.522
	White	2.79	3.02*	2.617	.040	2.69	2.78	1.372	.242
	African American	2.73	2.79	1.074	.304	2.62	2.72	1.310	.210
	Latino	2.89	3.00	1.449	.175	2.63	2.74	1.436	.179
	11–14 years old	3.02	3.21	2.121	.078	2.76	2.82	.820	.428
	15–17 years old	2.73	2.87*	2.670	.013	2.57	2.69*	2.278	.033
CB	Male	3.23	3.48**	3.160	.004	3.16	3.24	1.638	.116
	Female	3.04	3.36*	2.334	.042	3.18	3.22	.673	.513
	White	3.11	3.29	2.127	.078	3.02	3.04	.343	.749
	African American	3.36	3.62*	3.050	.010	3.22	3.31	1.403	.181
	Latino	3.05	3.37	2.060	.062	3.16	3.20	.611	.553
	11–14 years old	3.19	3.68*	2.818	.030	3.21	3.29	.964	.354
	15–17 years old	3.16	3.38**	3.048	.005	3.14	3.20	1.462	.158
CRS	Male	3.62	3.78**	3.298	.003	3.46	3.52*	2.628	.016
	Female	3.59	3.78*	2.694	.023	3.60	3.66	1.235	.239
	White	3.60	3.73*	2.733	.034	3.60	3.66	.966	.389
	African American	3.66	3.75	1.449	.173	3.50	3.59*	2.907	.011
	Latino	3.59	3.82**	3.360	.006	3.48	3.51	.670	.517
	11–14 years old	3.70	3.89	2.240	.066	3.56	3.59	.671	.515
	15–17 years old	3.59	3.75**	3.645	.001	3.49	3.56**	3.206	.004

[a] LD scale: Life Domain; CS scale: Child Strengths; CB scale: Child Behavioral/Emotional Needs; CRS scale: Caregiver Strengths.

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (paired *t*-test). Mean (I) = mean at Initial SNA. Mean (D) = mean at Discharge SNA.

on the Life Domain, Caregiver Strengths, and Child Behavioral/Emotional Needs scales for both males and females in the treatment group. However, changes in the Child Strengths Scale occurred for male adolescents only. The interventions provided by YCM also seemed to be more effective with male than female adolescents. The pre- and post-intervention comparison for YCM youth showed significant improvement for males but not for females on the Life Domain, Child Strengths, and Caregiver Strengths scales.

Although we noted several significant improvements in both female and male adolescents who participated in FFT, we also found the statistical significance of these changes was lower for females than for males. This pattern could reflect a smaller number of female adolescents in our sample. It could also be partially due to the fact that females enter FFT with a smaller number of strengths (as identified in the Child Strengths Scale) than do males.

Our results indicate the effectiveness of FFT may vary by ethnicity, race, and age. Latino adolescents enrolled in FFT improved significantly in the domains captured by the Life Domain and the Child Risk Behaviors scales, but White adolescents improved only on the Child Strengths Scale, and African American adolescents improved only on the Child Behavioral/Emotional Needs Scale. On the other hand, interventions overseen by YCM seem to have had a more pronounced effect on African American youth (as demonstrated by improvements in the Child Behavioral/Emotional Needs and Life Domain scales) and on Latino youth (as evidenced by improvements in the Life Domain scale) than on White youth. Age appears to be another determinant of treatment effectiveness. Older clients in the treatment group showed more significant improvement than younger clients on the Life Domain, Child Strengths, Child Behavioral/Emotional Needs, and Child Risk Behaviors scales. Older clients in the comparison group showed greater improvement than younger clients on the Child Strengths and Child Risk Behaviors scales.

Some notable similarities are evident between treatment and comparison groups. Overall, male adolescents in both groups improved more than females on the Life Domain and Child Strengths scales while reducing their risks, as demonstrated by improvements on the Child Risk Behavior Scale. Similarly, in both groups, the older adolescents were more successful than their younger counterparts in reducing risks, as demonstrated by improvements in the Child Risk Behavior Scale and increasing strengths, as evidenced by improvements in the Child Strengths Scale.

Significant Differences Between the Treatment and Comparison Groups on the SNA scales

The final step in the data analysis was to examine the "difference in the differences" between the treatment and the comparison groups. Specifically, we compared the two groups in the average improvement on the SNA. We used ANCOVA, the test for analysis of covariance, because it allowed us to correct for a correlation between the initial and discharge assessment by reducing variation between two groups due to the intervention itself. The ANCOVA results are presented in Table 5.

The results indicate no significant differences between treatment and comparison groups in improvement on the Child Strengths, Acculturation, Caregiver Strengths, and Caregiver Needs scales. These results suggest that all interventions equally helped youths and their parents to build strengths, increase acculturation, and decrease caregiver needs. However, FFT participants, relative to those in the comparison group, improved more on the Life Domain Scale ($F = 5.571$, $p < 0.05$), the Child Behavioral/Emotional Needs Scale ($F = 8.137$, $p < 0.01$), and the Child Risk Behaviors Scale ($F = 12.459$, $p < 0.001$). The reduction in risk behavior was especially noteworthy, as unsafe and delinquent behaviors are generally the principal reasons youth are placed in these programs in the first place. We also suggest that the Child Risk Behaviors Scale could be the strongest correlate of recidivism.

Table 5. **ANCOVA to Test for Differences in Changes between Initial and Discharge SNA Assessments (N=72)**

Sample	Scale[a]	Mean (s.e.)	*F*	*p*
CARRI-YIIP	LD	.355 (.050)	5.571*	.021
YCM		.186 (.050)		
CARRI-YIIP	CS	.164 (.044)	1.348	.250
YCM		.091 (.044)		
CARRI-YIIP	AC	.045 (.021)	.719	.399
YCM		.021 (.020)		
CARRI-YIIP	CRS	.015 (.071)	3.465	.067
YCM		-.173 (.072)		
CARRI-YIIP	CN	.004 (.029)	.003	.954
YCM		.002 (.029)		
CARRI-YIIP	CB	.273 (.051)	8.137**	.006
YCM		.067 (.051)		
CARRI-YIIP	CR	.188 (.029)	12.459**	.001
YCM		.043 (.029)		

[a] LD scale: Life Domain; CS scale: Child Strengths; AC scale: Acculturation; CRS scale: Caregiver Strengths; CN scale: Caregiver Needs; CB scale: Child Behavioral/Emotional Needs; CR scale: Child Risk Behaviors.

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Conclusion

This study aimed to evaluate FFT with a more diverse sample and across a wider range of outcomes than had been used in previous studies. Our analysis yielded a number of important findings with possible policy implications. First, both FFT and interventions provided by YCM seem to have a positive effect on referred youth. However, adolescents who participated in FFT improved across a wider range of domains than did their comparison group's counterparts. Specifically, only youth enrolled in FFT showed improved functioning in life domains, which include such areas as living situation, school behavior, achievement, and attendance, and legal and vocational concerns. A central aim of FFT is to prepare youth and their families to function positively within the community following therapy. Accordingly, during the final phase of the intervention, the therapist assists the youth and family in finding appropriate resources within the community. This distinct aspect of FFT might explain its relative success in these realms.

ANCOVA also uncovered a significant reduction in emotional and behavioral needs and in risk behavior among participants, following FFT only. This finding is especially promising because it suggests that FFT addressed the problems that most likely resulted in the FFT referral. The improvements in these critical domains bode well for the possibility that FFT may have long-term effects. This prospect merits longitudinal research. In addition, this research suggests that the SNA may be a viable, more positive, and more comprehensive alternative than recidivism as an indication of the effect of interventions on youth functioning in the community.

The analysis also revealed a number of differences among subgroups within the treatment and comparison groups. Specifically, only male FFT and YCM participants improved on the Child Strengths Scale. The fact that FFT males had more identifiable strengths than females could mean a higher threshold of admission for females (i.e., females are viewed as less troublesome despite fewer observed strengths), although the small sample of females limits our willingness to press this conclusion. Nonetheless, broader literature suggests that the needs of female adolescents are different from those of males, making gender-specific approaches the most viable and effective (Chesney-Lind, Morash, & Stevens, 2008; Hubbard & Matthews, 2007; Mallett, Quinn, & Stoddard-Dare, 2012; Worthen, 2011, 2012). Hubbard and Matthews (2007) argue that there is not enough research on specific groups of offenders, including females, to support such widespread use of cognitive-behavioral interventions. Gender differences should be considered when using interventions such as family therapy.

Finally, we found that responsiveness to the interventions may also vary by age, race, and ethnicity. Older clients showed more significant improvements on the Life Domain, Child Strengths, Child Behavioral/Emotional Needs, and Child Risk

Behaviors scales in the treatment group, and on the Child Strengths and Child Risk Behaviors scales in the comparison group. These results could be partially explained by the higher scores in general life skills and functioning, and acculturation that older FFT clients had when they entered the program. African American adolescents in both FFT and YCM programs reduced their behavioral and emotional needs. Similarly, life functioning areas improved for Latinos who were in FFT and in YCM. On the other hand, only Latinos who received FFT significantly reduced their risk behavior. These differences should be explored further with larger samples.

Some limitations of this study are important to bear in mind. An experimental design was impractical. Although we employed a pre-post quasi-experimental design with comparable treatment and comparison groups, selection bias cannot be ruled out. Fortunately, clear and strict criteria for inclusion in the treatment and comparison groups produced treatment groups that were well matched along numerous dimensions. Although our sample was large enough for analyses of main program effects, a larger sample would have permitted a more reliable and thorough analysis of differences between demographic subgroups.

Future research should systematically examine variations on the effectiveness of FFT by age, gender, and ethnicity in studies with larger samples that permit more reliable subgroup comparisons. Process evaluations could also shed light on divergent subgroup outcomes. Differences in treatment outcomes for boys and girls suggest the need for further research with larger samples that examines whether FFT effects are gender specific. In future research, we intend to use longer-term measures of program effectiveness, enriched with qualitative data from youth and their parents focusing on their impressions about the interventions.

This study has important practical implications regarding FFT and youth interventions more generally. For programs that seek short-term improvements in psychosocial adjustment for at-risk youth, especially those with minor behavioral problems, both FFT and YCM seem to be effective strategies. The improvements in the Child Risk Behaviors Scale extend prior work in evaluating FFT, affirming the effectiveness of FFT in reducing delinquency. Our findings are also in keeping with findings of prior research demonstrating that interventions with therapeutic components are effective with delinquent youth (Lipsey, 2009).

While any therapeutic intervention can have a positive effect on youth (see also Lipsey et al., 2010), our findings suggest that FFT may be more helpful in improving at-risk behavior, easing emotional and behavioral needs, and enhancing overall life functioning among youth. Improvements in these areas may be pivotal in preventing further delinquency and troubled behavior.

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One Family, One Judge Practice Effects on Children: Permanency Outcomes on Case Closure and Beyond

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Abstract

The use of the one family, one judge model of decision making in juvenile dependency and delinquency cases has been recommended as a best practice but has little empirical support. In the current study, we use a pre–post design to examine the effects of implementation of a one family, one judge model on permanency outcomes in juvenile dependency cases. After implementation of the model, juveniles were more likely to be reunited with their families through dismissal of case petitions and were more likely to be reunited in a more timely way (within 12 months of removal) than before the model was implemented. There were no differences in reentry into foster care after case closure when comparing child welfare cases prior to and after implementation of the one family, one judge model, implying that the timelier permanency outcomes did not result in detriments to safety.

Introduction

In 1995, the National Council of Juvenile and Family Court Judges (NCJFCJ) set out guidelines for best practices in cases of child abuse and neglect. One of the practices that has been widely adopted (although little studied) is the one family, one judge model, in which one judicial decision maker hears a case from beginning to end. According to the NCJFCJ, the one family, one judge model is preferable to standard practice because it permits judges to become "thoroughly familiar with the needs of children and families, the efforts over time made to address those needs, and the complexities of each family's situation" (NCJFCJ, 1995, p. 19). One of the hopes for this practice is that judges familiar with the families would be able to make more informed decisions that might lead to better outcomes for families and children and "increase the quality of stakeholders' response to family crisis" (Portune, Gatowski, & Dobbin, 2009, p. 37). The NCJFCJ promotes the one family, one judge model as a best practice in both dependency and delinquency cases (NCJFCJ, 2005). It has also been recommended by the U.S. Department of Health and Human Services, Administration for Children and Families (Duquette & Hardin, 1999), and by the United Kingdom's President of the Family Division of Her Majesty's Courts and Tribunals Service (Wall, 2011).

Promoters of family courts, of which the one family, one judge model is an integral part, note the benefits of "greater efficiency and consonance" that judicial continuity brings (Rubin, 1998, p. 123). Families may benefit from greater familiarity with the judicial decision maker and the courtroom, as well as from not having to repeatedly share their stories with a series of changing judicial officers (Martinson, 2010; Rubin, 1998). Other reported advantages of judicial consistency include long-term perspectives, discouragement of repeated party excuses, and prevention of judicial reliance solely on social service agency recommendations (NCJFCJ, 1995). In the Canadian context, Martinson (2010) praises the one family, one judge model as particularly useful in high-conflict family law cases, in which judicial continuity may decrease "inconsistencies in approach and results" (p. 186) by limiting manipulation, procedural delays, and conflicting judgments. Concerns around one family, one judge models center on whether they are feasible, which may depend on jurisdictional resources and on whether increased familiarity might give rise to procedural concerns or biases (Moye, 2004; Rubin, 1998).

Research on the One Family, One Judge Model

Research is important to assess how family court innovations are being implemented, whether they are achieving desired goals, and whether they have been associated with any unintended consequences (NCJFCJ, 2004). Despite the growing endorsement and application of one family, one judge docketing, there is little research evaluating the model. An evaluation of a one family, one judge, pilot program in North Carolina found that participating families were connected to resources more quickly, achieved case milestones in a shorter time, spent fewer court days per completed hearing, and had fewer children in nonfamily and out-of-home placements than nonparticipating families (Kirk & Griffith, 2006). A study of a New York City adoption reform project compared cases using a one family, one judge model with a randomly sampled control group from the point of termination of parental rights through adoption. This study found that judicial continuity was related to shorter time between termination of parental rights and the finalization of adoption among the intervention group compared with controls (Festinger & Pratt, 2002).

Stakeholder evaluations of one family, one judge programs indicate a strong agreement that the model creates a more informed bench and benefits the family by offering more coordinated services (Thoennes, 2001). Drawing on data from the study described here, we report elsewhere on a trend toward improved timeliness of processing of child abuse and neglect cases (Summers & Shdaimah, 2013a). We have also found a reduction in the number of judicial decision makers correlates with fewer continuances, which comes with fidelity to the one family, one judge model (Summers & Shdaimah, 2013b).

Although research on the one family, one judge model in child abuse and neglect cases is limited, a number of studies have examined the effect of a Unified Family Court (UFC) on increasing judicial oversight and familiarity with individual cases. UFC integrates jurisdiction over family or domestic relations (e.g., custody or visitation) with juvenile matters (e.g., delinquency or child abuse and neglect cases). The guiding principle of UFC is the same as the one family, one judge model: the belief that having one judge oversee all aspects of the family's involvement with the court will enable that judge to have a better understanding of the complexity of the case and make more informed decisions for the family.

Washington State implemented a UFC system, which included the one family, one judge model. The majority of those responding to a qualitative survey of professional stakeholders indicated better continuity of judicial oversight and better judicial understanding of the complexities of family-case issues after this model's implementation than before (Bauer, Christopher, Glenn, & Lucenko, 2004). UFCs have also been found to

reduce the number of court appearances and offer better opportunities to respond to family needs (Chase & Hora, 2009).

Although the assessments reviewed in this section are informative, most do not focus specifically on the one family, one judge model, particularly as it pertains to juvenile dependency case processing alone. Furthermore, most assessments rely primarily on self-reported and stakeholder perceptions and do not examine more objective measures to determine how the one family, one judge model might affect outcomes for children and families.

Permanency of Placement

One important outcome measure for children in child welfare proceedings is permanency of placement. This goal is set out in federal legislation and may be accomplished in several ways (Adoption and Safe Families Act [ASFA], 1997). Permanency is primarily achieved at the resolution of a case when a child remains or is reunited with the family of origin, or when parental rights are terminated and the child is adopted. However, the permanency achieved at the resolution of child welfare cases may not in fact be stable or permanent. States as well as the federal government are seeking better information to help promote permanency over time. One of the most important measures of long-term permanency after a family is reunited is whether children remain in the home or reenter foster care (Jones & LaLiberte, 2010). Reentry into foster care after reunification raises concerns for permanency as well as for the safety of children.

To ensure conformity with federal mandates related to child abuse and neglect cases, the Children's Bureau of the U.S. Department of Health and Human Services (2012) began reviewing state conformity, creating the Child and Family Services Review. The Child and Family Services Review measures conformity in safety, permanency, and well-being, and it improves the capacity of the states to help children and families involved in the child welfare system. The most important permanency outcome reviewed by the Child and Family Services Review is that *children have permanency and stability in their living situations*. This measure comprises several items, including the percentage of children exiting care to specific permanency outcomes (e.g., reunification with their families or adoption), timeliness to achieve permanency, and the permanency of reunification (i.e., how many children reenter the foster care system after reunification).

Asserting that courts have neither the capacity nor the experience in tracking outcomes to assess their performance, the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP) promulgated guidelines to help courts develop and implement performance assessments regarding the goals of the ASFA (Hardin & Koenig, 2008). In the permanency category, measures operationalize and evaluate the combined success of courts and child welfare agencies in achieving legal permanency by the time the court has closed each case involving children in foster care. "Legal permanency" has been defined as a permanent and secure legal relationship between the adult caregiver and the child (Hardin & Koenig, 2008, p. 37). It may be difficult to capture the court's role in establishing children's permanency, since permanency may be influenced by many other factors, such as the quality and availability of services for families and the availability of placement options. However, it is important that the courts attempt to understand how court practices (including the use of the one family, one judge model) may influence permanency outcomes.

Study Overview

This study examines whether use of the one family, one judge model is related to timely and safe permanent outcomes for children. To assess the effects of this model on permanency, we pose three research questions, drawing on the measures of permanency outlined in the Child

and Family Services Review and suggested in the OJJDP guidelines (Hardin & Koenig, 2008):

1. Do post–one family, one judge cases result in more permanent outcomes for children than pre–one family, one judge cases, as evidenced by a greater number of case dismissals, family reunifications, adoptions, and legal guardianships, and fewer relatively unstable outcomes such as aging out?
2. Do post–one family, one judge cases have timelier permanency outcomes for children, as evidenced by a greater number of children achieving successful reunification with their families within 12 months of their removal compared with pre–one family, one judge cases?
3. Do post–one family, one judge cases have safer permanency outcomes for children, as evidenced by fewer new petition filings (i.e., reentry) within 1 year of reunification than pre–one family, one judge cases?

Site Selection

Baltimore City Juvenile Court was selected as the study site for this project. Baltimore City Juvenile Court had begun making changes to their current practice as part of the Model Courts program from the National Council of Juvenile and Family Court Judges. One of the first improvements that Baltimore City adopted was the one family, one judge practice, which was phased in over a 3-month period starting in October 2006 (Dancy & Gary, 2008; Tanner, 2009). The program began full-scale operations in January 2007. In Baltimore, judicial officers called Masters oversee Child in Need of Assistance (CINA) cases. The implementation of the one family, one judge practice begins *after* the first hearing, which is typically held on an emergency basis. After this emergency hearing, the CINA case is assigned to a "home court." The home court hears the case until it is either resolved or moves to a termination of parental rights hearing, which must be heard by a judge. Judges and stakeholders were interested and willing to participate in the research project and helped facilitate access to case data.

Methods

In this study, we used child abuse and neglect case data from Baltimore City Juvenile Court to conduct a pre–post examination of the one family, one judge practice. We worked in close collaboration with Baltimore City's Model Court team and the Model Court Lead Judge to devise a course wherein masters of social work students in an advanced research elective were trained to conduct applied research within the child welfare and court context. We developed a research design approved by the University of Maryland Institutional Review Board (IRB) and then trained the students to conduct a structured case file review. The Baltimore City Juvenile Court clerk's office pulled case files from the locked files in the clerk's office. We separated the files into two categories: case files from 2005–2006, before implementation of the one family, one judge practice; and case files from 2007–2008, after implementation.

We identified 443 case files from 2005–2006 and 286 from 2007–2008. Of 729 case files, we selected every tenth file for inclusion in the study. Ten students and 3 researchers recorded information for a total of 89 files: 43 from the period before implementation, and 46 after. Among the information recorded from the files was descriptive case information and case outcomes, which we report here. We also followed up on the case files we reviewed to determine whether children reentered the court system within 1 year after their cases were closed.

Cases from the pre- and post-implementation periods were statistically similar in terms of age, race, and sex of the child, primary allegation type, and charged party. The racial composition of the sample is similar to that of Baltimore City, with 74% of cases involving African American families, 15% Caucasian, 2% other minority, and

8% of unknown ethnicity. The sample included cases with slightly more female children (56%) than male children. Sixty-eight percent of cases involved primary allegations of neglect, 26% involved primary allegations of physical abuse, 6% involved primary allegations of sexual abuse, and 1% involved primary allegations of emotional abuse. Children were represented by an attorney or guardian ad litem in the vast majority of hearings. Eight of the 11 judicial officers remained the same throughout the pre- and posttest periods.

Results

The majority of cases reviewed (89%, $n = 78$) were closed and had recorded case outcomes; 92% of these resulted in a permanent outcome for children, while the remainder had nonpermanent or unknown outcomes. Seventy-one percent of cases resulted in reunification, either through case dismissal or the juvenile's return to the parent; 13% ended with legal guardianship; 6% resulted in the child aging out of the system; and 10% were still open or had no clearly documented case outcome.

Achieving Permanency

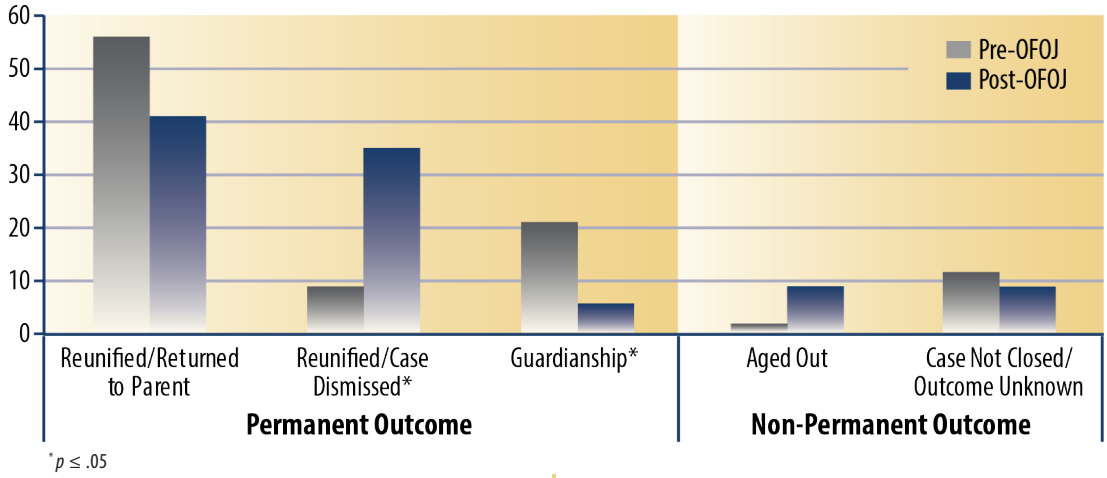
Using chi-square analysis, we examined differences in rates of permanent versus nonpermanent outcomes. Before one family, one judge implementation, 86% of cases achieved a permanent outcome; after implementation, 83% of cases did. This difference was not statistically significant ($p = 0.66$).

We decided to further examine any differences in the specific type of permanency outcome by comparing rates of case dismissals (i.e., petition is dismissed), reunifications (after a finding of abuse or neglect), guardianship, and children aging out of supervision while still in foster care. We found two significant differences in the outcomes of case dismissals, x^2 (1, 89) = 6.82, $p < 0.01$ and guardianships, x^2 (1, 89) = 4.28, $p < 0.05$. Before implementation of the one family, one judge model, 9.3% of cases were dismissed; after implementation, 34.8% of cases were. Guardianships showed the opposite trend, with cases before implementation resulting in more guardianships (24%) than those after implementation (7%). There was no difference in the outcome of reunification ($p = 0.81$) or in the nonpermanent outcome of aging out of the system ($p = 0.34$) before and after implementation of the one family, one judge model. Differences in case outcomes are shown in Figure 1.

Timely Permanency

In addition to the type of permanency, we examined *timely* permanency. We assessed timely permanency by identifying the cases that achieved

Figure 1. **Percentage of cases achieving specific case outcomes, comparing pre- and postimplementation of the one family, one judge model.**



*$p \leq .05$

permanency within 12 months of the juvenile's removal from the home, which is the goal set out in the Child and Family Services Review. Pre– and post–one family, one judge cases differed significantly on this measure [χ^2 (84) = 3.91, p = 0.05]. Before the one family, one judge model was implemented, 33% of cases in which the child had been removed from the home achieved successful permanency within 12 months; after the implementation, this applied to 55% of cases.

Safe Permanency

We operationalized safe permanency by examining whether or not a new petition was filed (i.e., new allegations of abuse resulting in removal from the home) within 1 year of case closure or the child's return home. Of the closed cases in the pre–one family, one judge sample, 17% had a new petition filed within 1 year, compared with 19% of the post-implementation sample. This difference was not statistically significant (p = 0.67), indicating that the one family, one judge model had no impact on safe permanency.

Discussion

Results of this study support the implementation of a one family, one judge model of decision making. Although there was no difference overall in the percentage of cases that resulted in permanent outcomes or in safe permanency, there were important differences in specific permanency outcomes that we considered. After implementation of the one family, one judge model, significantly more cases were dismissed than before, resulting in a greater number of juveniles being reunited with their parents. This fact alone demonstrates that the one family, one judge model might help families to achieve timely permanency and the goals set out by the ASFA, which places a high priority on reunification outcomes, where appropriate. When viewed in combination with the finding that there were no differences in reentry rates before and after implementation of the one family, one judge model, this demonstrates that despite higher rates of reunification, there have been no corresponding increases in new allegations after case closures. Such a finding raises confidence that increases in permanency through reunification under the one family, one judge model do not come at the expense of child safety. Furthermore, this finding indicates that the one family, one judge model might increase the *safe* permanency of children in the juvenile dependency system. This gives modest but hopeful support for those who contend that the one family, one judge model results in better outcomes for families (Martinson, 2010; NCJFCJ, 2005).

Following implementation of the one family, one judge model, a greater number of juveniles achieved timely reunification with their families than before. Juveniles were 1.7 times more likely to be reunited with their families within 12 months of their removal after the one family, one judge model was implemented than before. Again, since we saw no differences in reentry rates, we assume that this timelier permanency is in fact permanent for children and their families, and that it comes with no adverse consequences regarding safety.

Although these results do provide support for the one family, one judge model in dependency cases, they do not tell us *why* these effects may have occurred. In its *Resource Guidelines* (1995), the NCJFCJ argues that the one family, one judge practice can lead to more efficient decision making. This could explain the findings presented here. If judges are involved from the start, they are more likely to be familiar with each case, understand the parent's and child's needs, and be able to work with the family to ensure they are getting the services they need to correct the problems that brought them before the court to begin with—all of which might explain the shortened time to reunification and the lack of difference found in reentry. It might also be true that having judicial continuity actually helps to engage parents in the process. Parents who are thus engaged may be more likely to attend court hearings and participate in the services,

because they believe the judge cares about them and their children. Although the one family, one judge model could lead to more efficient decision making and better engagement, this cannot be determined based on current data and should be explored in future research.

Limitations

This study had a number of limitations. First, the one family, one judge practice was not fully implemented, and it is therefore difficult to generalize from one court to another. The Baltimore City Juvenile Court implemented a version that begins only *after* the first emergency hearing, pertains only to dependency cases (unlike Unified Family Courts), and ends at the termination of parental rights hearings if cases continue to that stage.

The second set of limitations is methodological. Because this is a pilot study, the small sample size limits its generalizability. Replication of the study in Baltimore and elsewhere will reveal whether the findings reported here apply over time and across jurisdictions. Although the sample was random, it contained no cases that resulted in adoption, and we cannot determine how the court is faring with regard to that particular permanency outcome. In addition, our sample did not identify crossover youth. Dually involved and dually adjudicated youth may have particularly complex needs and often have poorer outcomes than children who are involved in either the child welfare or juvenile justice system alone (Culhane et al., 2011). Although the one family, one judge model may be particularly effective when judges oversee both case types for crossover youth, this was not something that we were able to examine using the current data. Baltimore City's model court is working toward including these youth in the one family, one judge practice, but has not yet done so.

Finally, although the pre- and post-design is useful, it has limitations. It is difficult to draw conclusions about the use of a one family, one judge model without accounting for all changes that may have occurred in the court or child welfare system during this time. Future work could also examine other factors that may influence case outcomes, such as individual characteristics of judges or resource constraints. We were unable to quantify the savings to the court in the use of this model; however, future studies could examine the resource impact of the one family, one judge practice.

Conclusion

Although this study was limited in scope, it is a meaningful first step in examining the importance of judicial continuity in juvenile dependency case outcomes. Even without implementation of the full one family, one judge model, the changes we observed in judicial practice were related to improved permanency outcomes for children and families. Although we cannot say that the one family, one judge model assuredly *caused* these changes, we did see positive relations following implementation. More families were being reunited within 12 months of a juvenile's removal without significant increases in reentry rates. Replication and expansion of this research with more rigorous methodology could offer a more complete understanding of how important judicial continuity might be in complex cases such as these.

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Parental Acceptance-Rejection Theory and Court-Involved Adolescent Females: An Exploration of Parent-Child Relationships and Student-Teacher Relationships

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Abstract

This study examined whether the assumptions of the Parental Acceptance-Rejection Theory (PARTheory) can be applied to understanding predictors and correlates of social-emotional functioning among court-involved adolescent females. Participants were court-involved adolescent females (n = 35) in the upper Midwestern United States and their parents/guardians (n = 35). Findings suggest that court-involved adolescent females experienced low levels of acceptance from parents and teachers. Perceived teacher rejection by adolescents was related to higher levels of psychological distress and social problems. Neither perceived paternal nor maternal rejection contributed directly to the regression model predicting adolescent psychological distress and social problems, but maternal rejection may have influenced perceptions of teacher rejection. Future research should explore the potential mediating effect of maternal rejection on teacher rejection and adolescent psychosocial functioning, and the longitudinal impact of parental and teacher acceptance-rejection on the development of psychological distress and involvement in illegal activities among girls. Recommendations for relationship-based programming for court-involved adolescent females are discussed.

Introduction

Juvenile crime rates have been decreasing since hitting an all-time high in the mid-1990s, but the percentage of adolescent females who are involved with the juvenile justice system continues to increase (Puzzanchera & Adams, 2011). In 2009, more than 500,000 arrests of females under the age of 18 were made, accounting for 30% of all juvenile arrests. Furthermore, female juvenile arrests have either decreased less or increased compared to male juvenile arrests across multiple categories of offenses (Puzzanchera & Adams, 2011). For example, 45% of juveniles arrested in 2009 for larceny-theft were female, compared with 26% in 1980 (Puzzanchera & Adams, 2011). This increase in court-involved female adolescents has left many professionals wondering how best to support and intervene with these

young women, and how to ultimately decrease the number of adolescent females involved in the juvenile justice system.

The Girls Study Group, established by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) in 2008, has reviewed more than 1,600 publications that examine risk factors for delinquency, and identified several factors as potential contributors to delinquent behavior by girls. These include biological factors (such as early-onset puberty), mental health concerns, family influences (including stability, quality of relationships, and family criminal activity), peer relationships, neighborhood effects, religious involvement, and school performance and engagement (Zahn et al., 2010).

The majority of court-involved adolescents experience considerable psychological distress, with greater than 80% of court-involved adolescent females meeting diagnostic criteria for at least one psychiatric disorder (Shufelt & Cocozza, 2006). In general, researchers have found that adolescents involved in the juvenile justice system often experience high rates of psychiatric disorders. These youth experience an array of psychological disturbances, including both internalizing and externalizing disorders (Arroyo, 2001; Dixon, Howie, & Starling 2004; Wasserman, McReynolds, Lucas, Fisher, & Santos, 2002). While it may be obvious that individuals involved in the legal system are engaging in acting-out behaviors and would be at increased risk for having an externalizing disorder, many court-involved adolescent females also experience clinically significant levels of internalizing disorders such as anxiety and depression (Rohde, Mace, & Seeley, 1997).

In addition to psychological difficulties, adolescents who are involved in the court system tend to have low levels of prosocial beliefs; associate with deviant peers; and have strained relationships with the adults in their lives (Andrews, Leschied & Hoge, 1992; Hoge, Andrews, & Leschied, 1994; Kazdin, 1987; McGee & Baker, 2002; McMahon & Estes, 1997). Adolescents with high levels of prosocial beliefs tend to respect and adhere to generally accepted values such as honesty, respecting the rights and property of others, following rules, and not intentionally causing harm to others. Adolescents with low levels of prosocial beliefs tend to engage in rule-breaking and law-breaking behaviors (Brown, et al. 2005). Similarly, court-involved adolescents frequently report that their friends engage in law-breaking behaviors, including substance use, property destruction, and physical assault (McGee & Baker, 2002; Rodney, Tachia, & Rodney, 1999).

One important protective factor for adolescent girls is the presence of caring and influential adults. In fact, the Girls Study Group found that "girls who had a caring adult in their lives during adolescence were less likely to commit status or property offences, sell drugs, join gangs, or commit simple or aggravated assault during adolescence" (OJJDP, 2008, p. 4). Such findings support the need for adults to attend more fully to the relationships of adolescents central to their lives. Of particular importance are relationships with adults in the family and school settings, which have been shown to influence relationships with delinquent peers (Crosnoe, Erickson, & Dornbusch, 2002).

Parent-Child Relationships

When children are rejected by their parents, their sense of conscientiousness is likely to be negatively affected, their feelings of empathy are likely to be lowered, and their perception of their self-worth is likely to be negative (Buikhuisen, 1988). Parents who are cruel, rejecting, or display anti-social traits have been found to significantly influence the manifestation of behavioral problems in children and adolescents Barnow, Schuckit, Lucht, & Freyberger, 2002; Patterson, 1999). Young women tend to act in problematic, externalizing ways when low levels of maternal support are present (Barnes & Farrell, 1992).

Related longitudinal studies have concluded that parental rejection has the tendency to precede engagement in problematic behaviors (Ge, Best, Conger, & Simon, 1996; Loeber & Stouthamer-Loeber, 1986; Simons, Robertson, & Downs, 1989). Consequently, adolescents who experience low levels of emotional support from their parents and who perceive their parents to be rejecting engage in significantly more problematic behaviors than peers who perceive their parents to be supportive (Kumpfner & Turner, 1990).

Parental Acceptance-Rejection Theory

Children's relationships with parents and primary caregivers influence their psychological, behavioral, and social functioning during childhood, adolescence, and adulthood. Although there are many important aspects of the parent-child relationship, research has consistently shown that in order for children to experience healthy social and emotional development, they must receive accepting responses from their parents and primary caregivers. Children who receive accepting responses from their parents tend to be relatively emotionally stable and interpersonally adept (Rohner & Khaleque, 2005). Children who do not receive accepting responses from their parents and primary caregivers, however, experience difficulties with self-esteem and interpersonal relationships and are at increased risk for depression, substance use disorders, and externalizing behavioral problems (including delinquency) during adolescence and adulthood (Ge, et al., 1996; Rohner & Khaleque, 2005).

Findings such as these can be examined and understood through the lens of parental acceptance-rejection theory (PARTheory), which is rooted in tenets of socialization and lifespan development theories. PARTheory postulates that an adolescent's perceptions of her parental relationships, specifically the warmth or lack of warmth in these relationships, will influence her psychological and behavioral functioning. PARTheory measures warmth by examining parental acceptance and rejection and aims to explain and predict (a) the causes of parental acceptance-rejection, (b) the consequences of experiencing parental acceptance-rejection, and (c) the relationships between parental acceptance-rejection and additional constructs. The theory postulates that when children experience parental rejection, they will experience negative effects of this rejection as a result (Rohner, Khaleque, & Cournoyer, 2007). In order to best understand the construct of parental acceptance-rejection, the theory is further divided into three subtheories: personality, coping, and sociocultural systems. The personality subtheory aims to predict and explain psychological consequences of perceived parental acceptance-rejection. The coping subtheory aims to predict and explain factors that contribute to an individual's ability to effectively cope when experiencing perceived parental rejection. The sociocultural systems subtheory aims to predict and explain societal and individual factors that contribute to parents acting in loving, accepting, distant, neglecting, and/or rejecting ways (Rohner, 1986, 2004; Rohner, et al., 2007; Rohner & Rohner, 1980). Researchers have suggested that PARTheory is relevant for at least 25% of cultures worldwide, since these cultures include parents who act in rejecting ways that are congruent with the theory's definition (Rohner & Rohner, 1980).

Based on an individual's subjective experiences with parents and primary caregivers—including caregiver behaviors, spoken sentiments, and feelings—the overall quality of the parent-child relationship can be classified as being more or less loving, which is identified by the balance of parental acceptance and parental rejection. Parental acceptance is characterized by parents who care about their children's well-being and provide them with comfort, support, love, and affection. Parental rejection is characterized by parents who do not provide, or withdraw in times of need, qualities such as affection, care, comfort, support, and love. Rejecting parents may also act in physically and emotionally harmful ways. These two classifications of parental

behavior—parental acceptance and parental rejection—come together to form the warmth dimension of parenting, which is essentially a continuum with parental acceptance at one end and parental rejection at the other (Rohner & Khaleque, 2005).

Teacher-Child Relationships

Relationships with adults other than parents are also instrumental in shaping the development of children and adolescents. There is some evidence that increased interaction with non-parental adults can support a thriving adolescence, particularly in the area of leadership development (Scales, Benson, Leffert, & Blyth, 2000). Perhaps the most important non-parental adult relationship for many children and adolescents is their relationship with teachers.

There exists significant evidence that teachers influence adolescent development and can be a critical developmental asset in both preventing risk behaviors (Edwards, Mumford, Shillingford, & Serra-Roldan, 2007) and promoting well-being (Scales, et al. 2000). Positive teacher-student relationships have been found to influence improved mental health and wellness (Suldo, McMahan, Chappel, & Loker, 2012), improved use of active coping behaviors (Zimmer-Gembeck & Locke, 2007), and higher levels of hope and lower levels of psychosocial distress (Ludwig & Warren, 2009), to name just a few factors relevant to the focus of this study. Furthermore, a positive teacher-student relationship has been demonstrated to serve as a protective factor for adolescents who are in less than nurturing family relationships (Hughes, Cavell, & Jackson, 1999), a finding that has been replicated even among children as young as preschool and kindergarten age (Buyse, Verschueren, & Doumen, 2011).

Teachers have long been identified as critical influences in the prevention of juvenile delinquency (Dobbs, 1950). Some empirical support suggests that teacher disapproval may be related to delinquent outcomes, particularly as such disapproval may contribute to the increased likelihood of maintaining relationships with delinquent peers (Adams & Evans, 1996). Although there is limited evidence on the influence of teachers among court-involved girls, there is some suggestion that close connections to one or more teachers can serve an important protective factor for female adolescent delinquency (Crosnoe et al., 2002).

Teachers and PARTheory

The basic tenets of PARTheory have been expanded to address not only parental figures but all attachment figures, including teachers. Similar to parental acceptance-rejection, teacher acceptance-rejection theory postulates that an adolescent's perceptions of her relationships with teachers, specifically the perceived level of acceptance and rejection in these relationships, will impact her psychological and behavioral functioning (Rohner et al., 2007).

Despite the abundance of research investigating the role of parents in the functioning of juvenile offenders, the specific role of teachers has not yet been investigated in published literature. More specifically, given the recent development of PARTheory at the time of this writing, the relationships between teacher acceptance-rejection and adolescent socio-emotional functioning had not been investigated.

Research has shown that parental rejection contributes to the development of delinquent behaviors (Chen et al., 1997; Ge et al., 1996; Rohner & Khaleque, 2005). When adolescents believe that their parents are not concerned about their well-being, are not interested in them, and are not supportive of them, they are more likely to engage in delinquent behaviors than peers who feel accepted and supported by their parents (Simons et al., 1989). Due to the recent development of teacher acceptance-rejection theory, which is similar to PARTheory, the relationships between teacher rejection and adolescent socio-emotional functioning has not

yet been investigated (Rohner et al., 2007). Given findings from previous studies indicating the influence of parent-child relationships on youth socio-emotional functioning, it seems logical to investigate the influence of teacher-student relationships on youth socio-emotional functioning. In addition, PARTheory has not yet been examined specifically in relation to court-involved adolescent females, since previous studies have used combined samples of males and females and have not analyzed findings for these groups separately.

Hypotheses

The present study sought to examine whether the assumptions of the PARTheory could be applied to understanding important parental and teacher relationship predictors and correlates of social and emotional functioning among court-involved adolescent females. As mentioned above, this is a novel application of the PARTheory, since the role of teacher acceptance-rejection has not been investigated in this population. Using PARTheory's hypothesis that a universal relationship exists between parental acceptance, teacher acceptance, and adolescent socio-emotional functioning (Rohner, 2004; Rohner, et al., 2007), this study analyzed the relationships between perceived parental acceptance, teacher acceptance, and adolescent socio-emotional functioning in a sample of court-involved adolescent females. For the purposes of this study, socio-emotional functioning includes internalizing and externalizing disorders, adolescent friendships, school functioning, family interactions, prosocial beliefs, engagement with delinquent peers, and parental ratings of behavioral, social, and emotional functioning.

Method

Participants

Adolescent participants in this study were recruited through a juvenile court system in the upper Midwestern United States. Every female adolescent who was seen by the district court judge, and who was assigned to be on probation, was invited to participate in the study. At the time of intake, if these young women agreed to participate in the study, study packets were given to them, as well as to their guardians. After each packet was completed by the adolescent-parent dyad, participants mailed the completed research packet to the primary researcher. Data were collected over a 10-month period during two consecutive years.

Adolescent participants in the current study were young women (n = 35) who ranged in age from 14 years to 18 years (M = 16.4; SD = 1.03) and who were receiving services through a juvenile court system in the upper Midwestern United States. Of the 35 adolescent participants, 83% were White, 11% were Native American, 3% were African American, and 3% chose not to respond to a question about their race or ethnicity. Of the total sample, 43% reported living with both biological parents, 31% reported living with one biological parent and one step-parent, 20% reported living with their biological mother, and 3% reported living with a grandmother. Most of the adolescent participants (40%) lived with one sibling in the home, 23% lived with two siblings in the home, 23% did not have any siblings in the home, and 11% resided with three or more siblings. The participants reported they initially became involved in the legal system as teenagers. The self-reported spectrum of law-breaking behaviors for these adolescents was wide. Table 1 presents frequencies and percentages regarding adolescent involvement in the legal system.

Of the 35 parent/guardian participants, the majority were biological mothers (88%), while 6% were step-fathers, 3% were biological fathers, and 3% were grandmothers. Female caregivers ranged in age from 31 years to 56 years (M = 41.5; SD = 5.79) and biological male caregivers ranged in age from 34 years to 59 years (M = 42.76; SD = 6.14). The majority of female caregivers identified themselves as White (91%), while 3% identified themselves as Native American, and 6% did not

Table 1. **Youth Legal Involvement: Criminal Activity**

	Total (*N*)	%
Motor Vehicle Theft	1	2.9
Breaking and Entering	3	8.6
Theft (over $40)	8	22.9
Robbed Someone	1	2.9
Simple Assault	1	2.9
Forgery and Counterfeiting	1	2.9
Buying, Receiving, or Possessing Stolen Property	2	5.7
Possession or Use of Drugs	2	5.7
Possession or Use of Alcohol	21	60.0
Disorderly Conduct	3	8.6
Breaking Curfew	4	11.4
Running Away	1	2.9
Driving Under the Influence	1	2.9
Terrorist Threats	1	2.9
Driving without a License	1	2.9
Truancy	2	5.7
Reckless Driving	2	5.7

report their racial/ethnic identity. The majority of male caregivers identified themselves as White (77%), while 6% identified themselves as Native American, 3% identified themselves as African American, 3% identified themselves as Asian American, and 11% did not report their race or ethnicity.

Parent/guardian participants reported varying income levels in this study. The majority of parents indicated incomes ranging between $20,000 and $30,999 (20%), and between $31,000 and $40,999 (20%). A minority of the sample reported lower incomes, with 2.9% reporting an annual income of less than $10,000 and another 5.7% reporting an income between $10,000 and $19,999. The remaining families were fairly equally represented across higher income categories: $41,000 to $50,999 (8.6%); $61,000 to $70,999 (8.6%); $71,000 to $80,999 (11.4%); and $90,000 and above (8.6%). The remainder (14.2%) chose not to respond to a question about their income.

Measures

Participants in the study completed a series of surveys. Adolescents completed surveys that assessed their perceived parental and teacher acceptance or rejection, their socio-emotional functioning, their thoughts about criminal behavior, and their engagement with delinquent peers. Guardians completed a survey that assessed their child's socio-emotional functioning. These surveys are described below.

Perceived parental and teacher acceptance or rejection. Adolescent participants completed three acceptance-rejection questionnaires: the *Child Parental Acceptance-Rejection Questionnaire with Control Scale: Mother Version (short form)* to assess their relationship with their mother; the *Child Parental Acceptance-Rejection Questionnaire with Control Scale: Father Version (short form)* to assess their relationship with their father; and the *Teacher Acceptance-Rejection/Control Questionnaire: Child Version (short form)* to assess their relationship with a teacher of their choice. Each acceptance-rejection questionnaire sought to determine the overall quality of the adolescent's relationships with key adults in her life. More specifically, each of these measures is a 24-item questionnaire designed to assess the youth's perceptions of adult behaviors in terms of acceptance, rejection, and controlling behaviors (Rohner, 1999). Scores between 24 and 44 characterize adult-youth relationships that are primarily accepting and include affection, support, and warmth. Scores between 45 and 59 characterize adult-youth relationships with low levels of acceptance. Scores higher than 60 characterize adult-youth relationships that are primarily rejecting, lacking in acceptance, and include high levels of indifference, aggression, and neglect. In terms of reliability, Cronbach's alpha for *the Child PARQ: Mother* ranged from 0.72 to 0.90. With regard to convergent validity, all of the scales within the measure were significantly related to their matched validation scale ($p < 0.001$) (Rohner & Khaleque, 2005). Cronbach's alpha for the *Child PARQ/Control mother* version

was acceptable (0.71), *father* version was high (0.85), and *teacher* version was minimally acceptable (0.63).

Adolescent socio-emotional functioning. The *Youth Self-Report for Ages 11–18* (YSR/11–18) (Achenbach & Rescorla, 2001) is a self-report measure that assesses internalizing and externalizing disorders, adolescent friendships, school functioning, family interactions, and involvement in extracurricular activities. Adolescents rate the degree that each prompt currently applies to them, or has applied to them within the past 6 months. Items included in the study were scored on a 3-point Likert-scale ("Not True," "Somewhat or Sometimes True," and "Very True or Often True"). This study utilized the following scales from the YSR/11–18: Affective Problems (Depression), Anxiety Problems, Attention-Deficit/Hyperactivity Problems, Oppositional Defiant Problems, Conduct Problems, and Social Problems. The content validity of the YSR, in its various editions, "has been strongly supported by nearly four decades of research, consultation, feedback, and refinement, as well as by the current evidence for the ability of all the items to discriminate significantly ($p < .01$) between demographically similar referred and nonreferred children" (Achenbach & Rescorla, 2001, p. 109). Cronbach's alpha for this study yielded acceptable results for scales contained in the YSR/11–18 (0.65–0.80).

Adolescents' thoughts on criminal behavior. The Prosocial Beliefs subscale of the *Communities that Care: Youth Survey* (Hawkins & Catalano, 2004) is made up of six items that are scored on a 4-point Likert-scale ("Very False," "Somewhat False," "Somewhat True," and "Very True"). High scores on the Prosocial Beliefs subscale characterize adolescents with prosocial beliefs that include adherence to and reverence for generally accepted values regarding honesty, respecting the personal rights and property of others, following rules, and not intentionally causing harm to others. Low scores on the Prosocial Beliefs subscale characterize adolescents with antisocial beliefs that include a lack of adherence to generally accepted values regarding honesty, respecting the personal rights and property of others, following rules, and not intentionally causing harm to others. Cronbach's alpha for this study was acceptable for the Prosocial Beliefs subscale (0.57). Data regarding the performance of the Prosocial Beliefs subscale in previous studies is unknown.

Adolescents' engagement with delinquent peers. We assessed peer deviance using the Peer Deviance subscale of the *Communities that Care: Youth Survey* (Hawkins & Catalano, 2004). The subscale consists of 16 items that ask adolescents to think about their four best friends and to answer a series of questions about their friends' drug and alcohol use, legal histories, violent and antisocial behaviors, and positive behaviors such as involvement in extracurricular activities and being a member of positive communities. High scores on the Peer Deviance subscale are indicative of adolescents who have close social networks of peers who engage in problematic, antisocial behaviors. Low scores on the Peer Deviance subscale are indicative of adolescents who have a close social network of peers who engage in prosocial behaviors. Cronbach's alpha for this study was high (0.84). Data regarding the performance of the Peer Deviance subscale in previous studies is unknown.

Guardians' perceptions of child's socio-emotional functioning. The *Child Behavioral Checklist for Ages 6–18* (CBCL/6–18) (Achenbach & Rescorla, 2001) was designed to assess, via parent/guardian report, the emotional, behavioral, and social functioning of children and adolescents. The CBCL/6–18 consists of 118 items that evaluate emotional and behavioral problems and 20 items that assess social functioning. Items included in the study were scored on a 3-point Likert-scale ("Not True," "Somewhat or Sometimes True," and "Very True or Often True"). As a whole, the CBCL/6–18 assesses internalizing and externalizing disorders, adolescent friendships, school functioning, family interactions, and involvement in extracurricular activities. Internal consistency, as measured by Cronbach's alpha, has been moderately high (0.63–0.79) for specific problem

scales. Scales oriented toward the *American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; *DSM-IV-TR*) yielded alphas in the moderately high to high range (0.72–0.91). Empirically based problem scales yielded alphas in the moderately high to high range (0.78–0.97). Cronbach's alpha for this study yielded acceptable results for scales contained in the CBCL/6–18 (0.67–0.91).

Procedure

Adolescent girls ages 13 to 18 years were referred to the study by staff at a rural juvenile court system in the upper Midwestern United States. Adolescents who reported breaking the law prior to the age of 13 were excluded from the study because this study sought to examine late-onset adolescent-limited offenders—those whose criminal behaviors are typically limited to their adolescent years. Referral occurred at the time of intake into the juvenile court system, when juvenile court staff distributed study packets to adolescent girls and their legal guardians. Study packets included separate parent/guardian and adolescent consent forms and study questionnaires, and an envelope that was stamped and addressed to the primary researcher. Youth and parent participants completed separate study packets at their convenience. After each packet was completed by the adolescent-parent dyad, participants mailed completed packets to the primary researcher. Eight hours of previously assigned community service were waived for adolescents who chose to participate in the study.

Results

Adolescent mean scores for perceived maternal acceptance ($M = 49.37$, $SD = 12.34$), paternal acceptance ($M = 53.61$, $SD = 18.23$), and teacher acceptance ($M = 52.15$, $SD = 10.23$) indicate that the court-involved adolescents in this sample experienced low levels of acceptance from parents and teachers.

The results of the correlational analyses are presented in Table 2. The correlation between maternal acceptance-rejection and teacher acceptance-rejection was significant ($r = 0.37$). The correlation between father

Table 2. **Bivariate Correlations Among Main Study Variables**

	PARQ Mother	PARQ Father	PARQ Teacher	Depression	Anxiety	Attention-Deficit Hyperactivity	Oppositional Defiant	Conduct Problems	Social Problems	Peer Deviance	Pro-social Beliefs
Adult-Youth Relationships											
1. PARQ Mother	1.00										
2. PARQ Father	.09	1.00									
3. PARQ Teacher	.37*	.03	1.00								
Adolescent Socio-emotional Functioning											
4. Depression	.17	.12	.28*	1.00							
5. Anxiety	.00	.14	.31*	.73*	1.00						
6. Attention-Deficit Hyperactivity	.15	.10	.48*	.58*	.66*	1.00					
7. Oppositional Defiant	.00	.19	.25	.37*	.39*	.55*	1.00				
8. Conduct Problems	.12	.20	.40*	.46*	.36*	.53*	.73*	1.00			
9. Social Problems	.17	.14	.41*	.72*	.72*	.74*	.63*	.62*	1.00		
10. Peer Deviance	-.01	.16	.33*	.24	.33*	.45*	.49*	.59*	.40*	1.00	
11. Prosocial Beliefs	-.08	-.13	-.40*	-.21	-.20	-.31*	-.54*	-.67*	-.30*	-.46*	1.00

*Correlation is significant at the .05 level (1-tailed).

acceptance-rejection and mother acceptance-rejection was not statistically significant (r = 0.09), nor was the correlation between father acceptance-rejection and teacher acceptance-rejection (r = 0.03).

Acceptance and Rejection as Predictors of Adolescent Socio-Emotional Functioning

A series of multiple regression analyses were conducted to evaluate how well maternal, paternal, and teacher rejection predicted a range of socio-emotional characteristics of court-involved adolescent females. The results of these analyses are summarized in Table 3.

Internalizing Problems. In order to understand the influence of parental and teacher acceptance and rejection on internalizing disorders, depression and anxiety were identified as criterion variables. The linear combination of rejection measures was not significantly related to youth depression, F (3, 31) = 1.12, $p > 0.05$ or youth anxiety, F (3, 31) = 1.59, $p > .05$. For youth depression, the sample multiple correlation coefficient was 0.31, indicating that approximately 10% of the variance of the depression index in the sample can be accounted for by the linear combination of rejection measures. For anxiety, the sample multiple correlation coefficient was 0.37, indicating that approximately 13% of the variance of the adolescent-reported youth anxiety index can be accounted for by the linear combination of rejection measures. As expected, the rejection measures correlated positively with both depression and anxiety indices, with the exception of maternal rejection and youth anxiety. None of the partial correlations were significant for depression, but teacher rejection did correlate significantly with anxiety (0.36, p = .05). Teacher rejection accounted for 8% (0.28 = 0.08) of the variance on the youth depression index and 10% (0.31 = 0.10) of the variance on the youth anxiety index.

Externalizing Problems. In order to understand the influence of parental and teacher acceptance and rejection on externalizing disorders, attention-deficit hyperactivity, oppositional

Table 3. **Beta and Partial Correlations of the Predictors for Youth Socio-Emotional Functioning**

Predictors	Beta	*p*	Correlation between each predictor and the depression index controlling for all other predictors
Internalizing Problems			
Youth Depression			
Maternal Rejection	.07	.71	.07
Paternal Rejection	.11	.53	.11
Teacher Rejection	.26	.17	.24
Youth Anxiety			
Maternal Rejection	-.15	.41	-.15
Paternal Rejection	.15	.39	.16
Teacher Rejection	.36	.05*	.34*
Externalizing Problems			
Youth Attention Deficit			
Maternal Rejection	-.04	.81	-.04
Paternal Rejection	.09	.57	.10
Teacher Rejection	.49	.01*	.46*
Youth Oppositional Defiance			
Maternal Rejection	-.13	.49	-.13
Paternal Rejection	.19	.27	.20
Teacher Rejection	.30	.12	.28
Youth Conduct Problems			
Maternal Rejection	-.05	.76	-.06
Paternal Rejection	.19	.25	.21
Teacher Rejection	.42	.02*	.40*
Social Functioning			
Social Problems			
Maternal Rejection	.01	.96	.01
Paternal Rejection	.13	.43	.14
Teacher Rejection	.40	.03*	.38*
Delinquent Peers			
Maternal Rejection	-.17	.34	-.17
Paternal Rejection	.17	.33	.18
Teacher Rejection	.39	.04*	.37
Prosocial Beliefs			
Maternal Rejection	.10	.59	.10
Paternal Rejection	-.13	.44	-.14
Teacher Rejection	-.44	.02*	-.41*

Note. * Significant at the .05 level.

defiance, and conduct problems were identified as criterion variables. The linear combination of rejection measures was significantly related to youth attention-deficit hyperactivity, F (3, 31) = 3.19, $p < .05$. However, the linear combination of rejection measures was not significantly related to youth oppositional defiance, F (3, 31) = 1.29, $p > .05$ or youth conduct problems, F (3, 31) = 2.57, $p > .05$. For youth attention-deficit hyperactivity, the sample multiple correlation coefficient was 0.49, indicating that approximately 24% of the variance of the attention-deficit hyperactivity index in the sample can be accounted for by the linear combination of rejection measures. For youth oppositional defiance, the sample multiple correlation coefficient was 0.33, indicating that approximately 11% of the variance of the oppositional defiant index in the sample can be accounted for by the linear combination of rejection measures. For youth conduct problems, the sample multiple correlation coefficient was 0.45, indicating that approximately 20% of the variance of the conduct problems index in the sample can be accounted for by the linear combination of rejection measures. Again, as expected, paternal and teacher rejection measures correlated positively with attention-deficit hyperactivity, oppositional defiance, and conduct problem indices. Maternal rejection measures, however, correlated negatively with attention-deficit hyperactivity, oppositional defiance, and conduct problem indices. None of the partial correlations were significant for oppositional defiance, but teacher rejection did correlate significantly with attention-deficit hyperactivity (0.49, $p = 0.01$) and conduct problems (0.42, $p = 0.02$). Teacher rejection accounted for 11% (0.33 = 0.11) of the variance on the youth oppositional defiance index, 23% (0.48 = 0.23) of the variance on the youth attention-deficit hyperactivity index, and 16% (0.40 = 0.16) of the variance on the youth conduct problems index.

Social Functioning. In order to understand the influence of parental and teacher acceptance and rejection on youth social functioning, prosocial beliefs, social problems, and peer deviance were identified as criterion variables. The linear combination of rejection measures was not significantly related to youth prosocial beliefs, F (3, 31) = 2.35, $p > 0.05$, youth social problems, F (3, 31) = 2.29, $p > 0.05$, or youth association with delinquent peers, F (3, 31) = 1.91, $p > .05$. For prosocial beliefs, the sample multiple correlation coefficient was 0.43, indicating that approximately 19% of the variance on the prosocial beliefs index could be accounted for by the linear combination of rejection measures. Once again, paternal and teacher rejection correlated positively with social problems, delinquent peers, and prosocial belief indices. Maternal rejection correlated negatively with delinquent peers and positively with prosocial beliefs indices. For social problems, the sample multiple correlation coefficient was 0.43, indicating that 18% of the variance on the social problems index in the sample can be accounted for by the linear combination of rejection measures. The sample multiple correlation coefficient was 0.40, indicating that 16% of the variance on the delinquent peers index in the sample can be accounted for by the linear combination of rejection measures.

All of the partial correlations between teacher acceptance-rejection and social problems (0.40, $p = .03$), delinquent peers (0.39, $p = .04$), and prosocial beliefs (-0.44, $p = .02$) were significant. Teacher rejection accounted for 16% (-0.40 = 0.16) of the variance on the youth prosocial beliefs index, 16% (0.41 = .16) of the variance on the youth social problems index, and 16% (-0.40 = .016) of the variance on the peer deviance index.

Discussion

The adolescent females in this study perceived their relationships with parents and teachers to be lacking comfort, support, love, and affection. PARTheory postulates that when adolescents experience these sorts of negative perceptions, they experience negative consequences as a result. PARTheory asserts that an adolescent's

perceptions of her parental relationships will affect her psychological and behavioral functioning. We, therefore, hypothesized that adolescents who reported low levels of parental and teacher acceptance would also report high levels of internalizing and externalizing disorders. However, neither maternal acceptance-rejection nor paternal acceptance-rejection was a direct predictor of the social, emotional, and behavioral functioning of the court-involved adolescent females in this study. Specifically, PARTheory's assertion that adolescents who report low levels of parental acceptance would report high levels of internalizing and externalizing disorders was not supported. However, when these girls experienced low levels of acceptance from their mothers, they also tended to experience low levels of acceptance from their teachers—and the relationship between teacher acceptance-rejection and adolescent socio-emotional functioning was significant. Consequently, teacher-student relationships were more closely related to adolescent socio-emotional functioning than parent-child relationships.

Adolescent females who felt rejected by their teachers experienced higher levels of psychological distress and social problems than those who felt accepted and supported by their teachers. Although causality cannot be assumed in this study, teacher rejection accounted for the greatest variance in socio-emotional functioning among court involved adolescent females. Teacher rejection significantly contributed to youth anxiety, low levels of prosocial beliefs, attention deficit hyperactivity disorder, conduct problems, social problems, and association with delinquent peers. This is the first study to date that documents the significant role of teachers in regard to adolescent socio-emotional functioning by applying the PARTheory. The role that teachers play in the psychological functioning of youth has been traditionally understudied in psychological literature, and teacher acceptance-rejection is a fairly new concept that is in need of additional research. The finding that there were no significant relationships between paternal rejection and adolescent socio-emotional functioning challenges PARTheory to consider not only the influential roles of parents on adolescent functioning, but also the roles of other potentially influential adults, including teachers, coaches, religious leaders, and informal mentors.

These results suggest that an adolescent female's experiences with maternal rejection are associated with her perceived experiences with teachers. In turn, it appears that teacher rejection has the greatest influence on an adolescent female's problematic social and psychological functioning. It is possible that her experience with maternal rejection affects her interpersonal relationships with authority figures later in life. Alternatively, it is also possible that teachers are responding to inappropriate behaviors in the classroom and, as a result, adolescent females perceive their teachers as rejecting. While teachers are required to maintain classrooms that adhere to zero tolerance policies regarding acting out and potentially dangerous activities, parents are not required to similarly maintain their homes. This conflict may confuse adolescent females and they may, in turn, perceive standard disciplinary actions in the classroom to be negative and rejecting. In addition, it is possible that as a result of spending more time at school than at home, and consequently more time with teachers than with parents, court-involved adolescent females place increased value on their relationship with teachers. These findings may have also occurred because teachers are highly influential during adolescence, and because parents may have less influence on their daughters than teachers during this time. Together, these possibilities highlight the importance of examining the role that teachers play in the lives of at-risk youth.

Limitations of the Study

Although the current study had many strengths, including assessing the socio-emotional functioning of an underresearched population and

testing a novel application of PARTheory, several limitations must also be acknowledged. First, the study sample size was small and adolescent participants were recruited from a single referral source, which limits the generalizability to court-involved adolescent girls in the rural, Northern Plains. In addition, the racial/ethnic distribution in this sample was not representative of populations in other parts of the country. Second, the study did not include a measure of social desirability for adolescents and parents, which is something that applies specifically to parental reports of adolescent socio-emotional functioning. As a result, the parents in this study may have felt a need to present their court-involved daughters as fitting within societal norms to a greater extent than they actually did. Third, the study had adolescent participants complete questionnaires assessing maternal and paternal acceptance-rejection without giving them the opportunity to describe their relationship with each caregiver. If, for example, participants answered questions about their relationship with a caregiver with whom they had little to no contact, the significance of that relationship might be diminished; that is, the type of relationship itself could, in fact, reduce its likelihood of influencing adolescent socio-emotional functioning.

In the current study, no attempt was made to identify the primary caregiver(s) of adolescents, and additional relationship variables were not explored (e.g., time spent with each parent on a daily, weekly, and monthly basis; or childhood history of time spent with each parent on a daily, weekly, and monthly basis). This lack of information may have inadvertently affected study results. For example, a small number of adolescent participants stated they lived with their grandparents, but completed study questionnaires about their mothers and fathers. If these girls identified their primary caregivers as their grandparents but completed questionnaires about their parents, the role of the primary caregivers (grandparents) relating to current socio-emotional functioning may have been underestimated. This inability to determine the relative significance of each parent-child relationship may have led to the paucity of significant findings regarding the relationships between parental acceptance-rejection and adolescent socio-emotional functioning.

Recommendations for Future Research

The results of this study suggest that future research should focus on the relationships between students and teachers and their influence on criminal behaviors and on the socio-emotional functioning of youth. Research should be conducted to fully understand the directional influences of the teacher and youth relationship on socio-emotional functioning in forensic populations. Future research should investigate possible causality in both directions via longitudinal or cross-sectional studies. In other words, future research should seek to answer the following questions: do teachers react negatively to adolescents with behavioral problems, do adolescents develop certain socio-emotional problems when they do not feel accepted by teachers, or do court-involved adolescent females simply perceive their relationships with adults as lacking in acceptance, whether or not that acceptance is present? At this point, we can posit that court-involved female youth who experience socio-emotional problems also experience low levels of acceptance from their teachers. Regardless of how the problem develops, the two variables interact and are likely to build on one another. However, if future research can answer these questions, interventions can be developed to effectively address the needs of at-risk youth.

Related to the previous recommendation, future research should explore the specific relationships between maternal and teacher acceptance-rejection. Additional attention needs to be paid to the influence of mother-child relationships on student-teacher relationships, and the influence of student-teacher relationships on the development of criminal behaviors. It will be important for future research to explore potential causal

relationships, and consider teacher acceptance-rejection as a mediating variable for the development of criminal behaviors. From an attachment standpoint, one might seek to answer this question: do adolescents learn how to interact with their mothers (or primary caregivers) and then replicate these interactions, thoughts about adults, expectations of adult-youth interactions, and behavioral patterns of interacting? In addition, how are these two variables specifically related to one another? These relationships could be explored using a longitudinal or cross-sectional research design.

Related to the assessment of peer delinquency on future studies, self-report measures may be less than ideal for accurately measuring this variable (Gottfredson & Hirschi, 1990; Matsueda & Anderson, 1998). Although it was outside the scope of the present study, future research might consider (a) asking peers to refer their close friends to the study and having those adolescents complete their own measures of behavioral functioning; (b) asking parents to complete measures of behavioral functioning pertaining to their child's close friends; or (c) conducting a longitudinal study that asks youth to report their perceptions of their friends' behaviors from a young age, and relate their responses to law-breaking behaviors.

Finally, future studies should include larger sample sizes and a comparison group composed of a nonforensic sample. This could be accomplished by conducting a multisite study that would include court-involved and non-court-involved adolescent girls from several rural communities with similar family and community demographics. Nevertheless, the decision to seek participants from a single jurisdiction for the present study does help to illuminate the relationships between parental and teacher acceptance and rejection while controlling for factors that may vary as a function of geography, access to resources, access to criminal activity, and myriad other issues that can influence these relationships among the adolescent female population. Future research with more diversified samples will help to identify and integrate influences on adolescent female perceptions and functioning not considered as part of this study.

Implications for Future Interventions

The results of this study highlight the need for relationship-based programming for court-involved adolescent females. In order to support these adolescents, preventive programming and responsive interventions should address not only emotional and behavioral problems, but should also focus on strengthening relationships with potentially influential adults at school, at home, and within the community.

The first, and possibly most obvious, implication of the study is that interventions for at-risk girls should involve helping girls develop healthy and supportive relationships at school, specifically with teachers. Related to this, if teachers can positively influence the social, emotional, and behavioral functioning of adolescent girls, other positive non-parental adults may be influential as well. The second suggestion is to help these girls develop healthy and supportive relationships with positive adults in their communities

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Relating Resilience Factors and Decision Making in Two Groups of Underserved Adolescents: Implications for Intervention

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Keywords: youth, adolescent development, peer effects, family effects, delinquency prevention, resilience, decision making

Abstract

There is scant evidence regarding the relationship between cognitive variables and social factors influencing the success of community-based programs intended to foster positive youth development. This preliminary study examines the relationship among individual, community/contextual, and parenting factors, all of which have been associated with positive outcomes, and decision making in two groups of underprivileged youth. Participants for this preliminary study were drawn from two locations: the Juvenile Justice Diversion program (JJ) in Harris County, Texas, and Youth Advocates (YA), a community-based, peer-to-peer youth-mentoring organization. Participants were at-risk youth between the ages of 13 and 19 who were living in their communities. These youth were evaluated using the Child and Youth Resilience Measure (CYRM-28), a questionnaire that indexes developmental assets associated with resilience, and the Columbia Card Task

(CCT), a task that measures affective and deliberative decision making. We found group differences in the relation between decision-making skills and developmental assets. For those in the YA group, higher scores on the CYRM-28 were related to superior decision making; for youth in the JJ group, lower scores on the CYRM-28 were related to better decision making. Our results seem to indicate differences in the psychosocial environments of the two groups, such as the greater influence of anti-social peers among youth in the JJ group. These findings provide a potential direction for future research and may have implications for evaluating the effectiveness of adolescent intervention programs.

Introduction

Not all children exposed to significant environmental or social stress have negative outcomes. In fact, many children growing up under circumstances of poverty and trauma mature to become healthy, stable, and productive individuals (Masten, 2001). *Resilience* refers to the concept that some individuals have positive outcomes despite significant adversity. Research demonstrates that various psychosocial factors (e.g., the presence of at least one positive, stable adult influence in a child's life) are crucial for promoting resilience (Hawkins, Graham, Williams, & Zahn, 2009).

A major gap in the research literature is the paucity of investigations examining how individuals' cognitive skills contribute to positive outcomes, which could inform the development of intervention programs (Greenberg, 2006). In addition, research linking resilience factors to intervention strategies is significantly lacking (Hawkins et al., 2009).

A few studies have examined cognitive variables (i.e., variables beyond an average IQ) that may promote positive adjustment within high-risk circumstances. Buckner and colleagues showed that youth judged to be resilient exhibited better self-regulatory skills than youth judged to be non-resilient (Buckner, Mezzacappa, & Beardslee, 2003). In another investigation, Martel and colleagues found evidence that a suite of executive function tasks (e.g., measures of inhibition, working memory, and cognitive shifting) were moderately, but very consistently, related to resilience and social competence (Martel et al., 2007).

Adolescence is marked by an increase in risky behaviors despite decision making based on a seemingly intact understanding of various risks (Steinberg, 2010). Decision making has been characterized as a dual system that operates on controlled, logical, deliberative processes, as well as on automatic or impulsive-affective processes (Weber, Shafir, & Blais, 2004). In an attempt to explain how adolescents use both intellectual and emotional information when making decisions, researchers have postulated that adolescents are disproportionately influenced by affective information. This theory has been supported by research suggesting that, compared to young adults, adolescents engage in a greater number of risky decisions in the context of affective information than they do in the context of situations requiring deliberative thought (Figner, Mackinlay, Wilkening, & Weber, 2009). In one recent investigation, Johnson and colleagues (2012) demonstrated that adolescents made a greater number of risky decisions after they were exposed to an acute psychosocial stressor designed to simulate a real-world stressful experience (Johnson, Dariotis, & Wang, 2012). These investigators determined that an adolescent's initial risk preference under non-stressed conditions appeared exaggerated in the stressful condition, especially when the adolescent tended toward an impulsive response style.

Other studies demonstrate that deliberative decision-making processes are related to emotion-regulation strategies (Panno, Lauriola, & Figner, 2012), and evidence indicates that both decision-making and emotion-regulation processes may be compromised by various risky behaviors (Arnsten & Rubia, 2012; Crowley et al., 2010; Hobson, Scott, & Rubia, 2011; Matthys, Vanderschuren, Schutter,

& Lochman, 2012; Pang & Beauchaine, 2012). For example, a recent investigation indicated that adolescent binge drinkers exhibited abnormal affective decision making (as indexed by their performance on a cognitive decision-making task, as well as on their pattern of brain activity) compared to adolescents who had never consumed alcohol (Xiao et al., 2012). The authors emphasized that these differences were apparent despite a relatively brief history of binge drinking in their sample.

Another line of research has clearly demonstrated an association between the numbers of family and community-based developmental assets and reductions in various risk behaviors, including risky sexual behavior (Vesely et al., 2004), participation in violence (Aspy et al., 2004), and drug and alcohol use (Oman et al., 2004). Given these relationships—and because of the linkages between decision making, risky behaviors, and the overall trajectory of psychosocial, occupational, and educational outcomes (Steinberg, 2010)—it is important to examine how affective and deliberative decision-making processes are related to resilience variables and how these relationships may be modified or supported by intervention efforts. To our knowledge, no studies have examined the relationship between resilience and higher-order executive skills, such as decision making among adolescents. Major predictors of positive outcomes for children are positive psychosocial and community environments. Pernicious environmental influences constitute a major challenge for underprivileged youth. The families of underprivileged youth are often unstable, have few financial resources, experience a lack of educational opportunities, reside in high-crime areas with a large concentration of gang-involved peers, and struggle with communication barriers (Overstreet & Mathews, 2011; Stanton-Salazar & Spina, 2003). The situation deteriorates further when youth become involved in the criminal justice system.

The high rate of juvenile re-offending underscores the importance of developing new models of rehabilitation (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Interest in one such rehabilitative approach, peer-based youth mentoring, has grown steadily over the past few decades (Schwartz, Rhodes, Chan, & Herrera, 2011; Smith, 2011). Although research tying peer-based mentoring to decreases in risky behaviors and better outcomes for underprivileged youth is lacking in rigor and has resulted in inconsistent findings, this strategy appears to hold promise for improving outcomes for these vulnerable youth (DuBois, et al., 2011).

Despite the correspondence between the family/community environment and participation in risky behaviors, little research has addressed the specifics of an individual's resilience factors and their effect on targeted interventions (Overstreet & Mathews, 2011). Furthermore, few, if any, studies have examined an individual's cognitive factors and their contribution to the success of community-based intervention strategies. Cognitive variables, such as decision making, are important to consider when evaluating the effectiveness of intervention strategies because they are significant drivers of behavior, especially social behavior. Developing interventions that can work on a cognitive as well as a social level may significantly increase the potency of some intervention approaches.

In this preliminary study we explore the relationships between cognition and factors associated with resilience (e.g., individual assets, community/contextual variables, and parenting relationships) in two groups of youth who are at high risk of poor social outcomes, such as early gang involvement, dropping out of school, substance abuse, and early pregnancy. This preliminary study examined the relationship between individual, community/contextual, and parenting assets (as measured by the Child and Youth Resilience Measure, CYRM-28) and performance on a decision-making task (the Columbia Card Task, CCT) in two groups of underprivileged adolescents. The first group comprised participants in a diversion program of the Harris County, Texas,

Juvenile Probation Department (JJ); the second was a demographically similar group of adolescents participating in Youth Advocates, Inc. (YA), a community-based, peer-to-peer youth service organization. The CCT (Figner et al., 2009) is a novel decision-making tool that evaluates an individual's ability to make decisions in two contexts: one driven primarily by emotion, the other driven primarily by information on risk and probability; that is, by cognition. The CCT allowed us to investigate the influences of affective and deliberative factors in these adolescents' decision-making processes. We anticipated that higher resilience factors would correspond to less risky decision making as demonstrated by adolescents' performance on the CCT.

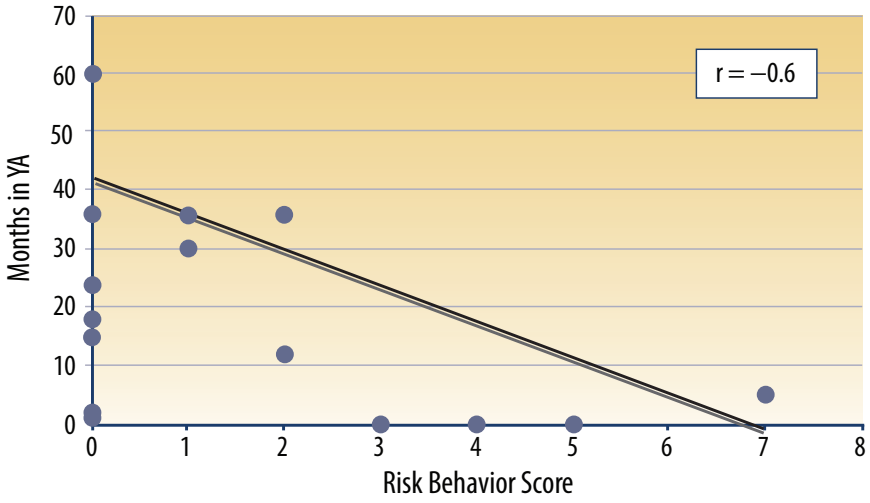
Method

Participants. Twenty-three adolescents (19 male) between the ages of 13 and 19 years (M = 16.62, SD = 1.53) who live in poverty or with family dysfunction, and who had endured multiple traumas, participated in the study. Participants were recruited from two venues: YA, a peer-to-peer youth-mentoring organization that provides a positive peer culture for youth living in circumstances of acute risk (n = 15; age = 15-19 years), and a diversion program for first-time offenders in the Harris County, Texas, Juvenile Probation Department (JJ) (n = 8; age = 14-16 years).

YA is a service organization that has provided support for acute-risk youth in Houston for 30 years. YA utilizes peer Outreach Worker mentors to connect with youth from underserved urban areas of Houston. The main goal of YA is to facilitate the establishment of a positive peer culture for at-risk youth, thereby creating a direct alternative to gang involvement and criminal activity. This is done by providing a safe, positive environment in which youth from similar backgrounds can come together to build friendships, talk, and participate in various pro-social activities (e.g., break dancing, soccer, music). Community volunteers and staff connect YA participants with educational opportunities and jobs. Specific YA program components include: healthy alternative activities; life skills training; classes in refusal skills and gang avoidance; educational support, including class credit recovery and tutoring; assistance with employment (if eligible); parent training for families of youth; and opportunities for positive peer interactions in various social venues. Data demonstrate a negative correlation between risk-taking behaviors and the amount of time spent in the YA program (see Figure 1).

The JJ group included youth who had been detained for the first time for various non-violent offenses, but who have not been or will not be charged with a crime. These youth come from similar backgrounds (including high levels of

Figure 1. **Correlation Between Risk-taking Behaviors and the Amount of Time Spent within the YA Program.**



trauma) as the YA group. JJ participants were provided information about YA services following the completion of the study but were under no obligation to participate in YA-sponsored events.

Table 1 compares the two groups in terms of various demographic factors (including parent education, highest grade attained, and estimated IQ), as well as other experiential variables, such as the number of endorsed trauma symptoms and overall quality of life. These data indicate that participants were drawn from similar family environments and socioeconomic circumstances, were of similar race/ethnicity, had similar overall intellectual abilities, and shared a variety of life experiences. Thus, based on the data collected as part of this study, these factors appeared the most important to compare between these two groups.

Table 1. **Demographic Information Comparing Two Groups**

	YA	JJ
Parent education (Years)	10.3	10
Last grade completed (Grade)	10.7	10
Overall Life Quality (30 point scale)	22	23
UCLA Trauma Scale (17 point scale)	5.3	6
WASI_IQ	105	100
Ethnicity (Total Number)		
Hispanic–Non-White	14	5
African American	1	3
Asian	4	0

Note: YA: Youth Advocates group; JJ: Juvenile Justice group; WASI: The Wechsler Abbreviated Scale of Intelligence

Procedures

We obtained these data as part of a wider pilot investigation examining the relationships between cognitive and psychosocial factors important for positive adjustment among underprivileged adolescents.

All procedures were approved by the institutional review board at Baylor College of Medicine. All English-speaking, typically developing, healthy, males and females between the ages of 13 and 18 from YA and JJ were eligible to participate in this study. Those excluded from the study included non-English-speaking youth outside the age range; youth with a history of documented head injury or with a diagnosis of a severe psychiatric or developmental disorder (i.e., mental retardation, bipolar disorder, schizophrenia, or autism); an IQ below 70; or referral for drug abuse treatment.

Participation for all youth was voluntary and we obtained youth assent prior to testing. We recruited YA youth passively via posters and brochures at the YA community center during group activities. During these activities, a research coordinator was on hand to answer questions interested youth had about the study. Youth who expressed an interest were given brochures that contained a detailed description of the study (available in Spanish and English) to take home to their parents or legal guardians. Although participants were required to be primarily English-speaking, brochures in Spanish were provided for Spanish-speaking parents to review prior to giving their informed consent for their children's participation. Interested parents contacted the research coordinator, who then explained the study, verified eligibility, and went over the consent form to answer questions. Upon receiving the signed consent form, the youth was scheduled for assessment.

We recruited JJ youth via the Harris County Juvenile Probation Department diversion program (HCJPD). After the youth had been accepted into the diversion program, the project investigators introduced the study to the youth and his or her parents. The investigators made it clear that participation was entirely voluntary and confidential, and had no bearing on the legal disposition of the youth. To minimize any possibility of coercion, parents received a form on which they could accept or decline to participate in the study (with contact information if they decided to accept). All parents turned in a form (either completed or not); and the project investigators contacted

those who expressed interest to verify interest and eligibility, explain the study procedures, and obtain informed consent. As with the other participants, we did not conduct scheduling or testing of any kind until we obtained signed informed consent forms. Neither officers nor staff of HCJPD were informed about who chose to participate and who did not.

All testing took place in the Cognitive Neuroscience Laboratory at Baylor College of Medicine or in a quiet office at the YA facility, whichever was most convenient for the family. All assessments were administered by the same psychometrician, who was experienced in using all of the instruments and who was trained and certified (at Baylor College of Medicine) in Human Subjects Protection and data handling. All materials were kept strictly confidential. Specifically, we coded all data with an identification number and kept the information linking ID numbers to participant information in a locked office. Only participant ID numbers were stored in the electronic database, which were secured on Baylor College of Medicine password-protected servers; access to this information was restricted to study personnel. Further, we obtained a Certificate of Confidentiality from the National Institutes of Health. Prior to beginning testing, we offered participants a healthy snack and drink. Upon completion of the study, we offered participants a gift card from one of several local vendors.

Measures

The *CYRM-28* (Ungar & Liebenberg, 2011) is a 28-item, self-report questionnaire constructed to assess developmental assets related to resilient outcomes across a variety of cultural contexts (Ungar & Liebenberg, 2011). The CYRM-28 explores the developmental assets available to youth between the ages of 12 and 23 to bolster resilience across three domains: 1) Individual Skills (e.g., attitudes and knowledge about self); 2) Relationship with Caregivers (e.g., perceived support of family); and 3) Contextual Factors (e.g., variables related to the community and environment). Higher scores indicated the presence of a greater number of assets considered important for resilience (Ungar, 2008, 2011). Internal reliability of the three factors of the CYRM-28 ranged from 0.65 to 0.91. The interclass correlation coefficients (validity coefficient) ranged from 0.583 to 0.773 (Ungar & Liebenberg, 2011). The CYRM-28 has been demonstrated to be reliable and to have face validity across cultures and contexts (Ungar, 2008, 2011). It has a high degree of overlap with other instruments assessing developmental assets, and is freely available for research use with permission from the authors.

CCT (Figner et al., 2009) measures decision-making capacity under two conditions: Affective and Deliberative (Figner et al., 2009). The Affective condition measures decision making based on emotional information, whereas the Deliberative condition measures decision making based on cognitive risk and reward estimations. In both conditions, participants viewed a computer screen and were presented with an 8 x 4 grid of squares representing cards that were placed face down. In each trial, we informed participants of the maximum number of points to be gained from each card (10, 20, or 30); the maximum number of points to be lost from each card (250, 500, or 750); and the number of risk cards (1, 2, or 3) present in the grid for that trial. We informed participants that they would earn 1 cent for every 20 points accrued by the end of the task. In the Affective condition, we asked participants to click on the cards one at a time, with each click "turning over" a card to reveal a cartoon of either a smiling face (gain card) or a frowning face (loss card); participants accrued points each time they turned over a smiling face, but the trial ended when a frowning face appeared. A participant could end the trial at any time prior to turning over a loss card. When the participant ended the trial either voluntarily or by turning over a loss card, the participant turned over the remaining cards, revealing whether they were gain or loss cards. In the Deliberative condition, the

participants did not turn over cards, but made decisions about how many cards theoretically should be turned over based solely on the knowledge of the maximum number of points and the number of risk cards in each trial.

We assessed performance in terms of the number of cards turned over in each condition, with higher numbers associated with poorer (riskier) decision making. We also noted the amount of money each participant earned. We balanced the order in which we presented the Affective and Deliberative blocks. Each block consisted of a total of 54 trials, for a total of 108 individual trials for the entire task.

Other Measures

The Wechsler Abbreviated Scale of Intelligence (WASI) (The Psychological Corporation, 1999) is a widely used, nationally standardized test of intelligence yielding estimates of verbal IQ, performance IQ, and full-scale IQ (The Psychological Corporation, 1999). The average stability coefficients for the adult sample ranged from 0.87 to 0.92 for the IQ scores. WASI subtests are shown to have good convergent validity with their counterparts on other standard measures, ranging from 0.76 to 0.88 (The Psychological Corporation, 1999).

The University of California–Los Angeles Posttraumatic Stress Disorder (UCLA PTSD) Reaction Index Trauma Exposure Screen comprises questions regarding types of trauma a person has experienced (e.g., assault, arrest, war, family death, hospitalization, etc.). We modified this measure slightly to capture more accurately the experiences of these youth, although we preserved all original content. Modifications included: 1) adding an age option for each traumatic event; 2) combining items of earthquake and disaster into one question; and 3) adding four new items: *being a refugee*, *being forced to do something bad*, *seeing a family member/friend arrested,* and *being arrested*. The original measure has good convergent validity with other measures ranging from 0.70 to 0.82, good sensitivity (0.93) and specificity (0.87), good internal consistency (0.90), and good test re-test reliability (0.84).

Family Environment Questionnaire is a measure we constructed to index overall family environment, including receiving government aid, use of drugs or alcohol by family members, judicial system involvement, and family physical and mental health. This questionnaire is available upon request from the corresponding author.

Statistics and Preliminary Analyses

Youth recruited from YA and JJ were drawn from the same general population and were similar in terms of IQ, rates of trauma experienced, and overall family environment (Table 1). We analyzed three types of developmental assets scores based on CYRM-28 subscales: Individual Skills, Relationship with Caregivers, and Contextual Factors. These three subscales define the factors promoting resilience (personal skills, family support, and social environment). To examine the relationships between the subscales of CYRM-28 and decision-making performance on the CCT, we calculated Spearman correlation coefficients. Due to the limited sample size and the preliminary nature of the study, we made no corrections for multiple comparisons. Observed effect sizes ranged from small (0.1) to moderate (0.3) to large (0.5 and larger).

Results

Groups were similar in terms of their CYRM-28 subscale scores (Figure 2a) and their performance on both conditions of the CCT (Figure 2b). Consistent with their similar performance in the number of cards selected, both groups earned approximately the same amount of money (mean YA = $4.01, JJ = $4.17). However, the relation between the CYRM-28 and CCT differed based on group, with the findings for only the YA group following the anticipated direction; that is, we found a significant negative relation between CYRM-28 and CCT scores. Essentially, the higher the

CYRM-28 score for participants in the YA group (suggesting the presence of more resilience-promoting factors), the fewer cards they turned over and thus the less risk they took on the CCT. This relation was observed only in the Deliberative condition of the CCT and only between the individual and context subscales of the CYRM-28 (Table 2).

Table 2. **The Relationship between CCT Scores and Scores on the CYRM Subscales in YA Youth (n = 15)**

CCT scores	CYRM Subscales			Total
	Individual Skills	Relationship with Caregivers	Contextual Factors	
Affective condition	-0.05	0.04	-0.19	0.02
Deliberative condition	-0.42†	-0.29	-0.59*	-0.49
Total	-0.31	-0.20	-0.53*	-0.35*

Note: CYRM: Child and Youth Resilience Measure; CCT: Columbia Card Task; YA: Youth Advocates group; *: statistically significant at $p = 0.05$; †: marginally significant ($p < .10$)

Different from the YA group, the JJ group showed a positive correlation between performance on the CCT Affective condition and the caregiver subscale of the CYRM-28. Essentially, those participants within the JJ group who reported greater levels of caregiver-related factors also took more risks on the CCT by turning over a greater number of cards. Interestingly, for JJ participants in the Deliberative condition of the CCT, lower scores (i.e., less risk taking) were associated with higher scores on the CYRM-28 caregiver subscale. Conversely, higher Deliberative CCT scores (i.e., a greater number of risky choices) were associated with higher scores on the CYRM-28 individual and contextual factors subscales (i.e., a greater endorsement of these resilience-promoting factors) (Table 3). Of note, despite relatively large effect sizes, no correlations in the JJ group reached significance, possibly because of this group's small sample size.

Figure 2a. **Groups' Performance on CYRM Subscales.**

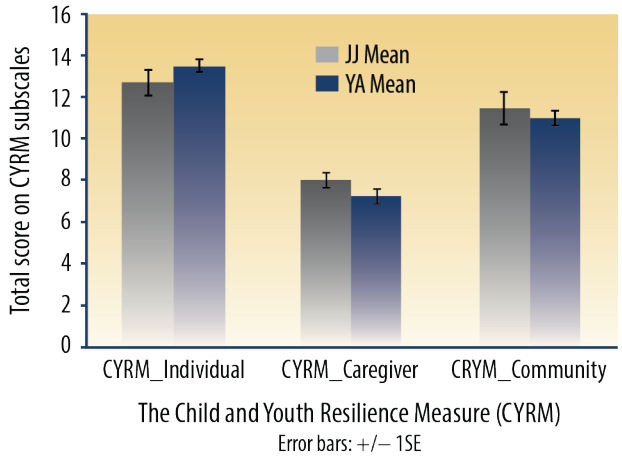


Figure 2b. **Groups' Performance on CCT.**

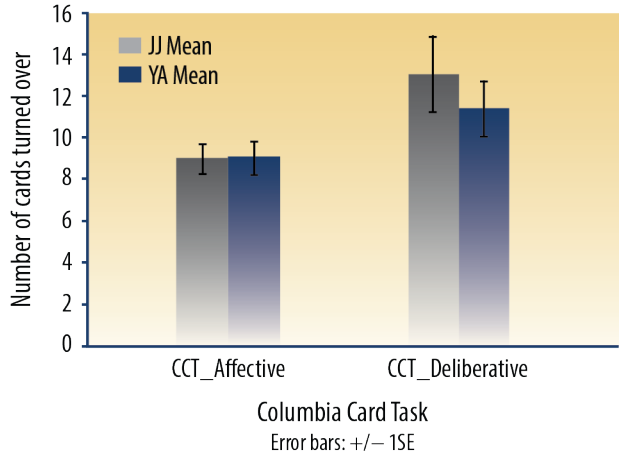


Table 3. **The Relationship between CCT Scores and Scores on the CYRM Subscales in JJ Youth (n = 8)**

CCT scores	CYRM Subscales			Total
	Individual Skills	Relationship with Caregivers	Contextual Factors	
Affective condition	0.18	0.41	0.12	0.12
Deliberative condition	0.57	-0.53	0.46	0.46
Total	0.26	0.26	0.41	0.41

Note: CYRM: Child and Youth Resilience Measure; CCT: Columbia Card Task; JJ: Juvenile Justice group. No correlation reached significance.

Discussion

This preliminary study was an initial step in investigating relations between resilience and decision-making skills in high-risk adolescents

under two different decision-making conditions (Affective and Deliberative). Youth involved in the YA program exhibited the expected pattern of results: higher resilience was associated with better decision making, but only in the Deliberative CCT condition and only in association with individual and contextual factors (but not caregiver factors) endorsed on the CYRM-28. The resilience measures were related only to the condition in which youth made decisions in the absence of affective cues. This suggests that among adolescents from at-risk circumstances, protective factors may have a negligible impact on decisions made in the context of affective information potentially secondary to the strong emotional valence of this information.

Individual factors have been implicated in resilience (Cicchetti & Rogosch, 2009), whereas the role of the broader community environment (contextual factors) has been less well-defined (Rutter, 2007). It was somewhat surprising that the caregiver subscale yielded no significant findings in this population, as a positive family environment has been associated with resilience (Rutter, 2007). However, it is possible that the strong community organization in which these youth participated compensated for a weak family system, a finding supported by the relationship between contextual factors and CCT performance observed in the YA group.

The findings in the JJ group were striking in that we observed opposite patterns of relations (i.e., we found moderate-to-large effect sizes for higher individual and contextual resilience factors of the CYRM-28 being associated with poorer, or risky, decision making). One possible explanation has to do with the environmental influences operating on this group. That is, individuals from the JJ group may have been in environments (such as gangs) that promoted risky behaviors as an appropriate and potentially necessary aspect of adaptive or resilient functioning (Ungar, 2004). Although the YA group was also drawn from a high-risk sample and was exposed to many of the same risk factors as youth in the JJ group, those in the YA group were surrounded by a significant, positive peer and adult support network. Obviously, this explanation is speculative and should be further investigated with larger samples and longitudinal designs that incorporate measures of peer groups and peer influences. Another possibility is that the resilience factors assessed by the CYRM-28 may not actually be indicative of a resilient outcome in the JJ population. However, the large effect size found for the relationship between the caregiver subscale and the CCT within this group is consistent with our initial hypotheses and suggests that the CYRM-28 has validity for this population, at least with regard to caregiver-related variables.

Finally, it is possible that participants in the JJ group did not answer truthfully or respond consistently on either the CYRM-28 or CCT. Therefore, these patterns may reflect elusory correlations based on inaccurate or unrepresentative data. Given our small sample size in both groups, this possibility cannot completely be ruled out; however, performance on both procedures was fairly similar for both groups (including ranges and means) and correlations did not appear overly influenced by outliers in either group.

This study is a preliminary attempt to identify cognitive variables that may influence resilience. Obviously, decision making is not the only important cognitive skill to investigate in this regard. However, given its close relationship to emotion regulation (Panno et al., 2012), the connection between deficits in decision making/emotion regulation and various psychopathologies (Arnsten & Rubia, 2012; Matthys et al., 2012; Pang & Beauchaine, 2012), and the association between developmental assets and reductions in various risky behaviors (Aspy et al., 2004; Oman et al., 2004, Vesely et al., 2004), investigating the relationship between decision making and resilience appears to be a reasonable first step. The current findings underscore the importance of assessing the role of various contextual factors on the relationship between cognition and resilience (Greenberg, 2006). To this end, future studies

should employ additional measures of resilience or developmental assets in order to provide a more thorough understanding of important family and community factors that may affect a child's trajectory within various domains (Scales and Roehlkepartain, 2003; Sesma & Roehlkepartain, 2003).

Specifically, future studies should 1) expand the scope of cognitive variables evaluated, 2) investigate the role of neurobiology and genetic factors in promoting resilient outcomes, specifically gene-environment interactions (Rutter, 2012), and 3) investigate the role that these variables play in previously established relationships between developmental assets and outcomes such as school achievement (Scales & Roehlkepartain, 2003).

In addition, early and late adolescence represent different developmental periods. Future studies should examine whether the relationship between developmental assets and cognitive factors changes as a consequence of maturation, and/or whether particular assets become more or less salient as adolescents grow older and the social, cognitive, and adaptive demands on them increase.

The current investigation lacked sufficient numbers of females for a separate analysis of this group; however, future studies should examine whether the relationship between developmental assets and cognition differs by sex, since other research suggests gender-based differences in protective factors (Hawkins et al., 2009). Although some initial data was suggestive of a reduction in risk behaviors the longer an individual participated in the YA program, the cross-sectional nature of our preliminary investigation prohibits an exploration of this variable. Other prospective studies should examine how the relationship between developmental assets and cognition changes as a factor of time in intervention.

These results suggest that the nature of contextual influences (e.g., whether prosocial or antisocial) are important to understand when assessing the interaction of these variables with behavioral/cognitive outcomes. Further, these results suggest that contextual factors that would usually be considered beneficial within most high-risk populations (e.g., a stable peer group or feeling part of a particular community) may actually potentiate risky behavior and be detrimental to outcomes if these influences are themselves aberrant. This is akin to research demonstrating that children have better behavioral outcomes when they have regular contact with both parents, except when the father engages in high levels of anti-social behavior—in which case a child's outcome is likely to be significantly worse (Jaffee, Moffitt, Caspi, & Taylor, 2003). Our findings emphasize the need for positive community and peer supports and suggest these factors may influence cognitive variables related to risky decision making. They suggest that programs intervening on a community level may increase the effectiveness of interventions more traditionally focused on the individual.

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An Examination of the Early "Strains" of Imprisonment Among Young Offenders Incarcerated for Serious Crimes

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Abstract

The research described in this article examined the impact of general strain theory on young offenders' institutional adjustment, as measured using self-reported experiences in custody. Utilizing a sample of young offenders incarcerated for serious crimes in British Columbia, Canada, this study employed structural equation modeling (SEM) to explore the effects of noxious stimuli, the removal of positively valued stimuli, and vicarious strain on young offenders' general institutional adjustment, as mediated by negative emotions including anger, depression, and anxiety. Our results support the following putative relationship: the prior experiences of these young offenders moderately, but significantly, influence negative emotionality and continued adjustment problems (i.e., victimization and environmental stressors) in an institutional setting. We present implications for custodial screening and programming that should be extended to the community, and propose areas for continued research.

Introduction

Agnew's general strain theory characterizes strain as "relationships in which others are not treating the individual as he or she would like to be treated" (Agnew, 1992, p. 48). He divides strain into three types: the failure to achieve positively valued goals; the removal of positively valued stimuli; and the presence of noxious stimuli. General strain theory posits that youth who experience these negative relationships turn to delinquency (e.g., drug use and violence) if they are unable to articulate their problems and/or if they are unable to develop acceptable coping mechanisms. It is highly likely that such strains continue to impact youth when they are incarcerated for such behaviors.

According to strain theory, strain has the greatest influence on the development of antisocial behavior when it is severe and occurs often; is seen as unjust; is associated with low levels of self-control; and motivates the individual to cope in a criminal way (Agnew, 2001, 2009). The specific strains theorized and empirically tested to have the greatest influence on youth, both emotionally and in relation to ensuing negative responses, include the following: parental rejection (e.g., instability at home or being in care); excessive/harsh discipline; abuse and neglect; low grades; negative relationships and experiences at school; abusive peer relationships; living in disadvantaged neighborhoods; discrimination; and criminal victimization. Running away is also

indicative of strain at home and can be a viewed as a means of temporarily escaping the strain (see Agnew, 1992, 2001, 2009). Agnew has also proposed a relationship among vicarious strains, negative coping, and deviance. "Vicarious strain refers to the real-life strains experienced by others around the individual," (Agnew, 2002, p. 603). One example of this is physical victimization, which is often seen as severe and unjust (Agnew, 2001).

General strain theory postulates that youths' angry and negative affect resulting from exposure to strain is the central predictor of strain-related delinquency (Agnew, 1992; Agnew, Piquero, & Cullen, 2009), especially for those who experience chronic and/or frequent strain, such as strain that occurs in custodial settings (Sedlak & Bruce, 2010; Stevenson, Tufts, Hendrick, & Kowalski, 1998). Anger and irritability among youth in custody have also predicted delinquency (Butler, Loney, & Kistner, 2007). Youth diagnosed with psychopathology or impulsivity/reactivity have been found to engage in more institutional misconduct than others (Taylor, Kemper, & Kistner, 2007).

Researchers commonly apply the importation and deprivation theoretical perspectives (Cesaroni & Peterson-Badali, 2005, 2010; Gover, Mackenzie, & Armstrong, 2000), described below, to assess young offenders' institutional adjustment. These perspectives, at least implicitly, include key themes from Agnew's general strain theory (i.e., the presence of stressors, blocked access to desired goals, removal of desired items, and resultant negative emotions). These theoretical perspectives, however, do not include key concepts such as the presence of noxious stimuli, removal of positively valued stimuli, and blockage from achieving certain goals. Recent research has extended general strain theory to assess institutional misconduct and found that, in line with the hypothesized strain-delinquency relationship, the greater the presence of negative stressors in custodial settings, the greater the likelihood that incarcerated offenders will engage in official misconduct (Blevins, Listwan, Cullen, & Jonson, 2010; Morris, Carriaga, Diamond, Piquero, & Piquero, 2012).

Research on Incarceration and Institutional Adjustment

Extant research on young offenders' custodial adjustment has focused on two leading perspectives—the importation and deprivation models—in relation to youths' official misconduct as measured by institutional rule infractions and/or violence (see Cesaroni & Peterson-Badali, 2005; Gover et al., 2000; Taylor et al., 2007). The importation model stresses the importance of an individual's characteristics and life experiences when he or she enters a custodial institution (Irwin & Cressey, 1962), including age, preexisting attitudes, history of offending, negative relationships with others, and prior custodial experiences (Flanagan, 1983). The deprivation model stresses characteristics of the institution itself that contribute to losses experienced by the youth, such as the type of facility the youth enters, its size and structure, the institution's philosophy (e.g., deterrence, punishment, or rehabilitation), the ratio of inmates to correctional staff, and personal losses resulting from institutionalization (e.g., loss of autonomy and material items) (Lawson, Segrin, & Ward, 1996; MacDonald, 1999; McCorkle, Miethe, & Drass, 1995; Sykes, 1958). An abundance of research on each of these theories validates their utility; however, "neither model, by itself, adequately predicts inmate misconduct" (MacDonald, 1999, p. 35). As a result, much of the research on the influences of these variables on an individual's institutional experiences has married the two models.

Recent studies emerging primarily from the U.S. and Europe have found that a number of additional risk factors have led to juveniles' infractions while incarcerated. These include age at incarceration; police contacts and arrests; previous convictions; delinquent background; a history of abuse, violence, and weapon possession; gang involvement; family criminality; drug use; and

psychological and personality features (Arbach-Lucioni, Martinez-García, & Andrés-Pueyo, 2012; Gover et al., 2000; Kury & Smartt, 2002; Taylor et al., 2007; Trulson, DeLisi, Caudill, Belshaw, & Marquart, 2010; Vasile, Ciucurel, & Ciucă, 2010).

Young offenders' perceptions of the custodial setting—such as environmental stressors (e.g., noise, lack of privacy, and boredom) and incidents of violence and victimization, whether direct or indirect—are equally important when seeking to understand their adjustment to incarceration (Hochstetler & DeLisi, 2005). Environmental stressors, violence, and victimization may be threatening to offenders and can greatly influence their custodial adjustment and ability to cope.

Canadian researchers have confirmed that school-, home-, and peer-level variables are associated with youths' psychological and adjustment difficulties while in custody (Cesaroni & Peterson-Badali, 2005; 2010). Using the life course perspective, DeLisi, Trulson, Marquart, Drury, & Kosloski (2011) found that home/family-level variables predict misconduct during incarceration.[1] A Dutch study found that young offenders' perceptions of prison group climate positively impacts their motivation for treatment, and that program workers influence prison group dynamics (Van der Helm, Klapwijk, Stams, & Van der Laan, 2009).

General Strain Theory and Institutional Adjustment

Agnew's (1985) general strain theory hypothesizes that certain types of strain, when combined with weak coping mechanisms, will ultimately lead to delinquency. Although the "pains of imprisonment" are associated with the deprivation model, they also shed light on an interesting association between typical adjustment theories and Agnew's general strain theory. A model integrating the importation, deprivation, and general strain theory posits that the existing gaps in these theories could be filled by incorporating variables used to assess general strain theory, including additional importation (or traditional strain) variables, a coping element, emotionality, and self-control (Blevins et al., 2010).

Blevins and colleagues (2010) have proposed that three major types of strain identified by Agnew (1992)—goal blockage, the loss of positive stimuli, and the presentation of negative stimuli—are present in institutional settings. These strains are manifested in inmates' inability to access programs available on the outside, their physical exclusion from important relationships, their recent lack of freedom and privacy, and the presence of negative peer influences. Morris and colleagues (2012) used trajectory analysis to assess the relationship between institutional strains and misconduct in an adult inmate sample, finding that environmental strains were important predictors of misconduct, as were individual-level factors predisposing inmates to react negatively to the overarching strains of the institution (Morris et al., 2012).

Most important to the current study, DeLisi et al. (2010a) studied a sample of young delinquents incarcerated for committing serious offenses in the U.S. and found a significant association between inmates' levels of anger measured using the Massachusetts Youth Screening Instrument Version 2 (MAYSI-2) and incidents of institutional violence. DeLisi and colleagues (2010a) encouraged the incorporation of general strain theory into research on the association between anger and institutional conduct.

Perceptions and Experiences in Custody and Community Reentry

Offenders' experiences while in custody may further imbed negative emotions, which may continue to produce strain and delinquency, and even impede their participation and engagement in community interventions. Research, although limited, has studied the link between the prison environment—particularly victimization—and offenders' subsequent community adjustment.

[1] Predictors of misconduct during incarceration consist of assault and escapes, age of onset of confinement (inverse predictor), more out-of-home placements, substance abuse, and gang activity (see DeLisi et al., 2011).

Studies of incarcerated adults have determined that institutional strains and custodial infractions or victimization are associated with an increased probability of reoffending (Listwan, Hanley, & Colvin, 2012; Mears, Wang, Hay, & Bales, 2008). Among young offenders incarcerated for committing serious crimes, institutional behavior and violence also predict rearrest (Lattimore, MacDonald, Piquero, Linster, & Visher, 2004; Trulson, Marquart, Mullings, & Caeti, 2005). Many of the variables from these studies are consistent with general strain theory and illustrate the ways in which experiences in custody and the justice system are related to post-custody activities. Such activities may include education, employment, reconnecting with family and friends, attitudes, and following court-ordered community conditions (Abrams, 2007; Huizinga & Henry, 2008). Whereas one study has shown that the intervention setting (e.g., the community versus an institution) and the program delivery method is less important for success than offender characteristics (Lipsey, 2009), other research has found that program delivery methods are of primary importance: that is, youth sentenced to restrictive custodial interventions have an increased likelihood of justice involvement as adults (Gatti, Tremblay, & Vitaro, 2009).

Since custody-related risk factors and existing family-level and school-related strains can be linked to incarceration *and* reentry challenges (Altschuler & Brash, 2004), it is critical to study youths' perceptions of their custodial experience and these variables. This belief led to the present study's research question: do young offenders' experiences of general strain before their incarceration affect their negative emotionality, and ultimately result in negative perceptions of, and adjustment to, custody?

This study examined the relationship among three themes from general strain theory and negative emotionality as described by Agnew, along with reports of young offenders' perceptions of their institutional adjustment. We hypothesized that higher levels of strain-inducing pre-custody experiences—conceptualized as noxious stimuli, the removal of positively valued stimuli, and vicarious strain—would be associated with higher levels of anger, anxiety, and depression and that these, in turn, would be associated with increased problems involving institutional adjustment (e.g., perceptions of victimization, environmental stressors, and programming opportunities).

Methodology

Sample and Research Instrument

This study utilized data from the Study of Incarcerated Serious and Violent Young Offenders in Burnaby and Victoria, British Columbia, 2005-2008. Under the Youth Criminal Justice Act (2002), only young offenders committing the most serious/repeat crimes are incarcerated; therefore, the youth in this sample exhibited a number of risks for serious delinquency. They were incarcerated for offenses ranging from murder and assault to property offenses, drug offenses, and administrative offenses. Young offenders in Canada are in custody for exceedingly brief periods—in almost half of all Canadian cases, youth are in custody for 1 month or less (Milligan, 2010). This suggests that youth have a limited time to adjust to custody and that the early experiences of young offenders can be equally as important as later ones. We therefore administered an interview questionnaire to youth after a mean of 11 days in custody.[2,3] The final sample comprised 380 incarcerated young offenders aged 12 to 19, of whom 314 were male and 66 were female; more than one-half of the sample had been incarcerated before (58.4%).

Variables[4]

This research employed three types of general strain—the presence of noxious stimuli, the

[2] The majority of incarcerated youth were approached to participate and approximately 90% agreed to be interviewed. A small number were either released or transferred to another facility before completing the interview.

[3] This required the youths' informed consent, confidentiality, and anonymity procedures to be followed, according to the protocols of both the British Columbia Ministry of Children and Family Development and Simon Fraser University.

[4] Due to the presence of skew in some variables, natural log transformations were undertaken to meet the normality condition.

removal of positively valued stimuli, and vicarious strain—comprising several individual strain measures that have been found to be significant for young offenders (e.g., Agnew 1985, 2002; Mazerolle, Piquero, & Capowich, 2003). Similar to other studies of general strain theory (Hoffmann & Miller, 1998; Mazerolle & Piquero, 1998), we created composite measures of the strains. See Appendix A for the specific research questions.

Strains

Presence of noxious stimuli. The first noxious stimuli variable was an additive scale that measured experiences of harsh punishment at home; each punishment a youth experienced was 1 point on the six-item scale.[5] The second scale addressed the youth's grades in his or her worst class (ranged from 1—mostly As and Bs to 4—mostly Fs). Finally, we created a composite noxious school strain variable using six measures of problems at school. Like harsh punishment, this was a summed scale with each item representing 1 point (scores ranged from 1 to 6).

Removal of Positively Valued Stimuli. The number of foster/group home placements was the first variable measuring this construct; we used a 10-point scale ranging from no placements to 50 or more placements.[6] The second variable was the length of time the youth stayed away from home after running away; values ranged from never (coded as 1) to often (coded as 6). The final variable used for this construct included the number of times the youth changed schools, other than for a grade change, which for the majority of the sample was the result of moving or being expelled; this represented a powerful strain impacting the youth's stability and educational attainment. This scale ranged from never (coded as 1) to 20 or more times (coded as 8).

Vicarious Strain. The vicarious strain measures were related to members of the young offender's immediate (i.e., mother, father, sibling, step-parent, and step-sibling) and extended (i.e., uncle/aunt, grandparent, cousin, and other) family. We created three summated eight-item vicarious strain scales based on the dichotomous yes/no responses to the questions: "Thinking about *all* the members of your family…, does anyone have a drinking problem? …has anyone been the victim of physical abuse?, and …does anyone have a criminal record?" Each "yes" response about a family member resulted in 1 point.

Negative Emotionality

We used a comprehensive latent measure of negative emotionality. We developed this construct based on questions from the MAYSI-2 and measured offenders' anger, depression, and anxiety.[7] Each response in the affirmative resulted in 1 point.

Anger. The questions we used to assess youths' recent feelings of anger included the following: "Have you lost your temper easily, or had a 'short fuse'?; Have you been easily upset?; Have you felt angry a lot?; Have you gotten frustrated a lot?; Have you hurt or broken something on purpose, just because you were mad?; Have you had too many bad moods?; Have you thought a lot about getting back at someone you have been angry at?"[8]

Depression. The questions we used to assess youths' recent feelings of depression included the following: "Have you felt lonely too much of the time?; Have you given up hope for your life?; Have you felt like you do not have fun with your friends anymore?; Has it been hard for you to feel close to people outside your family?; Have you felt too tired to have a good time?"[9]

Anxiety. The questions we used to assess youths' recent feelings of anxiety included the following:

[5] For each of the additive scales created for this study, youth who did not experience any of the measured items scored a 1, which represented none/never.

[6] The cut-off values for foster placements and running away were determined based on related research, as well as on what resulted in the best variable distribution.

[7] The questions did not assess whether the feelings were trait- or situational-based, and may have been related to factors that were based on the youths' disposition and/or their current situation. The continuity of strain was not evaluated in the current study.

[8] The full angry-irritable scale consists of nine questions related to frustration, lasting anger, and moodiness (Grisso & Quinlan, 2005).

[9] The depressed-anxious scale comprises nine questions (Grisso & Quinlan, 2005). Designed to measure two definitively distinct feelings, we divided the questions into two separate scales: one measuring depression, the other measuring anxiety.

"Have nervous or worried feelings kept you from doing things you wanted to do?; Have you had nightmares that are bad enough to make you afraid to go to sleep?; Have you had a lot of trouble falling asleep or staying asleep?"

Institutional Adjustment

Institutional adjustment initially consisted of five manifest indicators we identified as important in the aforementioned adjustment literature; however, after preliminary assessments, we ultimately measured institutional adjustment using two final composite measures. The variables we used to measure the institutional adjustment constructs of institutional victimization and environmental stress were taken from a study that examined adjustment using inmate offending (see Hochstetler & DeLisi, 2005).

General Institutional Adjustment. This initial variable comprised several measures of custodial experiences found to influence youth in custody (Cesaroni & Peterson-Badali, 2005; Ireland, 2002; Kupchik & Snyder, 2009), including impressions of serious discrimination, assaults among residents, absence of privacy, noise, and program availability. We asked youth whether they strongly agreed, agreed, disagreed, or strongly disagreed that these items were a serious problem in the institution. Due to this measurement model's weak results, we developed two modified adjustment-related constructs.

Institutional Victimization. This final variable measured young offenders' institutional perceptions related to the treatment of others while in custody, including the incidence of heated arguments, serious discrimination, assaults among residents, and bullying. We assessed these perceptions based on youths' responses to questions asking whether they were aware of any of these problems within the custodial setting.

Institutional Environmental Stressors. This second and final latent adjustment construct comprised youths' responses to questions measuring whether they perceived the absence of privacy in custody as stressful, the boredom in custody as stressful, or the noise in custody as stressful.[10]

Cronbach's alpha assessed the internal consistency, or reliability, of these scales and provided acceptable values for all but one construct: presence of noxious stimuli ($\alpha = 0.20$); removal of positively valued stimuli ($\alpha = 0.50$); vicarious strain ($\alpha = 0.66$); negative emotionality ($\alpha = 0.62$); institutional victimization ($\alpha = 0.56$); and institutional environmental stressors ($\alpha = 0.70$).[11]

Analytical Strategy

Following descriptive statistics, correlations, and crosstabs, we conducted multivariate principle component analysis (PCA) using varimax rotation to evaluate Agnew's three categories of strain. In addition, we used PCA to evaluate a factor measuring negative emotionality (comprising anger, depression, and anxiety), and a factor measuring institutional adjustment. SEM then permitted close examination of the hypothesized relationship between general strain variables and institutional adjustment. We used multi-item measures of strains, paying careful attention to directionality and variable associations, both critical for general strain theory (Agnew, 1992).[12]

Results

Univariate

The mean age of youth in this study sample was 16 years old, which is representative of young offenders incarcerated for serious crimes in Canada. The sample was predominantly male (82.6%) and White (53.9%). Approximately one-half (46.8%) of the sample had been in three or more care placements. Almost 60% had a history of abuse or harsh punishment at home. Almost the entire sample of incarcerated youth had been

[10] Once the institutional adjustment variable was further divided into these two separate measures of institutional experiences, the manifest variable "not enough education programs" was not congruent with either institutional adjustment subscale.

[11] In the social sciences, 0.5 to 0 .7 and higher is considered to be acceptable (see for example Beauregard, Lussier, & Proulx, 2004). The best representation, however, of the unidimensionality of each scale can be seen from the PCA results.

[12] Previous studies also employed SEM to assess the impact of general strains on delinquency and drug use, as well as intentions to offend (e.g., Hoffmann & Su, 1997; Mazerolle et al., 2003).

in trouble at school for serious problem behavior (95%) and a similar percentage (90.5%) had experimented with polysubstance use, a potential mechanism for coping with or responding to experiences of strain. Of those in the sample, 62.1% met the criteria for the caution range on the MAYSI-2 anger scale (see Grisso & Barnum, 2000). A number of incarcerated young offenders also experienced vicarious strains. In addition, institutional adjustment problems and stressors affected a number of young offenders in this sample (see Table 1).

Table 1. **Sample of Serious Incarcerated Youth, Burnaby and Victoria, B.C., Canada 1998-2001 Descriptive Statistics**

Youth Profiles	Incarcerated Young Offenders N = 380		
Variables	**%**	**Mean**	**SD**
Age		16.01	1.27
Gender (male)	82.6		
Caucasian	53.9		
Three or more care placements	46.8		
Abuse/harsh punishment[a]	59.2		
Ever left home (yes)	88.2		
Changed schools[b]	71.4		
In trouble at school for serious behaviors	95.0		
Worst grades in school – Mostly Fs	50.0		
Anger[c]	62.1		
Depression[d]	39.0		
Anxiety (high)	10.8		
Family drinking problem	64.5	2.39	1.25
Family physical abuse	57.1	2.12	1.18
Family criminal record	74.2	2.52	1.18
Institutional stressors			
Serious discrimination was a problem[e]	51.3		
Assaults among residents was a problem	43.5		
Bullying was a serious problem	72.6		
Absence of privacy was stressful	47.9		
Boredom was stressful	74.0		
Noise level was stressful	50.0		
Not enough educational programs	31.6		

a. At least one experience
b. At least three times
c. At or above the caution cut-off of 5
d. At or above the caution cut-off of 3
e. This was discrimination based on religion, race, or sexual orientation

Note: The familial/vicarious strain percentages were for young offenders whose families had at least one family member affected by each strain.

Bivariate

Crosstabulations

Bivariate crosstabulations enabled us to assess whether there were significant differences in the institutional experiences of young offenders of different genders and ages (youth aged 12 to 15, and youth aged 16 to 19). The results showed no significant differences between female and male young offenders, or between younger and older youth. The very small number of females in the sample may explain why there were no significant differences among them. Results also revealed no significant differences based on ethnic group identity. These findings suggested that multigroup SEM analysis was not necessary for this sample.[13]

Correlations

To assess the validity of the measures, we examined correlations among the strain variables, negative emotionality, and institutional adjustment (see Table 2). Many of the correlations, although weak, were significant and indicated possible underlying connections between the related strain, emotion, and adjustment measures.

Multivariate

Principle Components Analysis (PCA)

The PCA with orthogonal varimax rotation generated four factors and produced three types of strain, consistent with Agnew's theory, which encourages the focus on types—rather than sources—of strain. The PCA resulted in a statistically significant model containing the following factors: one representing the presence of noxious stimuli (comprising abuse/harsh punishment, school behavioral problems, and worsening school grades); a second representing the removal of positively valued stimuli (encompassing having left home, the number of care placements, and the number of times

[13] A series of multiple regressions enabled us to further assess the impact of these variables on perceptions of adjustment; none of the variables was significant. Later SEM models using demographically divided subsamples were also not significantly different.

Table 2. **Correlations between Strain, Negative Emotionality, and Institutional Adjustment Measures**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	1.00																			
2	.07	1.00																		
3	.17*	.09	1.00																	
4	.02	-.02	.09	1.00																
5	.18**	.13†	.21**	.30**	1.00															
6	.12†	.01	.27**	.23**	.28**	1.00										.				
7	.15*	.02	.20**	.17*	.18*	.15*	1.00													
8	.05	.04	.21**	.24**	.19**	.20**	.50**	1.00												
9	.07	.02	.19**	.17*	.22**	.26**	.39**	.54**	1.00											
10	.27**	.19	.32**	.11†	.20**	.19**	.25**	.22**	.17*	1.00										
11	.17**	.02	.17**	.01	.19**	.18**	.25**	.17**	.13†	.48**	1.00									
12	.18**	-.05	.02	.14†	.19**	.14*	.25**	.20**	.18**	.48**	.49**	1.00								
13	.03	.00	.11†	-.02	.05	.07	.03	.04	-.02	.17**	.17*	.13†	1.00							
14	.12†	-.01	.06	.07	.15*	.13†	.07	.08	.10†	.19**	.16*	.14†	.31**	1.00						
15	.03	.02	.06	.04	.08	.13†	.04	.07	.00	.15*	.16*	.08	.41**	.46**	1.00					
16	.16*	.01	.14*	.13†	.26**	.17**	.12†	.15*	.15*	.20**	.18**	.18**	.31**	.43**	.43**	1.00				
17	.10	.03	-.01	.04	.12†	.06	.08	.17**	-.01	.20**	.19**	.22**	.19**	.16*	.27**	.18**	1.00			
18	.01	-.01	.04	.11†	.11†	.05	.05	.17**	.06	.15*	.16*	.19**	.16*	.18**	.14†	.14*	.35**	1.00		
19	.02	-.01	-.04	.06	.09	.08	-.01	.04	-.01	.19**	.19**	.23**	.21**	.23**	.25**	.24**	.38**	.29**	1.00	
20	.01	.07	-.07	-.01	-.05	-.06	.01	.01	-.05	.01	.05	.11†	-.02	.01	-.02	.03	.19**	.06	.13†	1.00

** $p < .001$; * $p < .005$; † $p < .05$

(1) Abuse/Harsh Punishment (2) Grades (3) Trouble in School (4) Care Placements (5) Left Home (6) Changed School (7) Familial Drinking (8) Familial Physical Abuse (9) Familial Criminal Record (10) Anger (11) Anxiety (12) Depression (13) Heated Arguments (14) Discrimination (15) Assaults (16) Bullying (17) Privacy (18) Boredom (19) Noise (20) Education Programs

changed schools); a third representing vicarious strain (including family drinking problems, family physical abuse, and family criminal records); and, finally, a fourth representing negative emotionality, with anger, anxiety, and depression all loading together well. A second PCA also loaded the institutional measures on to one factor. The eigenvalue for the four-factor model was 3.21 and explained 57.75% of the variance.[14]

Confirmatory Factor Analysis (CFA)/Measurement Model

The initial full CFA institutional adjustment model (M1), which included the presence of noxious stimuli, removal of positive stimuli, vicarious strain, and negative emotionality, presented only a fair fit to the data [$X^2(109) = 205.54$, $X^2/df = 1.89$, SRMSR = 0.05, RMSEA = 0.05, CFI = 0.90, NFI = 0.82] and coefficient concerns. Due to measurement and model concerns, we developed two final models that included removal of positively valued stimuli, vicarious strain, negative emotionality, and two modified constructs for institutional adjustment measures. The first of these models was institutional victimization, which comprised serious resident discrimination, resident assaults, and institutional bullying; the second was institutional environmental stressors, which comprised the absence of privacy as stressful, boredom as stressful, and noise as stressful. These models

[14] The values at which the variables loaded on to the factors showed considerable support, with the exception of harsh punishment/abuse and school behaviors. These latter factor loadings were lower than the desired < 0.70.

presented excellent measurement model fit, and acceptable/high and statistically significant path coefficients ($p < .001$) (see Table 3).

Table 3. **Measurement Model Path Coefficients—Strains, Negative Emotionality, and Institutional Adjustment (N = 380)**

Parameters	Initial Full Strain Model	Final Model *Victimization*	Final Model *Stressors*
Loadings on the *Noxious Stimuli* Dimension			
Abuse/harsh punishment	.37***	–	–
School behavioral problems	.50***	–	–
Worst school grades	.12	–	–
Loadings on the *Removed Positive Stimuli* Dimension			
Ran away from home	.57***	.57***	.56***
Number of care placements	.43***	.47***	.48***
Number of times changed schools	.53***	.51***	.50***
Loadings on the *Vicarious Strain* Dimension			
Family drinking problem	.61***	.61***	.61***
Family physical abuse	.80***	.80***	.80***
Family criminal record	.70***	.69***	.69***
Loadings on the *Negative Emotionality* Dimension			
Anger	.71***	.66***	.65***
Anxiety	.68***	.70***	.70***
Depression	.64***	.67***	.69***
Loadings on the *Institutional Adjustment* Dimension			
Serious resident discrimination	.53***	–	–
Resident assaults	.57***	–	–
Absence of privacy was stressful	.52***	–	–
Noise was stressful	.55***	–	–
Lack of education programs	.13*	–	–
Loadings on the *Institutional Victimization* Dimension			
Serious resident discrimination	–	.67***	–
Resident assaults	–	.65***	–
Resident bullying	–	.67***	–
Loadings on the *Institutional Environmental Stressors* Dimension			
Absence of privacy was stressful	–	–	.66***
Boredom was stressful	–	–	.52***
Noise was stressful	–	–	.58***

***$p < .001$ **$p < .01$ *$p < .05$

SEM—Structural Models and Path Diagrams

Final Model Results

The fit indices for the first of the final SEM strain models measuring institutional victimization (M2) were as follows: [$X^2(51) = 120.07$, $X^2/df = 2.35$, SRMSR = 0.09, RMSEA = 0.06 (90% CI = 0.046 – 0.074), CFI = 0.92, NFI = 0.90]. For the second final SEM strain model measuring institutional environmental stressors (M3) the fit indices were: [$X^2(51) = 111.61$, $X^2/df = 2.19$, SRMSR = 0.08, RMSEA = 0.06 (90% CI = 0.042 – 0.070), CFI = 0.93, NFI = 0.90]. The RMSEA, CFI, and NFI values were acceptable. The factor loadings for all of the constructs were significant ($p < 0.001$) and in the expected directions, as were the path coefficients to the indicator constructs. The paths were also highly significant ($p < 0.001$); the path models' coefficients are shown in Figure 1 and Figure 2, respectively. The results indicate that preexisting general strains, including the removal of positively valued stimuli and vicarious strain, influenced feelings of anger, anxiety, and depression among young offenders incarcerated for serious crimes; furthermore, the results indicate that these negative emotions influenced young offenders' negative perceptions of institutional victimization (i.e., the prevalence of assaults, discrimination, and bullying), as well as their custodial stress levels based on noise, boredom, and lack of privacy.

Discussion

Consistent with general strain theory, this study supports the hypothesis that young offenders' disposition, or negative emotionality, is influenced by a number of strains identified in Agnew's theory, which leads to concerns about the institutional adjustment of incarcerated youth. The best fitting SEM models were two separate models of adjustment and included the following constructs: removal of positively valued stimuli, vicarious strain, and negative emotionality. The exclusion of noxious stimuli was not indicative of the unimportance of this strain in institutional adjustment, but instead was likely due to the inability to achieve such a suitable latent construct for this sample (see also the weak, unstable correlations). The variables that represented this strain (e.g., poor grades) were pervasive among youth in the sample and led to problems with the model. Variables that could have better represented this construct include adverse peer relationships and problems in the community.

Figure 1. **Model 2 Path Diagram—Strain, Negative Emotionality, and Institutional Victimization.**

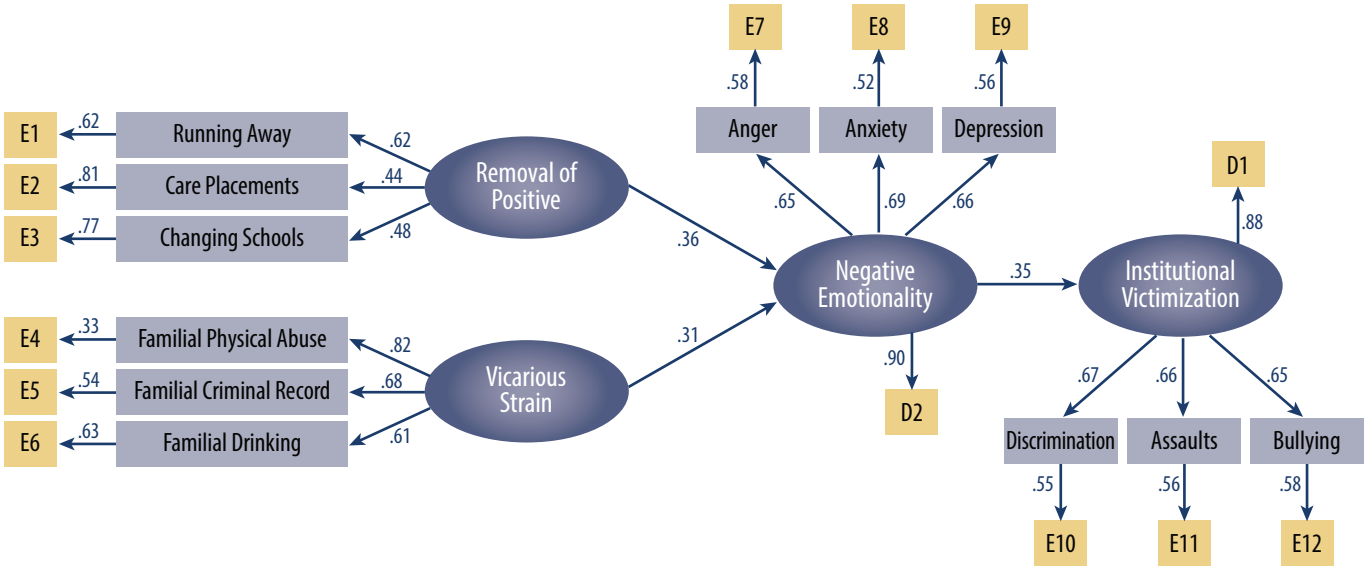
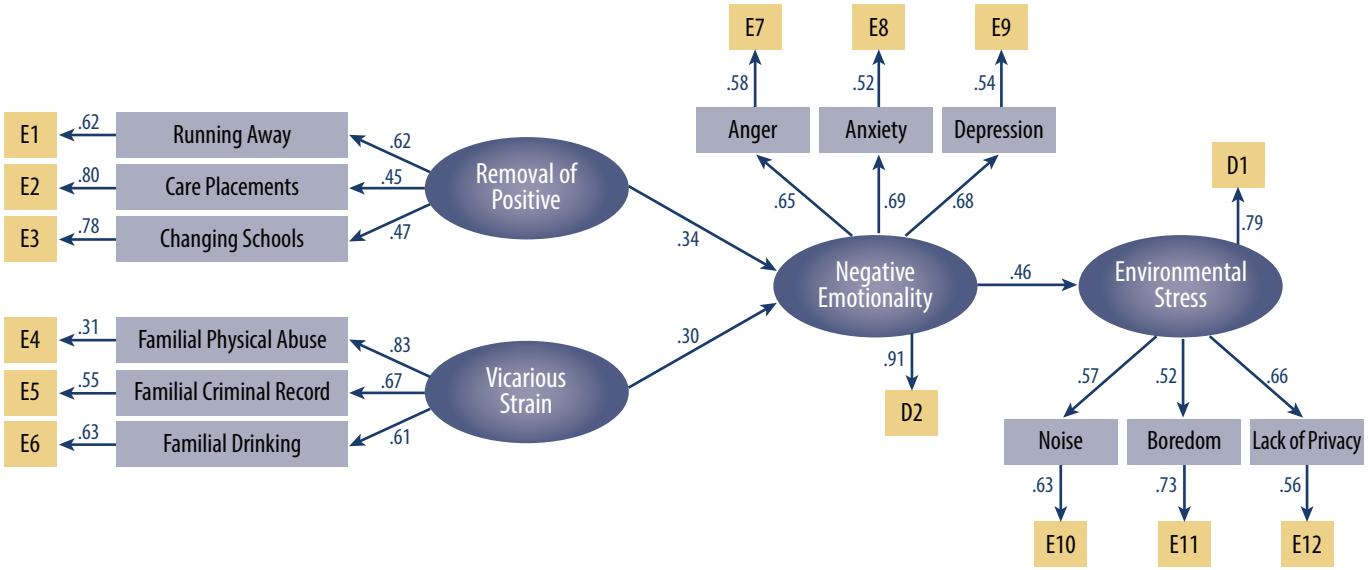


Figure 2. **Model 3 Path Diagram—Strain, Negative Emotionality, and Institutional Environmental Stressors.**



Although the present study accounted for multiple strain-related emotions that are important for both males and females, we found no significant differences between male and female offenders in relation to the study's key measures (see Broidy & Agnew, 1997; Hay, 2003). While these findings may be explained by the small number of girls in the sample, this is not the only study to have such outcomes. Research has utilized mixed-gender samples to compare experiences of strain, as well as custodial misconduct, and found that certain forms of strain had a similar influence on both males and females (Cauffman, Piquero, Broidy, Espelage, & Mazerolle, 2004; Hoffmann & Su, 1997; Neff & Waite, 2007). Additional research shows that aggression may be similarly expressed by males and females (see Odgers & Moretti, 2002). This finding may be readily applicable to those incarcerated females in Canada who are the most serious/violent young offenders.

The results of the SEM, which produced two separate models to measure institutional adjustment, were unexpected. We hypothesized the need to

distinguish institutional misconduct and related adjustment problems from general institutional adjustment; however, our findings further indicated that while studying the latter, it is important to examine distinct types of correctional adjustment. These findings demonstrate a complex relationship among adjustment, importation, deprivation, strain, and likely coping measures, and highlight the value of exploring these intricate relationships.

One potential explanation for finding two separate institutional measures in this study is that each one measured distinct experiences—exposure to institutional victimization (e.g., being exposed to bullying and fighting) and institutional environmental stressors (e.g., noise and lack of privacy). Not only are these distinct experiences, but it is likely that some young offenders were more susceptible to one type of adjustment problem than another. Within custody, youth are divided into living units and programs based on their physical and emotional characteristics, as well as their offending profiles (e.g., violent versus property offenses); those with diverse offender profiles are likely to be affected differently by various strains, emotions (e.g., anger versus depression), and ensuing adjustment factors.

Other researchers have recognized the multidimensionality of institutional adjustment. Van Tongeren and Klebe (2010), who studied the differences in adjustment among female offenders, presented an overview of the approaches used to assess adjustment and proposed that research examining institutional adjustment would benefit from using expanded definitions and operationalization. Van Tongeren and Klebe's (2010) study highlighted the importance of further exploring these differences and more closely assessing typologies of young offender adjustment; these distinctions are also likely to lead to varying outcomes in custody and once released. Such notions support studies such as the present one, which demonstrates the need to distinguish types of offenders and offender characteristics, coping mechanisms, and protective factors.

In line with the multidimensionality of adjustment, the results of this study support the examination of young offenders' daily experiences and perceptions of the prison environment, rather than their institutional infractions alone. The latent outcome measures representing adjustment mirrored variables that are often employed as deprivation measures and suggest that general strain theory is a useful extension of the importation and deprivation models in the study of prison adjustment. Offenders who have experienced early strains are more likely to be susceptible to problems in custody, which is worsened by the preexisting negative emotionality; poor coping skills and the limited avenues available in custody to manage this exigent combination can only intensify the problem (Cesaroni & Peterson-Badali, 2010; DeLisi et al., 2010b; Houser, Belenko, & Brennan, 2011; Taylor et al., 2007).

This study's findings are notable because youth may have difficulties adjusting to custody, yet they may never induce staff interference. While it is important to know which young offenders are more likely to cause problems or "offend" in custody, it is also important to determine factors that may contribute to general institutional experiences, which may also interfere with rehabilitation readiness and program matching for the young offenders serving extended sentences in custody. Moreover, Andrews and Bonta's (2010) *risk-need-responsivity* model demonstrates the enormous impact of correctional programs that incorporate not only criminogenic needs, but also offender strengths, such as strong family relationships or high educational level.

The present study builds on the young offender prison adjustment research, first by assessing young offenders' perceptions of institutional victimization and environmental stressors compared to the commonly used measure, institutional misconduct (e.g., Blevins et al., 2010; DeLisi et al., 2011; MacDonald, 1999; Morris et al., 2012) and, second, by using self-report data. Unlike incident reports, which may not account for all misbehavior and in which there is often an absence

of context (for example, why the youth acted out, the youth's behavior and experiences leading up to the misconduct, and the response of the correctional staff), this approach minimized limitations found in earlier studies (Cesaroni & Peterson-Badali, 2005). Finally, this research provides support for the inclusion of general strain variables in prison adjustment research.

Implications

The identification of young offenders with a high number of pre-custody strains may enable correctional staff to help youth adapt with greater ease and provide specific supports (e.g., programs that address historical experiences of trauma, neglect, rejection, familial issues, and that can assist in the development of coping skills and anger management). Such supports can help minimize the impact of earlier external strains, alleviate some of the stress of custody, and encourage a positive environment and rehabilitative experience (see Trulson et al., 2010). This may be critical, since prior prison conduct problems have been linked to future custodial problems among adult prisoners (Drury & DeLisi, 2010).

This approach could also extend to the community, since highly strained young offenders who have perceived their custodial experience as negative are likely to have extensive problems with community reentry; this is especially true if youth return to situations in which the strains are present. Research has also examined the impact of custodial strains on recidivism, and although some studies have suggested that custodial behaviors (i.e., misconduct) are not related to post-release recidivism (Trulson, DeLisi, & Marquart, 2011), other studies have found significant support for this relationship (Lattimore et al., 2004; Listwan et al., 2012; Mears et al., 2008; Trulson et al., 2005). One study found that the probability of continued antisocial activity (e.g., having antisocial peers) was reduced when offenders' perceptions of the institutional climate were positive (Schubert, Mulvey, Loughran, & Losoya, 2012). As misconduct can indicate underlying problems and the need for interventions to promote positive institutional adjustment and post-release success (Trulson et al., 2011), the perceptions of victimization and stress levels on the part of young offenders incarcerated for serious/violent crimes may be equally important to explore.

Limitations

This study focused on incarcerated high-risk, predominantly male young offenders in British Columbia, Canada, and is not necessarily generalizable to other institutions in Canada or internationally. The research included a comprehensive application of general strain theory; however, it did not control for variables that can be important in criminological research on young offenders, such as age, gender, and ethnicity; similar limitations have been acknowledged in strain research (see Agnew, 2002). There were, in addition, no peer strain variables, which have been found to influence delinquency (Agnew & White, 1992) and adjustment (Ireland, 2002). The present study also concentrated on the impact of negative factors. Current research on the *risk-need-responsivity* model and the *good lives* model, however, encourages inclusion of prosocial factors present in an offender's life (e.g., self-concept, stability of relationship[s], suitability of educational and social supports, and coping models and mechanisms), which may be critical to better institutional adjustment (French & Gendreau, 2006) and intervention outcomes for offenders (see Fortune, Ward, & Willis, 2012).

The use of self-report data in this study offers a valuable perspective; however, it can also be considered a limitation, since youths' accounts can be distorted—intentionally for protection, or unintentionally as a result of faulty memory or impression-management. This study also relied on cross-sectional data, which raises concerns about the causal order of the study's measures; contemporaneous and reciprocal effects of the variables on one another are likely. For example,

victimization increases the likelihood for engaging in delinquency, and engaging in delinquent conduct also increases individuals' probability of being victimized (Agnew, 2002).

Future Research

Future studies on general strain theory and institutional adjustment should control for standard demographic variables commonly used in criminological research, especially age, gender, and ethnicity. It would be especially useful to test this study's main hypothesis on a larger sample of incarcerated female young offenders only, as they may be influenced differently by certain types of strain (Blackburn & Trulson, 2010). Since this study was primarily exploratory, researchers should also control for additional variables that are likely to have an impact on institutional adjustment, such as variables from the importation and deprivation models as proposed by Blevins et al. (2010), as well as factors that may mediate the influence of experienced and vicarious strains (Agnew, 2002).

The role of situational versus trait-based emotions and their relationship to strains and institutional adjustment should also be assessed in future research (see Mazerolle et al., 2003). Following this, research that explores the dynamics of adjustment at varying times during a young offender's custodial term would also help us to understand the impact of lengthier stays in custody on young offenders' stress levels, well-being, program participation and success, and overall adaptation, as well as on potential outcomes once released from custody.

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Appendix: Description of Measures

Noxious strain

- Have your parents ever punished you by—Hit me with hand/fist? Hit me with an object? Have your parents ever punished you by—Locked out of home? Have your parents ever punished you by—Lock me in closet or other room? Have you ever left home for more than a day by your own choice?
- Thinking about your worst class in school, what kind of grades did you usually get? (mostly As, mostly Bs, mostly Cs, mostly Ds, or mostly Fs)?
- School behavior—Have you ever been taken out of regular classes to go to an alternative school that could focus on your specific needs? Have you ever been in trouble at school for intimidating or bullying other students? Have you ever been in trouble for physically fighting with another student at school? Have you ever been in trouble at school for striking or hitting another student? Have you ever been in trouble at school for striking or hitting a teacher?

Removal of positively valued stimuli

- How many different foster placements have you had?
- How many times have you changed schools other than when required for grade changes?
- How many times have you left home for longer than 24 hours by your own choice?

Vicarious strain

- Thinking about all the members of your family, does anyone have a drinking problem? If so, who?
- Thinking about all the members of your family, does anyone have a drug problem? If so, who?
- Thinking about all the members of your family, has anyone been the victim of physical abuse? If so, who?

Negative emotionality

- Anger—Have you lost your temper easily, or had a "short fuse"? Have you been easily upset? Have you felt angry a lot? Have you gotten frustrated a lot? Have you hurt or broken something on purpose, just because you were mad?
- Depression—Have you felt lonely too much of the time? Have you given up hope for your life? Have you felt like you don't have fun with your friends anymore? Has it been hard for you to feel close to people outside your family? Have you felt too tired to have a good time?
- Anxiety—Have nervous or worried feelings kept you from doing things you wanted to do? Have you had nightmares that are bad enough to make you afraid to go to sleep? Have you had a lot of trouble falling asleep or staying asleep? Answer using strongly disagree, disagree, agree, strongly agree.

Institutional adjustment (strongly disagree, disagree, agree, strongly agree)

- There are not enough education programs available to meet my needs at this institution.
- Residents at this institution have been seriously discriminated against by other residents based on their religion, race, or sexual orientation.
- The number of assaults among residents is a problem in this institution.
- Thinking of prison, I found the absence of privacy to be stressful.
- I found the noise in prison to be stressful.

Institutional victimization (strongly disagree, disagree, agree, strongly agree)

- The number of heated arguments is a problem in this institution.
- Residents at this institution have been seriously discriminated against by other residents based on their religion, race, or sexual orientation.
- The number of assaults among residents is a problem in this institution.
- There is a lot of bullying in this institution.

Institutional environmental stress (strongly disagree, disagree, agree, strongly agree)

- Thinking of prison, I found the absence of privacy to be stressful.
- Thinking of prison, I found the boredom to be stressful.
- I found the noise in prison to be stressful.

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