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Foreword

As I begin my tenure as the Acting Administrator at the Office of Juvenile Justice and Delinquency Prevention (OJJDP), one of my top priorities is to ensure that our partners in the field have ready access to the latest juvenile justice research and evaluation findings. Consequently, I am pleased to present the second issue of the *Journal of Juvenile Justice (JOJJ)*—OJJDP’s online peer-reviewed journal. I am particularly pleased to note that the intended audience for *JOJJ* is both practitioners and researchers. Prior to coming to OJJDP, I spent more than 16 years as a deputy county attorney prosecuting child abuse, sexual assault, and homicide cases. I know firsthand the importance—and the challenges—of getting this type of valuable information to professionals in the field.

The articles in the Spring 2012 issue of *JOJJ* are informative and have practical applications. They examine topics of interest to many of us concerned with juvenile justice, such as school learning in a rural juvenile detention facility, arrest histories among homeless youth, and juvenile reentry and reintegration. In many cases, these articles will have an immediate and direct application to juvenile justice professionals and service providers. Studies such as the evaluation of a Community Truancy Board in Spokane, Washington, may have policy and practice implications for juvenile courts in communities across the country. Similarly, the development of a 10-question tool for law enforcement to screen runaway youth about issues related to their safety may help police refer teens to the services they need. This is vital information from research that is of greatest use when it is placed in the hands of those who need it.

As Jeff Slowikowski and Brecht Donoghue noted in *JOJJ*’s inaugural issue, OJJDP has a mission to develop and disseminate knowledge about what works to prevent juvenile delinquency and victimization and improve the juvenile justice system. We hope that by elevating and promoting the knowledge acquired through OJJDP-sponsored and other research that it will gain national attention and inform thoughtful discussions about how we can best meet the diverse needs of our country’s youth.

As you read *JOJJ*, consider sharing your feedback, and let us know what other topics you would like us to address in the future. If you are a researcher, we are interested in your manuscripts. This and future issues of the *Journal of Juvenile Justice* are the beginning of an important conversation with the juvenile justice community. I very much look forward to our exchange.

A handwritten signature in black ink that reads "Melodee Hanes". The signature is fluid and cursive, with "Melodee" on top and "Hanes" below it, both starting with a capital letter.

Melodee Hanes
Acting Administrator
OJJDP

General Strain Predictors of Arrest History Among Homeless Youth from Four United States Cities

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KEYWORDS: *Homeless youth, crime, arrest, path model, general strain theory*

Abstract

This study identifies mental health and situational predictors of arrest history among homeless youth in four U.S. cities. Using convenience sampling, we recruited 188 homeless youths from shelters, drop-in centers, and street outreach using similar methods. The youths, aged 18–24, came from Los Angeles, California ($n = 50$), Denver, Colorado ($n = 50$), New Orleans, Louisiana ($n = 50$), and St. Louis, Missouri ($n = 38$). General strain theory provided a framework

for identifying factors related to arrest history, including length of time homeless, level of transience, victimization, post-traumatic stress disorder (PTSD), substance dependence, and the use of survival strategies. We tested the general strain model using observed-variable path analysis. Collectively, youths' length of time homeless, drug dependence, and use of survival strategies explained 17% of the variance in arrest history. We found a significant overall mediation effect from transience to arrest history through

greater victimization, post-traumatic stress disorder, drug dependence, and survival strategies. This study offers one of the first applications of general strain theory to identify both mental health and situational strains—and responses to strains—among homeless youth. Findings have important implications for research and preventive interventions to address delinquency among this population.

Introduction

More than 2 million youth experience homelessness in the United States each year (Whitbeck, 2009). They may include *runaway-homeless youth*, who have left home for one or more nights without notifying their parents or guardians; *throwaway youth*, who have left home because their parents have asked them to leave or have locked them out; or *independent youth*, who do not have a home to which they can return. Youth who live on the streets may also be part of biological *homeless families* or fictive *street families* (Halcon & Lifson, 2004). *Undocumented, unaccompanied youth*, whose families often reside in the youths' country of origin, also are part of the homeless youth population. Finally, *emancipated foster youth*, who have aged out of foster care, are disproportionately represented among homeless youth in many cities. This diverse group of homeless youth is at increased risk for committing delinquent behaviors—often in reaction to environmental stressors or out of necessity for survival (Gaetz & O'Grady, 2002). Thus, the homeless youth population overlaps with more general delinquent youth populations, but is unique in that youths' experiences of homelessness are intertwined with their engagement in delinquent behaviors. Differentiating the unique predictors of homeless youths' delinquent behaviors will inform crime prevention efforts with this vulnerable population.

Prior research indicates that homeless youth are more likely than their housed peers to be involved in illegal activities, such as theft and property offenses, and drug possession,

use, and sales (Baer, Peterson, & Wells, 2004; Thompson, Jun, Bender, Ferguson, & Pollio, 2010). Arrest rates for these young people range from 20%–30% (O'Grady & Gaetz, 2004). With annual estimates of 750,000 to 2 million homeless youth in the United States (Whitbeck, 2009), a conservative estimate translates to 150,000 of these young people encountering the criminal justice system in any given year.

Although research demonstrates that homeless youth engage in criminal activity, few studies have explored the complex interactions of risk factors associated with their arrest history. The present study goes beyond extant work (Baron 2004, 2008; Baron & Hartnagel, 1997; Whitbeck, Hoyt, & Yoder, 1999) in three ways. First, this study examines general strain theory predictors and mental health responses to such strains as they relate to arrest history among homeless youth. To date, most causal models of crime and delinquency draw from social learning and social control theories (Agnew, 1992). Second, this study is novel in testing the mediating effects of mental health and situational strain factors on homeless youths' arrest history. Finally, rather than focusing on one or two cities or several cities within one region as most prior work has done, this study recruited a sample of homeless youth from four cities across disparate regions of the United States.

General Strain Theory and Homeless Youth

General strain theory posits that life strains and stressors result in negative emotional responses that may lead individuals to engage in criminal behaviors (Agnew, 1992). More specifically, this theory focuses on negative or inequitable relationships, such as parental abuse and neglect, which may influence individuals' engagement in criminal behaviors (Baron, 2004). For homeless youth, viewing their homes of origin as highly inequitable environments may constitute pressures or strains that lead to emotional responses of anger and resentment (Whitbeck, 2009). Researchers suggest that the disorganized and

abusive home environments of many homeless youth can engender anger and aggression in the youth as a reaction to their initial abusive relationships (Agnew, 1992; Baron 2004, 2008). It is likely that these strains contribute to the youth leaving home initially (Thompson, McManus, & Voss, 2006; Whitbeck, 2009).

General strain theory also posits that individuals have innate aspirations and expectations of achievement, and that the disparity between expectations and actual achievements can contribute to delinquent behavior (Agnew, 1992). The inability of individuals to achieve certain ideal goals that are emphasized by their societal or cultural systems (e.g., economic self-sufficiency) acts as a strain. As a result, deviant behaviors may become a possible option for achieving these goals or coping with the failure to achieve such goals. In the case of homeless youth, their low educational levels, combined with limited work histories, can hinder their success in obtaining and maintaining formal employment (Whitbeck, 2009). To meet their needs, many rely upon informal sources of income, both legal (e.g., panhandling and selling recycled/self-made items) and illegal (e.g., prostitution, theft, and selling drugs) (Gaetz & O'Grady, 2002; Kipke Unger, O'Connor, Palmer, & LaFrance, 1997).

The theory suggests that strains—and in particular chronic strains such as those experienced by familial abuse—exert pressure on individuals to engage in criminal behaviors. With respect to homeless youth, chronic stressors associated with homelessness include experiences of victimization, food and shelter insecurity, geographic mobility, and unemployment. These stressful experiences, combined with prior experiences of neglect and maltreatment, can lead many youths to use illegal substances and engage in antisocial behaviors in order to cope (Thompson, Maccio, Dessel, & Zittel-Palamara, 2007; Whitbeck et al., 1999).

Agnew (1992) suggested that some criminal behaviors may be understood as coping

mechanisms. Strategies related to criminal behaviors include illegal drug use and violent behavior. These activities have been suggested as strategies that relieve or minimize the emotional severity of strains and provide a means of distraction and/or retaliation for the identified strain (Agnew, 1992; Baron, 2004). This understanding points to a chain of events in which strains lead to negative reactions (such as PTSD and other mental health challenges) and the development of coping strategies (such as substance use and survival strategies), which may ultimately culminate in arrest.

General strain theory provides a useful framework for examining strains associated with homeless youths' arrest history. It provides a means of identifying specific strains that may lead these youths to interact and respond in antisocial, even criminal, ways. Although homeless youths experience a considerable amount of strain in their daily lives (Baron, 2004, 2008; Baron & Hartnagel, 1997), few studies have developed causal models of crime with variables derived from general strain theory to examine the interactions among stressors—and responses to these stressors—and how they collectively influence youths' criminal arrest history (Agnew, 1992). To address this gap, this study examined the arrest histories of homeless youths in four U.S. cities in relation to various strains common among this population. These strains include length of time homeless, level of transience, and victimization. These strains may lead to reactions or responses, such as developing symptoms of PTSD and substance dependence as well as engaging in anti-social survival strategies often required to survive on the streets. Each of these strains and responses associated with such strains is discussed next.

Strains

Extended homelessness. The longer young people remain on the streets, the more they become entrenched in a street lifestyle characterized by inequitable and abusive relationships and interactions (Tyler & Johnson, 2006). Engaging

in street life, combined with disengaging from traditional expectations (e.g., academic and employment achievement, monetary success), is associated with criminal behavior (Baron & Hartnagel, 1997). Increased exposure to and interactions with homeless peers facilitate acculturation to the streets and greater involvement in the street economy (Fest, 2003; Kipke et al., 1997). As a result, homeless youth who are embedded in abusive and inequitable relationships and who remain unstably housed may turn to criminal behaviors for economic survival or to cope with the daily stressors of a street lifestyle (Gaetz & O'Grady, 2002). Extended homelessness constitutes a strain in homeless youths' lives as it influences their identities, needs, and goals while distancing them from expectations valued by traditional society (Baron 2004).

Transience. High levels of transience may be related to engaging in varying degrees of criminal activity, given that geographic mobility prohibits stable employment and housing (Ferguson, Bender, Thompson, Xie, & Pollio, 2011). Transient youth, by virtue of repeatedly moving from place to place, may be less likely than more stable youth to establish relationships with traditional institutions or to adopt traditional values. The lack of connections with trusted peers and adults—and negative interactions with street-involved individuals—may lead to an inability to provide for daily needs, resulting in engagement in the local street lifestyle to meet those needs (Bender, Thompson, McManus, Lantry, & Flynn, 2007). Constant relocation may also exacerbate strains associated with homelessness, including food insecurity, precarious housing, and hyper-vigilance concerning personal safety and belongings. Traveling homeless youth must locate safe places, supportive peers, and resources in each city (Dachner & Tarasuk, 2002). Thus, the strains associated with extended time on the streets and high transience are likely associated with engaging in illegal behaviors, though limited research has tested these relationships.

Maltreatment and victimization. Considerable evidence indicates that serious abuse occurs within families of youth who run away and become homeless (Whitbeck, 2009). Research suggests that once on the streets, those who remain for longer periods of time are at greater risk for victimization (Whitbeck, Hoyt, & Ackley, 1997). Homeless youth, especially females, are highly susceptible to victimization (Kushel, Yen, Gee, & Courtney, 2007), as they often live in precarious and dangerous situations. Strains from living on the street are commonplace among homeless youth, especially experiences of various types of assault and victimization (Tyler, Hoyt, Whitbeck, & Cauce, 2001). As a history of physical or sexual abuse is a strong correlate of criminal behavior (Baron, 2004, 2009), it is likely that this highly vulnerable group of maltreated young people would also engage in criminal behavior.

Reactions/Responses to Strains

Trauma symptoms/PTSD. According to general strain theorists, maltreatment and victimization are strains that may result in negative affective states, such as anger, depression, and anxiety (Baron, 2004; Baron & Hartnagel, 1997). The strains associated with past or current victimization contribute to these psychological challenges as evidenced by the elevated rates of mental disorders, such as PTSD, found among homeless youth (Thompson et al., 2006, 2007). Previous research has suggested that the psychological health challenges of homeless youth are linked to criminal behaviors (Baron, 2004, 2009). As a highly service-disengaged population who frequently do not seek mental health treatment (Kipke et al., 1997), homeless youth can be especially prone to illegal acts, particularly when negative symptoms remain untreated (Silver, 2000).

Substance dependence. Dependence on and abuse of substances are clearly associated with criminal activity (Baron & Hartnagel, 1997; Gaetz & O'Grady, 2002). Young people who are addicted

to drugs and embedded in a street lifestyle often turn to theft, property crimes, and drug trafficking to finance their addictions (Farabee, Shen, Hser, Grella, & Anglin, 2001). There is evidence that substance dependency increases with the length of time youth are homeless or estranged from traditional society (Johnson, Whitbeck, & Hoyt, 2005; Whitbeck, 2009). Associating with substance-abusing peers and disaffiliating from conventional institutions and pro-social supports may place homeless youth at a heightened risk for crime. Youth may also abuse substances to cope with the daily strains of homelessness; self-medicating and drinking or abusing substances to numb negative emotions are common (Baron, 2004). Reduced inhibitions as a result of substance abuse, combined with the need to finance their abuse, may increase the risk these young people will engage in criminal behaviors (McMorris, Tyler, Whitbeck, & Hoyt, 2002).

Survival strategies. Survival strategies, which are common among homeless youth to obtain resources while on the streets, serve as another response to the strains of living on the streets. As youth become embedded in a street lifestyle, they are often marginalized and excluded from the formal economy due to lack of housing, difficulty attending to personal hygiene, food insecurity, and societal stigma (Dachner & Tarasuk, 2002; Ferguson et al., 2011; Gaetz & O'Grady, 2002). With little means to gain formal employment and income, many respond by turning to marginally legal and illegal activities to generate income (Gaetz & O'Grady, 2002). Survival strategies include survival sex (i.e., participating in sexual acts in exchange for money, food, lodging, clothing, or drugs), pimping, pornography, pan-handling, theft, selling blood or plasma, or conning others (Gaetz & O'Grady, 2002; Kipke et al., 1997). Young people who are involved in a street lifestyle with like-minded peers may use survival strategies to support their addictions, meet their subsistence needs, or conform to peer pressure (Baron, 2009; Farabee et al., 2001). These activities may serve as a gateway to more serious forms of

crime, as previous research suggests urban youth often follow a developmental trajectory involving less serious criminal behavior preceding more serious criminal involvement (Tolan, Gorman-Smith, & Loeber, 2000). The response to the various strains of street life by relying on survival strategies introduces homeless youth to criminal peer groups and increases the risk for more serious criminal involvement (Whitbeck, 2009).

Hypotheses

It is evident that multiple strains and responses to the strains interact in the lives of homeless youth to increase their likelihood of engaging in criminal behaviors. Based on the assumptions that homelessness is a criminogenic experience (Baron & Hartnagel, 1997) and marked by strains and responses to strains (Baron, 2004, 2008), we hypothesized that a greater history of arrests will be reported by youth who: 1) have been homeless longer; 2) are more transient; 3) have been victimized; 4) meet the criteria for PTSD; 5) are drug dependent; and 6) use survival strategies to earn an income. Further, based on the assumptions that these strains are interrelated (Whitbeck et al., 1999) and that social estrangement and life stressors can lead to illegal behaviors (McMorris et al., 2002; Silver, 2000), we speculated that select strains may indirectly predict arrest history, as mediated through additional strains and responses to strains. Specifically, transience and length of time homeless will indirectly predict arrest history, as mediated through victimization, PTSD, drug dependence, and survival strategies.

Methods

Research Settings

For this cross-sectional, comparative study of homeless youth, researchers from Los Angeles, California; Denver, Colorado; New Orleans, Louisiana; and St. Louis, Missouri secured participation from host agencies providing care to homeless young people. Our selection of agencies was based on our existing relationships with

service providers and their commitment to host the study. The participating agencies in each city consisted of multi-service, non-profit organizations that offer homeless, runaway and at-risk young people a comprehensive system of care, including street outreach, short- and long-term shelters, health care, mental health counseling, spiritual ministry, educational and employment services, and basic subsistence items.

Sampling and Recruitment Procedures

We recruited participants during 2005 in St. Louis, during 2008 in Los Angeles and Denver, and from 2008-2009 in New Orleans. We added Los Angeles, Denver, and New Orleans as study sites several years after data collection in St. Louis in order to expand the study's scope to include small, mid-size, and large cities with homeless youth.

Using convenience sampling, we recruited 188 homeless youths aged 18–24 from Los Angeles ($n = 50$), Denver ($n = 50$), New Orleans ($n = 50$) and St. Louis ($n = 38$) from shelters, drop-in centers, and street outreach using similar methods. We used nearly identical recruitment procedures across cities with minor variations due to services emphasized in each location (e.g., more crisis-shelter users in Los Angeles and New Orleans, more drop-in service users in Denver, and more outreach-service users in St. Louis). We considered youths to be homeless if they had spent at least two weeks away from home during the past month (Whitbeck, 2009). To participate, youths had to meet three inclusion criteria: 1) be 18–24 years old, 2) have spent at least two weeks away from home in the month before the interview, and 3) provide written informed consent. We excluded young people if they were incapable of comprehending the consent form. We used a screening form to verify the participants' ages and length of time away from home (i.e., that they had been away from home for at least two weeks).

Data Collection and Measures

Researchers and trained research assistants administered a 45- to 90-minute semi-structured retrospective interview to examine runaway history, transience, survival strategies, substance abuse, victimization, trauma symptoms, and arrest history among homeless youths. The researchers and research assistants conducted all interviews in private rooms at each host agency. We compensated the youths either \$10.00 or an equivalent in gifts for their participation in the interview. Each investigator received human subjects' approval from his or her respective university.

Dependent variable. We assessed arrest history by asking youths whether they had ever been arrested for nine types of criminal behaviors, including status offenses (curfew, under-age drinking, disorderly conduct, and so on), alcohol-related offenses, possession of illegal drugs, sale of drugs, violence (robbery, mugging, or rape), fighting or threatening with a weapon, theft (stealing property that did not belong to them), deception or forgery (writing "hot" checks), and vandalism (destruction of property) (coded 0 = no or 1 = yes). Because different types of criminal behavior elicit more serious consequences in the criminal justice system than others and may indicate more severe delinquency, we created a severity index modeled on previous work measuring the severity of adolescent substance-use behavior (Wall & Kohl, 2007). We used this index previously to measure delinquency among at-risk young people (Bender, in press) and arrest activity among homeless youths (Ferguson, Bender, Thompson, Xie, & Pollio, in press). We created the severity index by assigning a value to each type of criminal behavior according to the severity of the crime and the likely consequence in the criminal justice system. We assigned a '0' for no arrest; '1' for a minor offense (status offenses); '2' for each moderate offense [(1) alcohol-related offenses, (2) theft, (3) deception/forgery, (4) vandalism]; and '3' for each serious offense [(1) possession or use of illegal drugs, (2) sale of drugs,

(3) fighting or threatening with a weapon, (4) violent crime]. We then calculated arrest history as the summed score for all nine items indexed according to severity. Larger values denote greater arrest severity (range: 0–21; $[1 \times 1] + [2 \times 4] + [3 \times 4]$).

Predictors of arrests. We asked the youths demographic information, such as their age, gender (0 = female, 1 = male), and race (0 = other, 1 = White). We determined youths' length of time homeless from the number of months since they had left home for the first time for at least one night without parental supervision. We measured transience as the number of times the youths had moved between cities since leaving home for the first time.

We measured victimization by asking the youths whether in the previous six months they had ever been physically assaulted (other than sexual assault), sexually assaulted, or robbed (0 = no, 1 = yes). We formed a composite-score variable from the sum of these three items indicating the number of types of victimization the youths had ever experienced.

We measured survival strategies by inquiring whether the youths had received income during the prior six months from five non-traditional sources: panhandling, theft, prostitution, selling drugs, or selling blood/plasma. As a predictor of criminal arrests, this variable gauged whether the youths had received income from legal and illegal survival strategies, not whether they had been arrested for such activities. We measured all responses as 0 = no or 1 = yes. We created a composite measure by summing these five items.

We asked participants about their drug dependence using the Mini International Neuropsychiatric Interview (MINI) (Sheehan et al., 1998). The MINI asks a series of dichotomous (no/yes) screening and symptom questions for drug dependence. A sufficient number of both positive responses to symptom questions and affirmative answers to screening questions is required to meet criteria for a diagnosis of substance

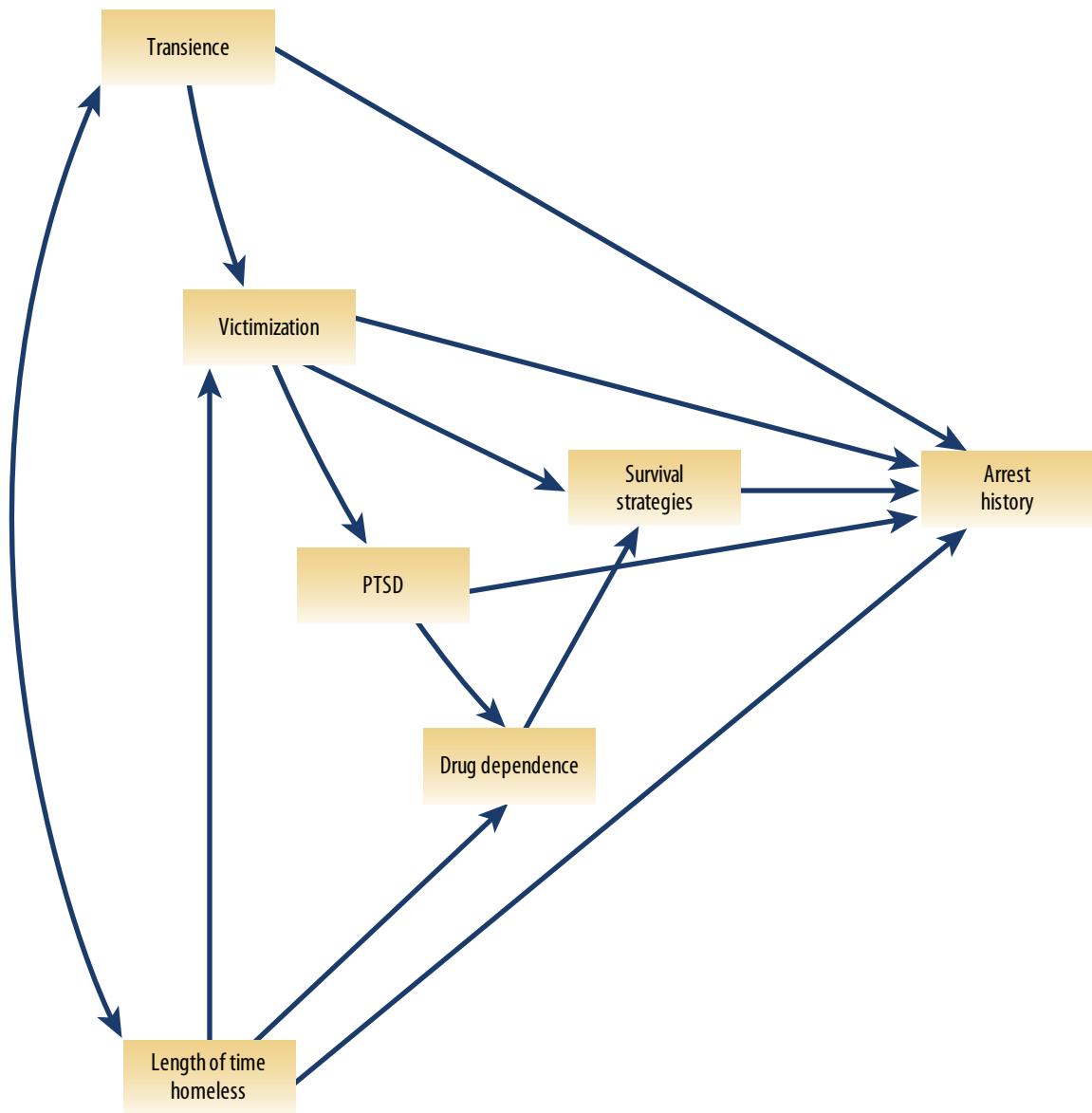
dependence (Sheehan et al., 1998). We coded drug dependence as 0 = does not meet criteria for dependence or 1 = meets criteria. We also measured PTSD using the MINI. Similar to drug dependence, PTSD was a dichotomous variable (0 = no, 1 = yes) that measured whether the youths met the symptom criteria for this diagnosis.

Data Analysis

We conducted descriptive analyses to depict the youths' demographic characteristics. We used chi-square and ANOVA tests to examine city-level differences on the study predictors and outcome variables. Using Mplus, we tested the proposed theoretical model (Figure 1) via observed-variable path analysis using maximum likelihood parameter estimation. All proposed paths were based on general strain theory and the extant evidence outlined in our literature review suggesting the associations between and among variables. We performed transformation of the metric for the variable "length of time homeless" by dividing the original value by 10 to compensate for the larger metric relative to the variables "drug dependence" and "arrest history," which we measured in smaller metrics. We determined model fit using conventional thresholds for the comparative fit index (CFI [> 0.90]) and root mean square error of approximation (RMSEA [< 0.05]) with 90% confidence interval (Muthén & Muthén, 2001).

We used Mplus to determine the significance of the overall mediation effects between transience/length of time homeless and victimization/PTSD/drug dependence/survival strategies and arrest history (Muthén & Muthén, 2001). We conducted the bootstrapping re-sample technique to handle the possible non-normal distribution of indirect effects in the mediation analysis. This technique is commonly used when sample sizes are small (Shrout & Bolger, 2002). We calculated the proportion of the mediation effect out of the total effect as the mediation effect divided by the total effect multiplied by 100%. We estimated the total effect of the predictors on the outcome variable in a second Mplus model with all mediators removed.

Figure 1. Proposed path model of arrest history among homeless youths, in relation to general strain predictors.



Results

Participants

Full sample. Table 1 presents the demographic characteristics of the sample ($N = 188$). The mean age of participants was 20.26 ($SD = 1.72$) years. The majority (61.7%) were male. Roughly 45% were Black, 22% White, and 11% Latino.

Youths averaged slightly more than five years (61.77 months) away from home. Since our sample included a heterogeneous group of homeless youth (e.g., runaway-homeless youth, throwaway

youth, independent youth, emancipated foster youth, and so on) and since youth homelessness is rarely a one-time occurrence, categorical data (complementary to Table 1) on the youths' length of homelessness (i.e., number of months since the youths left home for the first time without parental supervision) will help elucidate the general distribution of this variable. Close to one-fifth of our sample (17.8%) had been homeless for roughly less than 1 year (12.6 months); 16.6% had been homeless from 1 to 3 years (12.90–35.50 months); 16.6% from 3 to 5 years (37.10–60.30

months); 14.3% from 5 to 7 years (60.83–84.83 months); 13.9% from 7 to 9 years (86.2–108.13 months); and 13.8% for 9 or more years (109.50–249.87 months). The latter groups likely comprised youths who had grown up in institutional care and became homeless upon emancipating from the foster-care system, or homeless youths who often had multiple and repeated homeless experiences.

Table 1. Demographic Characteristics for Full Sample

Full Sample (N = 188)				
Demographics	Mean	SD	n	%
Gender				
Male			116	61.7
Female			63	33.5
Race/Ethnicity				
Black			84	44.7
White			42	22.3
Latino			21	11.2
Mixed, other			41	21.8
Age	20.26	1.72		
Length of Time Homeless (months)	61.77	47.90		
Transience (# of moves between cities)	3.30	3.88		
Victimization (total of 3 types)	0.50	0.75		
Physically assaulted			52	27.7
Robbed			31	16.5
Sexually assaulted			10	5.3
Meets Criteria for PTSD			35	18.6
Meets Criteria for Drug Dependence			43	22.9
Survival Strategies (panhandle, theft, prostitution, sell drugs, sell blood)	0.79	1.12		
Arrest History (mean severity score)	3.13	3.48		
Mild				
Status offenses			43	22.9
Moderate				
Theft			50	26.6
Alcohol-related offenses			25	13.3
Vandalism			22	11.7
Deception/forgery			6	3.2
Severe				
Fighting/threatening with weapon			41	21.8
Violence (robbery, mugging, rape)			40	21.3
Sale of drugs			22	11.7
Possession of illegal drugs			7	3.7

With respect to transience among our full sample, youths had made 3.30 inter-city moves since leaving home. Regarding arrest activity, 22.9% reported some kind of mild arrest activity; between 3.2% and 26.6% reported some kind of moderate arrest activity, and between 3.7% and 21.8% reported some kind of severe arrest activity.

Sub-sample by city. Table 2 includes descriptive statistics separately for each city sub-sample. We noted several differences among homeless youths across cities. For instance, regarding race/ethnicity, Los Angeles youths were more likely than youths in other cities to be Latino (24%, $\chi^2 = 20.40, p = 0.000$), whereas youths in Denver were predominantly White (42%, $\chi^2 = 15.17, p = 0.000$). New Orleans youths were more likely than their counterparts in other cities to be Black (68%, $\chi^2 = 12.93, p = 0.000$). With respect to transience, Los Angeles youths experienced a greater number of moves between cities since leaving home (mean = 5.18, $SD = 4.75$) than youths from other cities ($F [1, 186] = 17.44, p = 0.000$). Among the four cities, Denver youths were older (mean = 21.00, $SD = 1.91$) than youths from other cities ($F [1, 186] = 13.62, p = 0.000$). In addition, compared with youths in the other three cities, Denver young people experienced a more extensive arrest history overall (mean = 4.42, $SD = 3.74, F [1, 183] = 9.89, p = 0.002$). These young people also reported greater instances of physical assaults (40%, $\chi^2 = 5.60, p = 0.018$) as well as arrests for status offenses (36%, $\chi^2 = 6.25, p = 0.012$), theft (48%, $\chi^2 = 15.28, p = 0.000$), vandalism (22%, $\chi^2 = 6.68, p = 0.010$), and deception/forgery (8%, $\chi^2 = 2.00, p = 0.158$).

4.94, $p = 0.026$) than youths from the other three cities.

Path-Analysis Results

We conducted a path analysis on the full sample of 188 youths (a correlation matrix is available from Dr. Ferguson). Although prior studies using demographic sub-analyses suggest that homeless youths' gender and race may influence outcomes (Whitbeck et al., 1999), we were limited

by our sample size. Results of the hypothesized model revealed that nine path coefficients were significant (see Figure 2). Significant coefficients were found on the following paths: 1) from transience to victimization, 2) from victimization to PTSD, 3) from victimization to survival strategies, 4) from PTSD to drug dependence, 5) from drug dependence to survival strategies, 6) from drug dependence to arrest history, 7) from length of time homeless to drug dependence, 8) from

Table 2. Demographic Characteristics of Homeless Youths by City

	Los Angeles <i>n</i> = 50	Freq (%)	Denver <i>n</i> = 50	Freq (%)	New Orleans <i>n</i> = 50	Freq (%)	St. Louis <i>n</i> = 38	Freq (%)	χ^2
Gender									
Male	30	(60.0)	36	(72.0)	22	(44.0)	28	(73.7)	
Female	20	(40.0)	13	(26.0)	20	(40.0)	10	(26.3)	
Race/Ethnicity									
Black	20	(40.0)	3	(6.0)	34	(68.0)	27	(71.1)	12.93***
White	4	(8.0)	21	(42.0)	11	(22.0)	6	(15.8)	15.17***
Latino	12	(24.0)	9	(18.0)	0	(0.0)	0	(0.0)	20.40***
Mixed, other	14	(28.0)	17	(34.0)	5	(10.0)	5	(13.1)	
Victimization									
Physically assaulted	15	(30.0)	20	(40.0)	9	(18.0)	8	(21.1)	5.60*
Robbed	12	(24.0)	7	(14.0)	3	(6.0)	9	(23.7)	
Sexually assaulted	4	(8.0)	1	(2.0)	2	(4.0)	3	(7.9)	
PTSD	13	(26.0)	11	(22.0)	3	(6.0)	8	(21.1)	
Drug Dependence	11	(22.0)	13	(26.0)	11	(22.0)	8	(21.1)	
Arrest History									
Status offenses	11	(22.0)	18	(36.0)	5	(10.0)	9	(23.7)	6.25*
Theft	9	(18.0)	24	(48.0)	8	(16.0)	9	(23.7)	15.28***
Alcohol-related offenses	8	(16.0)	10	(20.0)	4	(8.0)	3	(7.9)	
Vandalism	5	(10.0)	11	(22.0)	3	(6.0)	3	(7.9)	6.68*
Deception/forgery	1	(2.0)	4	(8.0)	0	(0.0)	1	(2.6)	4.94*
Fighting/threatening w/ weapon	10	(20.0)	13	(26.0)	10	(20.0)	8	(21.1)	
Violence (robbery, mugging, rape)	13	(26.0)	15	(30.0)	6	(12.0)	6	(15.8)	
Sale of drugs	5	(10.0)	7	(14.0)	6	(12.0)	4	(10.5)	
Possession of illegal drugs	0	(0.0)	0	(0.0)	7	(14.0)	0	(0.0)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	F
Age	19.80	(1.49)	21.00	(1.91)	19.64	(1.24)	20.68	(1.86)	13.62***
Length of Homelessness^a	48.64	(41.91)	63.52	(41.97)	76.87	(57.53)	61.21	(48.87)	
Transience^b	5.18	(4.75)	3.34	(3.50)	3.18	3.64	0.92	(1.36)	17.44***
Victimization^c	0.62	(0.90)	0.57	(0.71)	0.28	0.54	0.53	(0.80)	
Survival Strategies^d	0.80	(1.28)	0.96	(1.03)	0.76	1.19	0.61	(0.92)	
Arrest History^e	2.82	(3.35)	4.42	(3.74)	2.44	3.39	2.71	(3.01)	9.89**

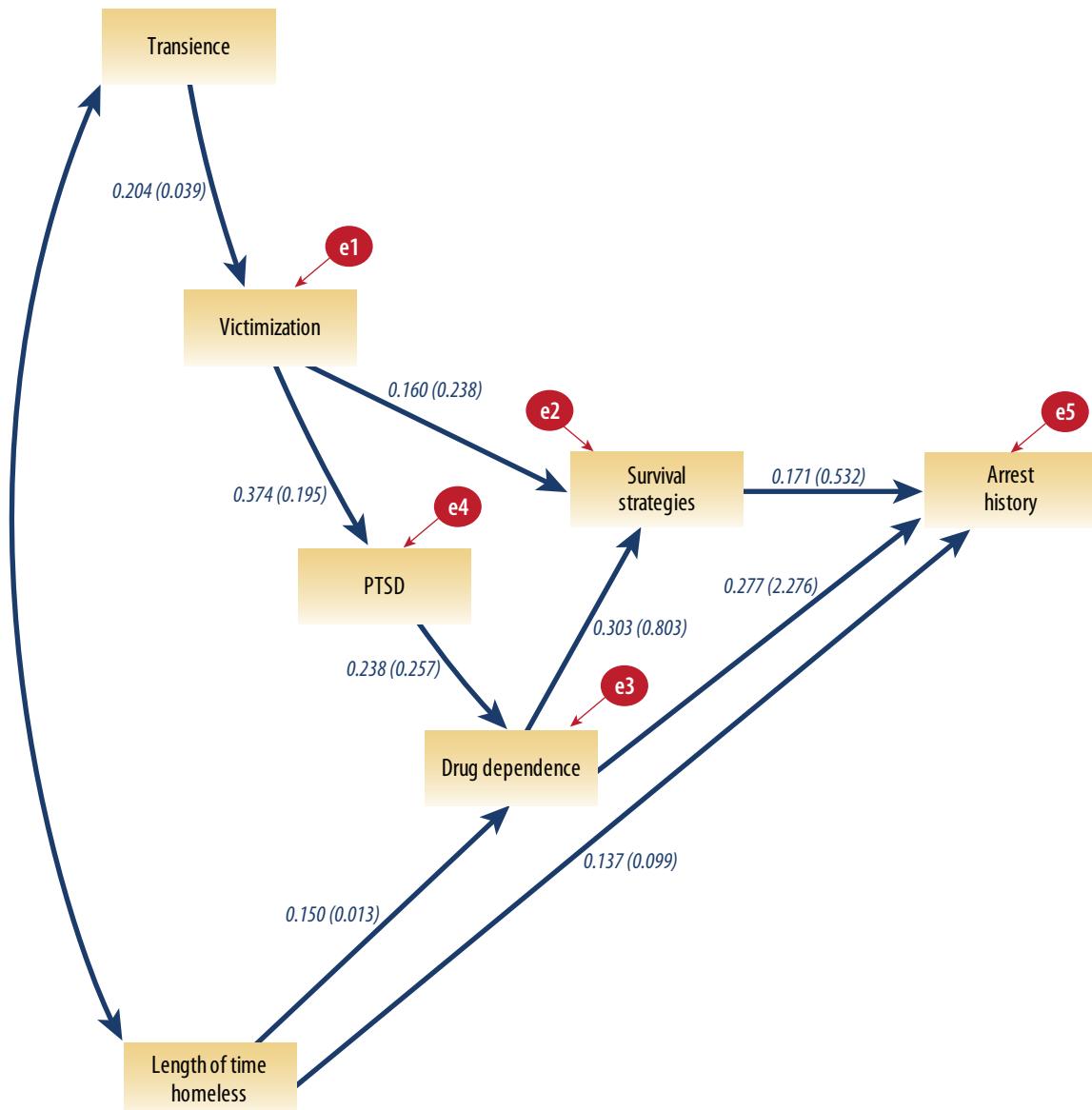
* $p < .05$; ** $p < .01$; *** $p < .001$; ^aNumber of months since youth left home for the first time without parental supervision; ^bNumber of moves between cities; ^cTotal of three types of victimization (physically assaulted, robbed and sexually assaulted); ^dTotal of five types of survival strategies (panhandle, theft, prostitution, sell drugs and sell blood/plasma); ^eMean severity score for arrest history

length of time homeless to arrest history, and 9) from survival strategies to arrest history. The model represented an excellent fit to the data ($\chi^2 = 11.01$, $df = 11$, $p = 0.44$, $CFI = 1.00$, $RMSEA = 0.002$ [90% confidence interval = 0.000–0.073], $PCFI = 0.393$). Standardized path coefficients ranged from 0.14 to 0.37 and were significant at the $p < 0.05$ level. Specifically, length of time homeless and PTSD explained 8% of the variance in drug dependence. Victimization accounted for 14% of the variance in PTSD. Being victimized

and drug dependent accounted for 13% of the variance in survival strategies. Collectively, length of time homeless, drug dependence, and survival strategies explained 17% of the variance in arrest history.

In response to our hypotheses, three of the six relationships had a direct effect on arrest history. Length of time homeless ($\beta = 0.137$, $p = 0.050$), drug dependence ($\beta = 0.277$, $p = 0.001$), and use of survival strategies ($\beta = 0.171$, $p = 0.016$) each significantly predicted arrest history.

Figure 2. Standardized (unstandardized) parameter estimates for final path model of arrest history among homeless youths.



Analyses of the overall mediation effects from transience to arrest history and from length of time homeless to arrest history reveal two mediation effects, one of which was significant at the $p < 0.05$ level and one at the $p < 0.10$ level. First, the overall mediation effect from transience to arrest history was 0.010 ($p = 0.044$). That is, 18.2% of the total variance in arrest history was explained by transience, victimization, PTSD, drug dependence, and survival strategies. In this case, youths who were highly transient were more likely than those who were less transient to have experienced more types of victimization and to meet criteria for PTSD, which contributed to being substance dependent and engaged in a greater number of survival strategies and, ultimately, to have a more extensive arrest history. Second, the overall mediation effect from length of time homeless to arrest history was 0.036 ($p = 0.055$). That is, 27.1% of the total variance in arrest history was accounted for by length of time homeless, drug dependence, and survival strategies. Youths who had been on the streets longer were more likely to be dependent on substances, which contributed to a greater number of survival strategies and ultimately a more extensive arrest history.

Our final model, illustrated in Figure 2, represents an improvement over our proposed theoretical model depicted in Figure 1. To arrive at this final model, we considered the likelihood of alternative models to explain arrest history by testing the original theoretical model, containing four additional paths between variables based on general strain theory, and the empirical precedents outlined in our literature review. To test our six hypotheses, we compared these competing models containing paths from length of time homeless, transience, victimization, PTSD, drug dependence, and survival strategies to arrest history. We originally deemed these paths important, since extant evidence suggests that criminal activity may be more likely among homeless youths who have been homeless longer (Baron & Hartnagel, 1997), who are highly mobile and

lack connections with trusted peers and adults (Bender et al., 2007), who have experienced a history of abusive relationships (Baron, 2004, 2009), who have psychological health challenges (Silver, 2000), who are drug dependent (Farabee et al., 2001), and who use survival strategies to meet their needs (Gaetz & O'Grady, 2002). The three models with insignificant paths (transience to arrest history, victimization to arrest history, and PTSD to arrest history) did not improve overall model fit using the likelihood ratio test of $\Delta X^2/\Delta df$, so we deleted these three paths from the final model. In addition, to test the overall mediation effects from length of time homeless as mediated through other strain factors, we tested a model with a path from length of time homeless to victimization, since research suggests that the longer youths are homeless, the more likely they are to become involved in abusive relationships and interactions (Tyler & Johnson, 2006). This path was also insignificant and the competing model failed to contribute to improving the overall model fit. As a result, we report the final model without these four original paths as the most parsimonious one.

Discussion

This study aimed to explore the interactions among mental health and situational strains—and responses to such strains—that are associated with arrest history among homeless youth. Two major types of strain (Agnew, 1992) are supported by data from this study. First, strain may result from the presence of negative stimuli. In this case, delinquency may be a means of alleviating the strain by escaping from or coping with the negative stimuli or seeking revenge against its source. Likewise, strain may result from the failure to achieve positively valued goals. Delinquent behavior in this case may be a method for illegally attaining one's goals or coping with one's failed expectations.

With respect to the first type of strain, homeless youths commonly encounter multiple, and often chronic, negative stimuli in their daily lives on

the streets. Living on the streets often requires youths to sleep alone at night in dangerous areas or to move frequently to find safer locations (Whitbeck, 2009). Homeless youths also experience frequent victimization and trauma once on the streets (Tyler et al., 2001). Many youths on the streets engage in risky behaviors to cope with the daily stressors of street living (e.g., drug use) as well as to generate income for survival (e.g., stealing, drug dealing, prostitution) (Kipke et al., 1997). Drawing from principles of general strain theory, homeless youths who spend extended periods of time on the streets surrounded by multiple and often chronic strains may engage in criminal behavior in an effort to avoid or alleviate the strains (e.g., committing alcohol-related offenses, drug possession/use, theft) or to seek revenge against the source of the strains (e.g., committing violent offenses, fighting with a weapon, vandalism) (Agnew, 1992). Our findings support this explanation: Youths who had been homeless longer were more likely to be both dependent on drugs and to have more extensive arrest histories.

Our mediation analysis findings further demonstrate a complex process in which youths who were more transient were more likely to experience victimization, meet the criteria for PTSD and drug dependence, and to use survival strategies, all of which place them at increased risk for criminality. In this case, highly mobile youths may be presented with increased negative stimuli as they move between cities, which can ultimately result in criminal activity. Highly transient youths may be more susceptible to experiencing victimization on the streets, since repeated moves between cities limit homeless youths' awareness of local safe havens (Ferguson et al., 2011). As a result of victimization, homeless youths may develop symptoms of mental illness, such as PTSD (Thompson et al., 2006). Substance dependence may, in turn, occur as a coping mechanism to numb or escape from emotions associated with trauma (Baron, 2004). These accumulating strains among homeless youths are associated with greater involvement in a street lifestyle

and use of survival strategies to support addictions or to meet subsistence needs (Baron, 2009). Extant evidence suggests that substance abuse, survival strategies, and status offenses serve as gateways to more serious forms of crime (Baron & Hartnagel, 1997; Humphrey, 2004; Tolan et al., 2000). Homeless youths may thus turn initially to less severe forms of survival strategies but later progress to more serious criminal activity to satisfy their needs.

Furthermore, our findings support a second major type of strain in the lives of homeless youths—the disjunction between their expectations and their actual achievements. In this case, homeless youths may experience an increasing disparity between their expectations and their actual achievements the longer they spend on the streets. This discrepancy between their desired and actual outcomes may lead to negative coping responses and, ultimately, engagement in criminal activity. Extended homelessness can be considered a strain that makes traditional expectations (e.g., academic achievement, economic self-sufficiency, and so on) more difficult to attain. Prior research suggests that increased length of time on the streets is associated with higher rates of academic drop-out and unemployment (Baron, 1999; Baron & Hartnagel, 1997) as well as greater drug use and involvement with deviant peer groups (Fest, 2003). Due to the presence of these strains, homeless youths may use illicit behaviors as a means of attaining goals such as independent living and economic self sufficiency, or as a means of coping with failed expectations (Gaetz & O'Grady, 2002).

In this study, we observed an overall mediation effect (albeit significant at the $p = 0.10$ level) in support of this explanation. The longer youths were homeless, the more likely they were to be dependent on drugs, to use survival strategies to generate income and, ultimately, to have a more extensive arrest history. Youths may have used substances to cope with failed expectations associated with their homeless status (e.g., unemployment, academic drop-out, precarious housing).

Their heightened drug dependence then further contributed to a need to finance their addictions and to earn an income to meet their needs. Ultimately, homeless youths may have resorted to criminal activity as a means of expressing their anger, dissatisfaction, and disappointment with their failed expectations (e.g., in committing disorderly conduct, vandalism, or violent acts) or of achieving their expectations after all via illicit behaviors (e.g., in committing forgery, theft, and drug sales).

Limitations

The study findings and conclusions drawn from them should be interpreted with caution because of several limitations. Perhaps most importantly, due to the cross-sectional nature of this study, the directions and order of the hypothesized relationships were based on theory, not on temporal order. It is thus important to acknowledge that even though our findings revealed significant associations between predictors and arrest history, causality cannot be drawn from these observed associations given the cross-sectional data used in this study.

Second, although the methodology allows comparisons among cities, the samples are not representative of the populations in any of the four cities. Due to the use of a convenience sample, we cannot exclude the possibility of volunteer bias. Because homeless youths are transient and difficult to locate, probability sampling is often not feasible. Instead, purposive sampling methods through street locations and service agencies are commonly implemented in empirical investigations with homeless young people (Clatts, Davis, & Atillasoy, 1995). Differences in the ability of this sampling method to saturate the available population within cities also remain unclear. Likewise, the choice of the four cities in this study was based on feasibility, rather than on representativeness of various types of homeless youth. Because this is among the first studies to compare homeless youth across the nation, it is impossible to determine whether other cities fit the pattern

of these findings. Nevertheless, the data collected in this study from four disparate U.S. cities lend credibility and generalizability to the findings.

It should also be noted that the correlates included in this study were proxies representing different types of general strain in youths' lives. Central measures of general strain theory—including affective measures such as anger, ability to achieve positively valued goals, and expectations for the future—would have been preferable to gain a more accurate understanding of the influence of general strain on homeless youths' criminality. It is possible the influence of general strain was underestimated without these key indicators, and future research should investigate their impact on criminal behavior in this population. Similarly, other general strain proxy variables were also not collected in this study. For example, association with deviant peer groups on the streets has been related to greater endorsement of the street culture and greater criminality (Kipke et al., 1997). As this variable was not collected in this study, future research should examine peer influences in the context of criminal behavior among homeless youth.

Finally, the outcome measure of arrest history was limited in three important ways. First, we gathered arrest information through self-reports by the youths and did not corroborate this information with official records. The youths may have underreported arrest data because they were reticent to convey sensitive information about their illegal behaviors to adults. However, a notable strength was that the interviewers had considerable histories as researchers, staff, or volunteers with homeless-youth organizations and were familiar with the street lifestyle. Because the interviewers were known and trusted by many of the subjects, it was less likely that the youths would bias their responses. Second, in collecting data on the number of arrests for illegal behaviors (as opposed to offenses committed, regardless of arrests), we may have captured a more conservative estimate of criminal history, which may have minimized the relationships found.

Third, we noted city-level differences on the outcome variable, as well as on two correlates (transience and physical assault), both of which may have biased our results. In comparison with youths from the other cities, Denver youths were significantly older and experienced a more extensive arrest history. In this case, the youths' older age may explain their more extensive arrest history, as previous research suggests that less severe criminal behavior (e.g., status offenses) in younger youths may serve as a gateway to more serious forms of crime as youths age (Tolan et al., 2000). Heterogeneity among the four-city sample in demographics and other study variables can be expected, as prior research with homeless youths using multi-city datasets demonstrates that youths in different regions of the United States vary significantly in their runaway behaviors, transience, substance use, suicidal ideation, and reports of physical abuse and sexual abuse (Ferguson, 2010; Thompson, Maguin, & Pollio, 2003). It is also likely that city-level differences existed in both contexts and patterns of crime, yet we did not collect more extensive crime data in this study. Future studies with this population would benefit from further scrutiny of how homeless youths' patterns, types, and frequencies of crime are influenced by different geographical contexts (e.g., small vs. large, urban vs. suburban vs. rural, more-affluent vs. less affluent).

Implications for Research and Practice

Despite these limitations, this study offers one of the first applications of general strain theory to identify both mental health and situational strains—and responses to strains—among homeless youth. Findings have important implications for research and preventive interventions to address criminal activity among this population. First, findings supporting general strain theory as a useful explanatory framework for homeless youths' arrest behavior suggest that further research is warranted to develop effective interventions to protect youth while homeless by minimizing the daily stressors associated with a

street lifestyle. It is important for homeless youth researchers to partner with service providers in identifying the trajectories of homeless youth and their criminal involvement. Greater understanding of the risk profiles of homeless youth who are more likely to offend—as well as protective factors that inhibit offending behaviors—will inform prevention and intervention efforts aimed at reducing further criminal activity among this population. Future studies should examine whether criminality can be reduced through protective strategies that establish stable housing, limit youths' geographic transience, increase access to formal employment, keep youth safe while homeless, and enhance substance abuse and mental health treatment.

Second, efforts to stabilize and house youth in one community, in which they can reduce the strains associated with transience and length of homelessness, are likely to be associated with reduced arrest rates. While criminal behavior and arrests appear common among these youth, development of services to connect with and protect this population is likely to help them stay safe while homeless and avoid the emotional and behavioral reactions to strains that are associated with criminal behavior. This may be especially challenging as homeless youth frequently are estranged from formal employment, housing, and educational systems, as well as disconnected from their families and adult role models. To better engage with and protect these youth, providing housing and other residential accommodations to geographically stabilize this population will enable them to establish fixed relationships with supportive adults and institutions and to pursue mental health and substance abuse treatment. Alternatively, use of virtual/online harm-reduction interventions (e.g., using social networking software) for highly mobile homeless youth may provide portable safety strategies amid their transient episodes.

Furthermore, this study identifies several mental health correlates of arrests by homeless youth. Greater attention to the mental health status of

homeless youth within the juvenile justice system could likely help prevent future offending behaviors (Kosterman, Graham, Hawkins, Catalano, & Herrenkohl, 2001). Findings by Kempf-Leonard and Johansson (2007) reveal that youths arrested for running away from home (particularly female runaways) are often not offered any form of intervention to help them cope with their elevated levels of mental illness and histories of abuse and victimization. Instead, these youths frequently receive a brief warning and are sent home. Earlier intervention responses within the juvenile justice system may aid these youths in reducing correlates identified in this study (e.g., PTSD and drug abuse and dependence) as risk factors for continued criminal activity and arrests. For instance, evidence-based interventions that have demonstrated effectiveness in reducing substance abuse and other risky behaviors include cognitive-behavioral therapy, motivational interviewing, and health and risk-reduction information and education (Baer et al., 2004). These and other evidence-based interventions are likely to reduce risk to the youths and to society as a whole.

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Students' Perceptions of School Learning Climate in a Rural Juvenile Detention Educational Facility

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Abstract

A positive school learning climate is associated with prevention of negative behaviors and improved academic success. At-risk students in detention need supportive learning climates for school success. Rural students in detention face special risks, and detention administration and reform is more challenging in rural than in other jurisdictions. The purpose of this study was to assess students' perceptions of learning climate in a rural residential juvenile detention educational facility. Seventy-three middle and high school-aged adjudicated students housed in a juvenile detention center in rural Northeast Missouri participated in a learning climate survey to assist in improving educational practices in their facility.

Students responding to this survey gave the highest mean score to the learning climate dimension of Caring and Fair Staff, and the lowest to Classroom Order—more than one-half of respondents reported that students were disrespectful to each other and used fighting to settle differences. Respondents whose mothers have less than some college education were significantly less likely than others to perceive the overall learning climate as positive.

Based on our findings, facility administrators implemented three tiered interventions focused on positive student growth to strengthen weak learning climate dimensions as part of a new detention reform initiative being introduced in the facility.

Introduction

Benefits of a positive school learning climate for students

The personality of a school may be thought of as the school's learning climate. School learning climate—the feel, atmosphere, tone, ideology, or environment of a school (Hoy, 2002)—includes the values, attitudes, and feelings of both students and staff. A constructive learning climate is one that insures physical and psychological safety, recognizes the needs and success of the individual, and supports learning and positive interpersonal relationships. A school learning climate should exhibit inclusiveness, nurturance, and a community feeling that makes students feel appreciated and recognized by one, if not more, adults in the school. Schools should, ideally, be free from stresses and fears that inhibit problem-solving and student development (Educational Development Center, 2001). Creating this

environment not only requires the involvement of students, administrators, and teachers, but also nutrition service workers, school counselors, school nurses, and custodial and maintenance staff (Tennessee Commission on Children and Youth, 2006).

Improved school connectedness, school satisfaction, and student conduct are linked to higher-quality school climates (Loukas, Suzuki, & Horton, 2006). Schools with low rates of bullying are also linked to positive school climates, as are high levels of parental involvement and satisfaction with the schools' discipline programs (Ma, 2002). Positive climates and learning environments seem to contribute to higher academic achievement, higher standardized test scores (MacNeil, Pratter, & Busch, 2009; Hoy, 2002), and higher levels of student self-esteem (Ma, 2002). In addition, school learning climate relates to students' drug abuse behavior: As teachers' interest in a positive school climate increases, the percentage of students who abuse drugs decreases (LaRusso, Romer, & Selman 2008).

Importance of a positive learning climate for students in juvenile detention educational facilities

Just as a positive learning climate is critical for promoting student learning and positive behaviors in the traditional school system, a responsive school learning climate is extremely important for fostering social and academic learning in the juvenile detention educational setting (National Center for Juvenile Justice, 2006). Students in this setting are at high risk for school dropout, drug and alcohol abuse, and learning and behavioral disabilities (Meisel, Henderson, Leone, & Cohen, 1998). Compared with non-detained students, those in secure care are lower in academic achievement and may have higher rates of behavioral and mental health difficulties (Gagamon & Barber, 2010). These students also possess a greater willingness to disobey rules and fewer social or developmental assets (Butts, Bazemore, & Meroe, 2010). The setting itself possesses unique challenges such as limited time, isolation

from the home school district, and lack of tailored curricular and staff resources for academic and social remediation (Ruzzi & Kraemer, 2006).

Because a positive school climate leads to improved academics and student self-concept, and many state education agencies recognize this link (Cohen 2006), it is essential for schools, especially those in the juvenile detention educational setting, to create and maintain excellent learning climates. In this type of educational setting, abused, neglected, or adjudicated students are enrolled in a structured residential educational and therapeutic program. In accredited programs in such settings, students receive personal counseling, life-skills training, and educational classes. Because of their additional risk factors, a supportive climate that encourages learning and personal growth is imperative for students housed in these facilities (National Center for Juvenile Justice, 2006). Specifically, those in the early stages of delinquency need a learning climate that promotes pro-social engagement and positive youth development; those with more serious problems need additional resources and therapeutic interventions (Butts, 2008). Identifying strengths and working to improve weaknesses in learning climate in juvenile detention educational facilities can create a more positive environment for all who live and work at the facility (Cox, Visker, & Hartman, 2011).

Challenges to improving learning climate in rural juvenile detention educational facilities

The challenge of rural juvenile detention

Approximately two-thirds of communities in the United States are considered rural or non-metropolitan (Mendel, 2008). Although risk factors for delinquency among urban students cluster around school, peer, and neighborhood, risk factors for delinquency among rural students tend to cluster around low socioeconomic level, single-parent family, and substance abuse (Mallett, 2010). School learning climate seems to be predictive of the overall academic performance of rural students (Tatum, 2009), as well as of the

educational aspirations of rural students from high poverty areas (Irvin, Meece, Byun, Farmer, & Hutchins, 2011).

Rural students enter the juvenile justice system at rates similar to those of urban and suburban students, but rural students are more likely to be poor, less educated, and abuse alcohol and other drugs at higher rates. Administration of juvenile justice and detention is also more complicated in the rural areas. Attempting to transform policy, change the learning climate or environment, or make other significant detention reform initiatives in rural communities is challenging. The challenges include limited capacity in staffing, expertise, and service providers, as well as geographic isolation, high transportation costs, and small budgets (Mendel, 2008).

Rural students deserve effective juvenile detention educational facilities and services even if delivery is hampered by budget, staffing, and geographical constraints. Many detention facilities in rural communities are now participating in the Juvenile Detention Alternatives Initiative to decrease delinquent behaviors and promote alternatives to secure detention. This initiative uses specific, model strategies to change facility policy and practice. Facilities purposefully assess their operational systems by collecting and analyzing data and then using the results to improve conditions (Mendel, 2009). In this initiative, researchers assess learning climate and use the results to improve educational policy and practice.

The challenge of effectively educating students in juvenile detention

More than 150,000 juvenile offenders are placed in residential detention educational facilities each year. A very small percentage of these students are treated in high quality facilities that use proven, evidence-based educational interventions (Henggeler & Schoenwald, 2011). Facility quality is positively related to academic achievement and school learning climate (Uline & Tschannen-Moran, 2008). Effective treatment

programs focus on rehabilitative, strength-based interventions for these mostly non-traditional learners (Henggeler & Schoenwald, 2011).

Educationally, most juvenile detention centers assist students in obtaining their high school diplomas and use state or district curricula and assessments to reach this objective (Gaganon, Barber, VanLoan, & Leone, 2009). To achieve this goal, the learning climates of most successful alternative education programs make students feel that teachers enforce rules fairly, treat them with respect, and support their social and academic progress (Quinn, Poirier, Faller, Gable, & Tonelson, 2006).

Although the behavioral and educational goals and philosophies of each facility may differ, there are effective treatment programs validated for use in this setting (Henggeler & Schoenwald, 2011). Many at-risk students are non-conventional, tactile learners who need movement or activity to allow them to develop connections between academic concepts and their application. For example, moving from a teacher-centered climate to a learner-centered climate allows at-risk students to participate and experience their education in a "hands-on" manner (Kaufman, et. al, 2008). Matching teaching approaches to student learning styles also improves academic achievement in this population (Dunn & Dunn, 2008). Effective programs allow students to apply what they learn to real-world situations, supporting teachers' use of research-based instructional practices (Ruzzi & Kraemer, 2006).

Learning climate assessments and improvement strategies

The learning climate as part of the facility's operational system should, therefore, be continuously assessed and improved (Educational Development Center, 2001). Over the years, researchers have developed and tested organizational and learning climate questionnaires and surveys to assess the learning environment of schools. Results seem to point to many factors that contribute to creating a positive learning climate and generally include: social-emotional

factors; physical order and safety; collaboration and communication; feeling of school as community; peer norms; partnerships between school and home; and the level at which a school functions as a learning community (Cohen, 2006).

Once researchers analyze the assessment data, administrators should use the results to improve students' feelings of social and emotional safety within the school environment. Interventions should focus on improving the social and emotional factors that strongly influence student learning, since a positive learning climate promotes social and emotional growth (Zins & Elias, 2006). Specifically, researchers recommend planned and coordinated interventions based on positive growth and resiliency models to prevent risky behaviors (National Center for Juvenile Justice, 2006).

Strategies and conditions to create positive learning climates in all schools and juvenile detention facilities

After completing a learning climate assessment, school administrators should plan interventions to maintain strong areas and strengthen weak areas within their facilities. In general, the conditions recommended for a positive learning climate are: safe, orderly classrooms and grounds (maintain clean classrooms, sufficient supplies, and low noise levels); positive interactions between and among students and staff (allow staff and students to participate in decision-making); a sense of community connectedness and belonging (encourage interactions that are caring and respectful so all feel valued); and high academic expectations (monitor progress and recognize achievement). As already mentioned, students in schools or facilities with more positive learning climates perform better academically and exhibit greater emotional well-being than students in schools or facilities with less positive learning climates (Tableman, 2004).

One strategy to achieve these optimal conditions uses the positive behavioral interventions and supports (PBIS) approach. PBIS is a three-tiered approach for the prevention of negative

behaviors. Used as an alternative to punishment-based approaches, PBIS has demonstrated success in traditional school settings, and researchers recommend PBIS for use in detention settings (Jolivette & Nelson, 2010). In secure care settings, PBIS seems to improve overall school learning climate as well as specific learning climate factors, such as academic achievement and behavior (see Figure 1). The first tier of this approach includes strategies to promote social and emotional learning and Positive Youth Development (Jolivette & Nelson, 2010).

Figure 1. PBIS Levels and Examples of Interventions

- Learning Climate Assessment
- Positive Behavioral Interventions and Supports (PBIS)
 - Level 1: Social and emotional learning; positive youth development
 - Level 2: Culturally responsive counseling groups; mentoring programs
 - Level 3: Counseling and family therapy professionals
- Continual Learning Climate Assessment and Improvement

In the juvenile detention setting, researchers recommend that deficit-based intervention approaches be replaced with interventions based on the new intervention framework of Positive Youth Development, which includes service-learning projects, academic support programs, and life skills curricula (Butts et al., 2010). Students exposed to more positive, supportive relationships and experiences tend to report fewer academic and behavioral difficulties. Exposing students to such supports during the early stages of behavioral problems may prevent delinquency and additional entries into the juvenile justice system (Butts, 2008). The strengths-and protective factors-based framework of Positive Youth Development could move students toward more pro-social behavior and away from delinquency. Positive Youth Development-based interventions can be used, in addition to traditional treatment approaches, to connect students

with positive supports, role models, and experiences that promote resiliency (Butts et al., 2010; National Conference of State Legislatures, 2010).

Instruction in social and emotional learning as a universal or first-tier strategy in the PBIS framework may also prevent behavior problems. Students learn to successfully manage emotions, demonstrate caring relationships, and make healthy decisions by practicing social and emotional learning skills at home and school. Learning the competencies of self and social awareness, decision-making, self-management, and relationship building through evidenced-based, cost-effective social and emotional learning curricula and programs improves students' feelings of safety and self-confidence (Zins & Elias, 2006). Interestingly, a positive learning climate enhances social and emotional learning, and social and emotional learning enhances a positive learning climate (Zins & Elias, 2006).

For the 15%–20% of students whose needs cannot be met with the first tier of the PBIS approach, the second tier includes strategies to prevent recurring problems, such as culturally responsive counseling groups or mentoring programs (Figure 1). For the 1%–5% of students who need even more comprehensive assistance to adjust in the school setting, intensive third-tier interventions include the use of counseling and family therapy (Figure 1). As PBIS matures as a systems change strategy and more technical assistance becomes available in the juvenile detention setting, we hope more programs and facilities will implement the changes that have demonstrated improvements in learning climate and student outcomes (Jolivette & Nelson, 2010).

Purpose

As explained above, a positive school learning climate is associated with the prevention of negative behaviors, the promotion of social and emotional learning, and improved academic success. At-risk students in detention need positive learning climates for school success (National Center

for Juvenile Justice, 2006). Because rural students in detention face special risks, detention administration and reform is more challenging in rural jurisdictions than it is elsewhere (Mendel, 2008). The purpose of this descriptive, preliminary investigation was to assess learning climate in a rural, residential juvenile detention educational facility from the students' perspective. Administrators have used the results of this study to improve educational policy and practice as part of a new Juvenile Detention Alternatives Initiative being introduced in the facility.

Methods

Sample

We asked 73 middle and high school-aged adjudicated students from three rural counties housed in a juvenile detention center in Northeast Missouri during the 2008-2009 school year to participate in a learning climate survey. We chose this facility because it faced almost all of the main challenges confronting rural detention reform: geography of three expansive counties, lack of public transportation, limited finances, and a shortage of staff. The function of this 16-bed, short-term facility built in 2000 is to provide education and rehabilitation services for offenders and their families by following a strengths-based approach.

With a secure detention unit and a residential treatment unit, the goal of the program is to provide a safe environment of care and education using clinical and non-clinical interventions. In secure detention, youth who are alleged to have committed a law violation are detained and remain in detention until their case is heard. In the secure detention unit, educators and therapists provide educational and counseling services to improve behavior management. In the residential treatment unit, educators and therapists provide educational and social services (including inpatient psychiatric treatment, transition to home services, and support) to youth with significant behavior problems and those who have

been abused or neglected (Second Judicial Circuit Juvenile Division, 2011).

Most students in the facility are either victims of child abuse and neglect, delinquency cases, or have committed status offenses. Certified teachers provide individualized, computer-assisted, and small group instruction following the curriculum, textbooks, and lesson materials provided weekly by the home school district. When students complete their treatment and educational interventions, teachers inform them and their families about the transition program to home that the facility offers. The facility provides food and rent services, as well as follow-up family counseling and intensive support services, to assist with the transition (Second Judicial Circuit Juvenile Division, 2011).

Procedure

After institutional IRB approval and consent by a judicial circuit judge, juvenile detention center administrator, parent/guardian, and the students themselves, all 73 students (100% response rate) volunteered to participate in the survey. They completed the survey during a convenient time – their routine exit interview at the end of the school year.

Instrument

We used *Creating a Great Place to Learn – Student Survey, 2006* (Search Institute, 2006), based on the Developmental Assets Framework, to assess student perceptions of facility learning climate. The survey contained 61 questions assessing demographics and 11 dimensions of school learning climate in the following categories: Caring and Fair Staff, Parental Support and Achievement Values, Student Voice, Safety, Classroom Order, Academic Expectations, Peer Academic Influence, Active Learning, Sense of Belonging, Motivation, and Academic Self-Efficacy (Search Institute, 2006). We asked respondents to rate positive learning climate descriptions in these dimensions on a five-point, Likert-type scale, ranging from strongly disagree (1) to strongly agree (5).

Internal consistency of the instrument was acceptable, as Cronbach's alpha for all but one of the coefficients (91%—Peer Academic Influence was the exception) was 0.60 or higher, and 7 of the 11 dimensions (64%) had alphas of 0.70 or higher. Test-retest reliability suggested adequate stability for using the instrument to measure changes in learning climate over time (Search Institute, 2006). In the present study, the alpha coefficient (Cronbach's alpha) for the entire survey was 0.935, confirming internal consistency reliability.

Analyses

We used descriptive statistics (including measures of central tendency and dispersion) to describe respondent demographics and composite scores for each learning climate dimension. We limited inferential analyses to a series of independent sample *t*-tests comparing: (1) Gender, (2) Race/ethnicity, (3) Mother's highest level of education, and (4) Father's highest level of education among all learning climate dimensions. We conducted a Bonferroni adjustment to adjust for Family Wise Error Rate, given the large number of comparisons analyzed. We conducted all analyses using the Statistical Package for the Social Sciences (SPSS) 17.0.

Results

Demographics

All respondents reported their grade level in school as below 11th grade. The majority (71.2%) reported their gender as male, their race/ethnicity as White (83.6%), and English as their primary language (97.3%). See Table 1 for a complete summary of demographics.

Individual Learning Climate Perceptions

Most 'positive' learning climate perceptions

More than one-half of respondents 'Strongly Agreed' that school staff takes academics seriously (61.6%), doing well in school is important for their future (56.2%), it is important for them to

Table 1. Description of Demographic Data

Demographic	Frequency (n)	Percent (%)	Demographic	Frequency (n)	Percent (%)
Gender		Mother's Highest Level of Education			
Male	52	71.2	Less than some college	39	53.4
Female	19	26.0	Other	34	46.6
Missing	2	2.7	Missing	0	0.0
Race/Ethnicity		Father's Highest Level of Education			
White	61	83.6	Less than some college	44	60.3
Other	12	16.4	Other	29	39.7
Missing	0	0.0	Missing	0	0.0
English as the main language					
Yes	71	97.3			
No	1	1.4			
Missing	1	1.4			

do really well in school (60.3%), and their parents expect them to do the best they can in school (53.4%). In addition, the majority of respondents 'Agreed' that they feel free to make suggestions to administration (56.2%), can suggest topics for discussion (50.7%), staff gives students of different races/cultures equal respect (50.7%), students of different races/cultures get along (52.1%), students feel safe at school (50.7%), students always work up to their ability (53.4%), and their parents help them with their homework when they ask (52.1%).

Many also 'Agreed' that students are treated fairly by staff (42.5%), and teachers here really care about them [the students] (41.1%). Nearly one-half (49.3%) of respondents 'Strongly Agreed' or 'Agreed' that their parents ask them about their homework, and the majority (83.5%) of respondents either 'Strongly Agreed' or 'Agreed' that their parents try to get them to do their best.

Most 'negative' learning climate perceptions

More than one-half (56.1%) of respondents either 'Disagreed' or 'Strongly Disagreed' that they try to settle differences without fighting, that most students are well behaved even when they are not being watched (63.0%), that students treat each

other with respect (58.9%), and that if another student is bullied, other students stop it (53.4%). However, many (50.7%) respondents indicated teachers care only about smart students.

Learning Climate Dimensions

Highest mean scores were found among the learning climate dimensions of Caring and Fair Staff ($M = 40.31; SD = 7.05$), Safety ($M = 27.32; SD = 4.28$), and Sense of Belonging ($M = 25.00; SD = 5.95$). Classroom Order yielded the lowest mean score ($M = 6.66; SD = 2.84$). Please refer to Table 2 for measures of central tendency and dispersion for individual climate dimensions as well as the survey total.

Learning Climate Dimensions Comparisons

After adjusting for Family Wise Error Rate, three independent sample *t*-tests yielded statistically significant results in the learning climate dimensions of Caring and Fair Staff, Student Voice, and for the survey total score. In all instances, students whose mothers have more than "some college" education scored significantly higher than those whose mothers have "less than some college" education (Table 3). No other *t*-tests yielded statistically significant differences in

Table 2. Measures of Central Tendency and Dispersion for Climate Dimensions

Climate Dimension	n	Mean	SD	Range	Min–Max Scores	Possible Scores
Caring & Fair Staff	73	40.31	7.05	31.00	20.00–51.00	11.00–55.00
Parental Support	73	19.42	3.69	12.00	13.00–15.00	5.00–25.00
Student Voice	73	13.32	3.36	12.00	8.00–20.00	4.00–20.00
Safety	73	27.32	4.28	24.00	13.00–37.00	8.00–40.00
Classroom Order	73	6.66	2.84	12.00	3.00–15.00	3.00–15.00
Academic Expectations	73	15.60	2.13	10.00	10.00–20.00	4.00–20.00
Peer Academic Influence	73	10.22	2.57	11.00	4.00–15.00	3.00–15.00
Active Learning	73	11.41	2.79	19.00	16.00–35.00	7.00–35.00
Sense of Belonging	73	25.00	5.95	19.00	16.00–35.00	7.00–35.00
Motivation	73	16.62	2.97	11.00	9.00–20.00	4.00–20.00
Academic Self-Efficacy	73	11.41	2.79	9.00	6.00–15.00	3.00–15.00
Total Survey	73	103.84	28.57	103.84	145.6–249.00	55.00–275.00

Table 3. Independent Sample t-test Results

Caring and Fair Staff					
	t-value	df	Sig. (2-tailed)	Mean Difference	SE
Mother's Education	-3.874	71.000	.000	-5.86134	1.51282
Student Voice					
	t-value	df	Sig. (2-tailed)	Mean Difference	SE
Mother's Education	-4.014	71.000	.000	-2.87858	.71713
Total Survey					
	t-value	df	Sig. (2-tailed)	Mean Difference	SE
Mother's Education	-3.793	71.000	.000	-23.34991	6.15527

Learning Climate Dimensions among the categories of Gender, Race/ethnicity, Mother's highest level of education, and Father's highest level of education.

Discussion

Assessment of learning climate

In addition to this facility being assessed periodically for learning climate level, we believe similar facilities should conduct learning climate surveys from time to time. Students assigned to juvenile detention educational facilities are at high risk for social, behavioral, and academic problems.

Rural youth are at even greater risk for drug abuse and poor academics. And as we have mentioned, positive, constructive learning climates seem to support improved behaviors and academic achievement but require the involvement of all members of the school community, including students, faculty, staff, and parents. One way to begin to get the entire juvenile detention educational facility involved in the process of building a positive learning climate is to conduct a learning climate survey and share the results with all stakeholders. Many education agencies recommend these types of assessments because of the strong relationship between a positive learning climate

and improved academic achievement and positive health behaviors (Educational Development Center, 2001). Once results are shared, those involved can make plans to maintain program strengths and improve program weaknesses. All members of the juvenile detention educational facility can be involved in implementing interventions, which can strengthen the facility's functioning as a learning community.

Strategies and conditions to create a positive learning climate in this facility

Learning Climate Perceptions and Dimensions: Most Positive

Caring and fair staff. The highest mean score was in the category *Caring and Fair Staff*; the majority of respondents generally 'Agreed' they could discuss issues and make suggestions to the staff, feel they are treated fairly and are cared about, and that all races are well respected. As an important socio-emotional factor for positive learning climate (Cohen, 2006), caring staff exhibit the characteristic of nurturance that helps students feel appreciated by adults in the school, ideally leading to more positive student emotional development (Educational Development Center, 2001).

Safety and sense of belonging. The next-highest mean score was in the category *Safety and Sense of Belonging*. The majority of respondents reported feeling safe at school. A positive learning climate allows students to feel both physically and psychologically safe, supporting academic achievement and healthy interpersonal relationships (Tennessee Commission on Children and Youth, 2006). A high level of physical and psychological safety helps schools to function as learning communities. Collaboration and communication as part of a school team contribute to a positive learning environment (Cohen, 2006). Positive learning climates also produce a community feeling (Educational Development Center, 2001). This sense of belonging and of school-connectedness can help to protect students from risky, unsafe behaviors (Loukas et al., 2006).

Learning Climate Dimensions and Perceptions: Most Negative

Classroom order. Schools with positive learning climates exhibit environments that support healthy interpersonal relationships (Tennessee Commission on Children and Youth, 2006) that may lead to improved student problem-solving behaviors and interpersonal growth (Educational Development Center, 2001). Although positive student conduct and interpersonal behaviors are linked to higher-quality learning climates (Loukas et al., 2006), the majority of respondents in this facility perceived that interpersonal problems are generally solved by fighting and that most students are not well behaved or respectful of each other. Students in juvenile detention are at high risk for conduct and behavioral problems (Meisel et al., 1998); therefore, better physical order is absolutely necessary for an improved learning climate (Cohen, 2006).

Intervention strategies used to improve classroom order in this facility (following the PBIS-tiered approach)

Following the PBIS-tiered approach, at Level 1, facility administrators added positive youth development-oriented life-skills educational programs to the curriculum and expanded them to include the family. Once the students completed their programs, they returned to their families and former schools, where they were able to practice their new skills in real-world settings. At Level 2, facility administrators added culturally-responsive (rural culture) counseling groups focusing on conflict resolution training for students with greater needs. At Level 3, involving parents and professional family therapists from the beginning assisted in this transition. For this and all other detention facilities to improve their learning climates, researchers recommend using interventions focused on positive personal growth (National Center for Juvenile Justice, 2006).

The learning climate assessment also became the foundational assessment piece of a new Juvenile Detention Alternatives Initiative for this

facility. The larger Juvenile Detention Alternatives Initiative reform strategy has historically supported other smaller interventions and improvement strategies in facilities, and rural jurisdictions often have a culture of creativity when it comes to problem-solving (Mendel, 2008). Using creative interventions based on learning climate assessments can be part of a comprehensive approach to detention reform. Learning climate improvement will continue as an integral part of the new Juvenile Detention Alternatives Initiative approach being introduced in this facility, and can become an important strategy in detention reform for other facilities, too.

Learning Climate Dimensions Comparisons

Strong parent-school partnerships are necessary for a positive learning climate and student academic and social success (Cohen, 2006). In this study, respondents whose mothers had less than some college education were significantly less likely than others to perceive an overall positive learning climate, to perceive the staff as caring and fair, and to perceive that students had a voice in making decisions at the facility. In rural areas, approximately one-quarter of adults possess less than a high school education, and approximately the same percentage of children live in mother-only homes (Mendel, 2008). Possibly, these mothers may be struggling themselves with financial stressors, personal lack of empowerment, and/or issues of being single parents. This finding was investigated further by the administration at the facility, and they assessed the need for any special interventions or programs to assist these mothers and families. Administrators determined that small group sessions or support group sessions, similar to those the students attend as part of their curriculum, are being planned at the facility to help these mothers cope.

Summary

Because this study involved only one rural facility with a small sample size, the results of our study may be limited. The facility draws participants

from multiple rural counties, but the counties' demographics are similar. Although it appears that the mean overall learning climate score at this juvenile detention facility rated relatively low, specific strengths and weaknesses need to be analyzed and priorities for improvement set. Caring staff and students' sense of safety and belonging were strong climate dimensions that need to be maintained. Like other facilities around the county, this facility uses the home school district's curriculum for academics and encourages students to strive for a high school diploma (Gaganon, 2009). In a newer facility that follows a strengths-based philosophy in a learner-centered climate, it may be easier for teachers and staff to form positive relationships with students that can lead to improved academic success.

Supportive teachers and parents may also have played a large role in creating this positive learning climate dimension. Most respondents seem to believe that the teachers support students, care about all students, and make the students feel appreciated. Most also strongly agree that their parents talk to them about school work and that their parents want them to do their best in school. It seems there is a good foundation at this facility, with caring teachers and supportive parents creating a strong partnership between school and home (Cohen, 2006), which is highly recommended for improving learning climate. The facility should continue to build on this parent-school partnership, as it takes all the adults involved with the school to improve learning climate (Tennessee Commission on Children and Youth, 2006).

On the other hand, the behavioral climate and lack of classroom order detracts from social and academic success and needs to be improved, although discipline and enforcement may be more difficult to achieve in this rural setting. Rural students are more likely to be abusing substances when committed to detention, there is a lack of service providers to support PBIS Tier 2 and 3 interventions in the immediate geographical area,

and transportation costs to reach such providers are high (Mendel, 2008). The equitable enforcement of rules following the PBIS approach to positive behavior change will, we hope, improve this learning climate dimension. As overall learning climate increases as a result of the facility systematically working to strengthen weak dimensions, student substance abuse behavior may decrease and student conduct and academic achievement should improve. We recommend that the learning climate provided in this facility and all facilities using this approach be reassessed periodically, and that interventions based on the results be implemented. It may be possible for learning climate assessments and targeted interventions to be supported as part of a larger Juvenile Detention Alternatives Initiative.

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Transitions of Truants: Community Truancy Board as a Turning Point in the Lives of Adolescents

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Abstract

School dropout represents a major turning point in a person's life that could be seen as an initial step on a difficult pathway to reduced conventional opportunities. The challenge is to identify interventions that can successfully reintegrate students back into a school setting in a manner that encourages continued attendance and involvement. One such program is the West Valley Community Truancy Board in Spokane, Washington. In addition to the truancy board process, the program employs a court-appointed

officer to mentor students and manage the overall process of identifying and attending to the risks and needs that promote truancy. Guided by Sampson and Laub's (1993) age-graded theory of informal social control and Cullen's (1994) application of social support to delinquency, the current analysis seeks to determine the overall effectiveness of the truancy board based on both quantitative analyses of outcomes and qualitative interviews with key actors. We discuss the implications for the ongoing theoretical, empirical, and policy debates surrounding truancy intervention.

Introduction

In 2004, nearly 56,000 truancy petitions were filed in state courts—69% more than a decade earlier. Truancy cases generated the largest share of the adjudicated status offense caseload that resulted in out-of-home placement (Stahl, 2008). These statistics likely underestimate the true extent of truancy-related problems, as states vary widely in their definition and thus handling of truancy (Sutphen, Ford, & Flaherty, 2010). Although it is unclear whether truant behavior or simply truancy processing is increasing, the end result is the same: precious system resources are diverted toward handling school absences and youth face potentially punitive responses for their behavior, which may ultimately result in further deviance and delinquency. The challenge, then, is to develop effective interventions that can identify and address the causes of truancy before system involvement is warranted.

Despite the necessity of rigorous evaluations of existing intervention programs, relatively few empirical assessments appear in the scholarly literature. Even fewer theoretically-informed evaluations have been conducted, which puts these programs' generalizability and their potential for replication in diverse areas in question. A more abstract understanding of what works in truancy reduction would allow researchers to develop a general toolkit for truancy prevention that states and school districts could tailor to their particular demographics and administrative needs. A step in this direction would be to integrate Sampson and Laub's (1993) age-graded theory of informal social control with Cullen's (1994) ideas about social support and delinquency to produce a more comprehensive framework for understanding truancy. Doing so would enable practitioners and administrators alike to more clearly appreciate how the response to truancy affects future life outcomes.

Accordingly, the current study evaluates the West Valley Community Truancy Board approach to truancy in Spokane, Washington. The program employs a court-appointed officer to mentor

students and manage the overall process of identifying and attending to the risks and needs that promote truancy. This process involves school administrators, court officials, community members, and the student and family in order to provide a multifaceted approach to truancy intervention. Guided by life-course and social support theories, we combine both quantitative and qualitative data to determine the overall effectiveness of the West Valley Community Truancy Board. The broader purpose of our research is to provide a theoretically-informed evaluation of an innovative approach to the reduction of school truancy.

Theoretical Foundation

Age-graded Theory of Informal Social Control

Developmental and life-course theories provide a framework for understanding how events early in an individual's life can affect later outcomes such as employment opportunities and marriage (for an overview, see Farrington, 2003). In particular, the age-graded theory of informal social control (Sampson & Laub, 1993, 2005; Laub & Sampson, 2003) applies life-course principles to understand both continuity and change in juvenile delinquency and adult criminal involvement. The theory predicts that structural background factors (e.g., poverty) and individual differences (e.g., conduct disorders) will impact both social control, including school attachment and performance, and the influence of deviant peers. According to this theory, the outcomes of these processes on juveniles, such as truancy and delinquency, will then influence the juvenile's ability to establish and maintain strong social bonds in adulthood, which are presumed to be incompatible with continued criminal behavior. Thus, the theory describes why school truancy and dropout may assume an importance in an individual's life that goes beyond mere absence from the classroom.

There are two key and related components of Sampson and Laub's (1993) age-graded theory of social control: first, that certain turning points in a juvenile's life may redirect his or her overall

life trajectory; and second, that individuals and institutions can be responsible for creating the necessary informal social control or social capital that makes conventional behavior and opportunities viable options for youth. As Sampson and Laub (1993) define it, social capital refers to relationships and interdependencies that facilitate informal social control. For example, in education in particular, Sampson and Laub (1993) find that school attachment, defined as the combination of an individual's attitude toward school and overall academic ambition, acts to inhibit delinquency. These researchers find no significant relationship between school performance and delinquency—thus, juveniles may not necessarily need to do well in school (as identified by formal grading evaluations), but rather need only to have an attachment to school for school to positively affect future behavior. More recent empirical work has reaffirmed the original findings of Sampson and Laub in documenting the importance of school attachment for avoiding future delinquent behavior (see, for example, Henry & Huizinga, 2007). In essence, a program designed to foster this attachment could conceivably act as a turning point in the life of an individual who had, up to that point, experienced structural and cognitive disadvantage.

In the absence of such turning points, it is likely that a wayward juvenile will continue on a deviant path into adulthood through a process of cumulative disadvantage (Sampson & Laub, 1997). Delinquency "incrementally mortgages the future by generating negative consequences for the life chances of stigmatized and institutionalized youth" (Laub & Sampson, 2003, p.51). Opportunities for conventional behavior such as legitimate employment are thus "knifed off" (Caspi & Moffitt, 1995; see also Maruna & Roy, 2007) in a process that encourages continued deviant behavior in the absence of acceptable alternatives. Stated differently, without sufficient attention to risks and needs early in a youth's life, he or she may be doomed to a lifestyle with limited options for success. The primary benefit

of putting developmental and life-course theories into practice, therefore, is that they allow for interventions early in life to suspend this process in favor of a more promising future for youth.

To the extent that school truancy represents an early risk factor for a life of cumulative disadvantage, our task is to develop programs that can serve as turning points in the lives of adolescents. A successful program would account for the individual-, family-, community-, peer-, and school-based factors associated with school absences. Although this is admittedly no easy task, significant advancements have been made in Multisystemic Therapy (Henggeler, 1997), a program that successfully incorporates evidence-based principles to address the myriad risk factors associated with juvenile delinquency in order to build social capital (Cullen & Gendreau, 2000; Curtis, Ronan, & Borduin, 2004). Although interventions such as Multisystemic Therapy can account for the development of social capital so crucial to Sampson and Laub's theory, it is unclear how, specifically, social capital is created in a disadvantaged population.

Social Support

To Sampson and Laub (1993), social capital is an intangible concept consisting of relationships and interdependencies that facilitate informal social control. But what are the factors that influence and facilitate the development of social capital itself? A promising approach to answering this question would integrate ideas related to the provision of social support to identify and understand what constitutes turning points in the age-graded theory of informal social control. Social support is certainly similar to social capital, but social support implies actual giving and receiving on the part of actors. Social support can be defined as "the perceived or actual *instrumental* and/or expressive provisions supplied by the community, social networks, and confiding partners" (Lin, 1986, p. 18). It thus consists of an instrumental dimension, which involves the use of a relationship as a means to achieve a goal

(e.g., finding a job), and an *expressive* dimension, which involves the use of a relationship as an end as well as a means (e.g., venting frustrations). Providing social support to truant youth could, therefore, consist of finding alternative schooling that may be a better fit for the individual (*instrumental*), or reaching an understanding of the true causes of truancy and how they may be addressed (*expressive*).

Cullen (1994; see also Cullen, Wright, & Chamlin, 1999) is largely responsible for incorporating the idea of social support into the study of crime and delinquency specifically. Perhaps most importantly, he acknowledges that social support can be delivered at multiple levels, from individuals, families, and communities. His overall argument is that the degree of social support can vary across these domains, and that more social support is likely to result in lower levels of deviance and crime. Indeed, a central proposition of this paradigm is that social support across the life cycle increases the likelihood that individuals will turn away from a criminal pathway. Research has indicated that the concept of social support provides a promising approach to explaining the trajectory of crime and deviance (e.g., Meadows, 2007), especially at the aggregate level (see Pratt & Cullen, 2005). Overall, combining the age-graded theory of informal social control with notions of social support provides both an understanding of, and a prescription for, the issue of school truancy.

Previous Research

An exhaustive review of the truancy intervention literature is beyond the scope of this analysis (for reviews, see Henggeler & Schoenwald, 2011; Jones, 2009; Lehr, Hansen, Sinclair, & Christenson, 2003; Sutphen et al., 2010; Wilson, Gottfredson, & Najaka, 2001). Rather than focus on previous works, we believe a more detailed explanation of the current West Valley Community Truancy Board would benefit the reader. Nonetheless, we do wish to call attention to two limitations of previous works and programs.

First, rarely do researchers and practitioners consider the theoretical underpinnings of existing programs, especially from a deviance and criminal justice perspective (refer to Henry & Huizinga, 2007; Ventura & Miller, 2005). As noted above, this limitation is crucial when considering the replication of a program in other settings. Evaluation studies focused solely on outcomes or mere correlates of truancy are unable to suggest *why* programs are successful or unsuccessful from a theoretical standpoint. Second, existing programs to reduce truancy are often limited by not having a specific agent of social support to attend to youth in an individualized manner. If such agents do exist, their contributions are often not identified specifically in the literature when entire programs or interventions are evaluated.¹ Thus, a particularly important component of reducing truancy (as identified by existing theory) is overlooked in focusing on the larger picture. With these two limitations in mind, we seek to provide a theoretically-informed analysis of the West Valley Community Truancy Board with an added focus on the importance of a court-appointed Truancy Specialist.

Current Focus²

Schools in Washington State are mandated under the state's truancy statute (BECCA Bill of 1995—E2SSB 5439) to inform the student's parent or guardian, either in writing or by telephone, of one unexcused absence. Subsequent unexcused absences result in progressively greater detailed attention until the absences become chronic. After five unexcused absences within one month, the parent and the school are required to enter into a contract to help to improve attendance. An option at that point is for the student to be referred to a community truancy board in

¹ Notable exceptions to this are programs that look at mentoring specifically (e.g., DeSocio et al., 2007). As discussed below, we chose not to conceptualize the current Truancy Specialist position in the West Valley Community Truancy Board as one based solely on mentoring because, according to the Truancy Specialist, this is a limited and arguably less important component of his overall approach to reducing truancy.

² Information for this section draws heavily from Strand and Lovrich (2010). Please see this report for a more detailed discussion of the West Valley Community Truancy Board.

an effort to prevent a court petition, which is allowed (but not mandated) after either seven unexcused absences in one month or 10 absences over the span of one academic year.

Continuously operating since 1996–1997, the West Valley Community Truancy Board seeks to address the problem of truancy by engaging truant youth and their families in a restorative justice-oriented program, in which a variety of resources are brought to bear to improve school attendance and academic performance. The goal of the intervention is successful school re-engagement and renewed progress toward school completion. The Spokane Juvenile Court works in partnership with the several schools within the West Valley School District. When a truant student comes before the truancy board, the board places a stay on the Spokane County Juvenile Court's truancy petition so board members can collaborate with the student, family, school, and community to find a solution to that student's truancy issues. The student and family sign an agreement with the truancy board indicating they will make their best efforts to change what is needed so the child can attend school. If there is a failure to meet the standards and goals set in the agreement, the board will lift the stay and the child and family will have to go to juvenile court.

The West Valley Community Truancy Board meets in a conference room in one of the schools in the district. The Board meets monthly until the end of the school year approaches, at which time the meetings become more frequent (i.e., once every two weeks) as more students accumulate 10 absences for the year. A horseshoe table is set up at the far end of the room, and a row of chairs is positioned in front of the table for the student and family. Board members introduce themselves individually to the student and family, indicating their connection to the school district or community. Each truancy board member receives a packet of school attendance and academic information on each student prior to each meeting, including the name of the school the student is

attending, school attendance patterns for the present year, current and past grades, and a summary of completed credits on record. The meeting administrator then briefly explains the Becca Bill and possible future court consequences if the problem of non-attendance is not resolved in accordance with the community truancy board's findings and conditions of compliance. A question and answer session lasts for approximately 10–20 minutes, the goal of which is to determine the obstacles or barriers that might stand in the way of the student attending school on a regular basis. These obstacles can range from school-based problems, such as alleged harassment, to family-based problems, such as obligations to care for younger siblings. A contract containing specific steps that are to be taken to attend school is drafted at this meeting, and it is signed by the student and family, as well as by the meeting administrator.

Through grant funding from the Governor's Juvenile Justice Advisory Committee, the Spokane County Juvenile Court has contracted with a Probation Officer Truancy Specialist to work with truant youth in the district. In using the *Check & Connect* model—which utilizes the four components of mentoring, systematic monitoring, timely individualized intervention, and enhancing home-school support—the Truancy Specialist can work with students in the school district on a more personal level, periodically meeting with the student and family. In short, the Truancy Specialist has what Milliken (2007) termed "magic eyes"—the ability to see solutions and assets across multiple agencies and opportunities within the community. Indeed, the Truancy Specialist has an office in each of the schools in the district so that he or she can be available on site when needed.

The West Valley Community Truancy Board has a strong theoretical and empirical foundation for the reduction of truancy and the creation of additional conventional options for youth. The implicit goal of the West Valley Community Truancy Board is to avoid students' formal

adjudication and processing in the juvenile court system. The Truancy Specialist acts as an agent of social support, providing the physical and emotional resources needed for the student to develop social capital and, ultimately, bonds that foster informal social control. In addition to these strong theoretical foundations, the program in Spokane employs two major evidence-based practices as documented in the literature. First, the program is multi-faceted and combines interventions across domains of the individual, family, school, and community (Bazemore, Stinchcomb, & Leip, 2004; Sutphen et al., 2010). To this is added the involvement of the juvenile court, resulting in a holistic yet flexible response to truancy that recognizes youth are involved in multiple systems that directly and indirectly influence their behavior (Henggeler & Schoenwald, 2011). Second, and equally important, is the use of the aforementioned *Check & Connect* model as the mechanism by which the Truancy Specialist provides youth with social support. The model is well supported in the literature as a means to reduce truancy (Anderson, Christenson, Sinclair, & Lehr, 2004; Christenson et al., 1997; Gandy & Shultz, 2007; Lehr, Sinclair, & Christenson, 2004), and may be especially potent when used by an individual who is able to bridge the multiple systems identified above. Given these strong foundations, the current analysis seeks to answer the following question: Is the West Valley Community Truancy Board effective in providing an alternative to the juvenile court for the successful handling of truancy cases?

Data and Methods

Data

In the spirit of Sampson and Laub (1993; see also Ventura & Miller, 2005), we seek to combine both quantitative and qualitative data in our analysis of the West Valley Community Truancy Board. Data for the quantitative analyses include school outcome measures (e.g., dropout rates) on both truant youth who attended the West

Valley School District as well as truant youth who attended other schools in Spokane County. The Administrative Office of Courts in Washington State maintains linked datasets for juvenile justice research, and that office provided our research team with comparative data for students enrolled in the West Valley School District as well as three additional school districts within Spokane County. The data available made it possible to compare the school completion outcomes and court involvement of 9th grade students for the school years of 2004-2005, 2005-2006, and 2006-2007. Because these data were privileged (restricted to use by the Administrative Office of the Courts by agreement of the Office of the Superintendent of Public Instruction), we did not obtain raw data; the data were secured and analyzed by individuals at the Administrative Office of the Courts and only the results of the analyses were shared with us. Overall, the data represent almost 3,500 youth, 621 of whom eventually had truancy petitions filed against them (see Table 1 for descriptive statistics).

We culled qualitative data from interviews and focus group sessions with key actors involved in the West Valley Community Truancy Board process as well as involved students and parents. We conducted semi-structured interviews with 28 current and former truancy board members and school administrators to identify what they perceived as the primary roles and attributes of the board (see Appendix I for questions asked). As part of the *Check & Connect* program, the Truancy Specialist conducted semi-structured interviews with 68 students and 32 parents to learn their opinions about the usefulness of the West Valley Community Truancy Board process (see Appendix II for questions asked). Finally, three follow-up focus group sessions involved a total of 28 interviewees (e.g., principals and court officials) who could provide further insight into the foundation, formation, and ideas behind the West Valley Community Truancy Board. The rich qualitative data captured from these interviews thus augments our quantitative data. In addition, because

Table 1. Characteristics of the Sample

Student Characteristics	WVSD*		CBE**		Comparison Districts	
	Truants <i>n</i> = 239 (28%)	Non-truants <i>n</i> = 604 (72%)	Truants <i>n</i> = 182 (56%)	Non-truants <i>n</i> = 141 (44%)	Truants <i>n</i> = 200 (9%)	Non-truants <i>n</i> = 2,076 (91%)
Gender (% female)	49	49	48	47	38	47
Race (% minority)	16	11	12	13	11	10
Over-age for grade (%)	36	16	86	81	25	17
Grade 9 credits	4.4	5.9	1.9	2.7	4.2	5.6
Age at truancy	15.8	NA	15.7	NA	16.0	NA
Prior truancy (% before age 15)	2	2	33	13	18	1
Prior offense (% before age 15)	22	5	35	21	13	4

* WVSD = West Valley School District

** CBE = Contract-based education

the quantitative analyses include students who completed the process *before* the position of the Truancy Specialist was created, the qualitative analyses address this critical component of the social support process.

Analytic Strategy

The analysis proceeded in two stages to integrate the quantitative with the qualitative data. First, we performed chi-square analyses to determine whether there were significant differences in key outcome measures across three groups (West Valley School District, *n* = 843; contract-based education, *n* = 323; and combined comparison districts from Spokane County, *n* = 2,276). This allowed us to determine whether West Valley School District students performed better on court and educational outcomes compared with similarly situated students who did not receive the truancy intervention.³ We then re-ran the analyses using matched samples in an attempt to account for possible selection effects (total *n* =

308).⁴ Researchers from the Administrative Office of the Courts matched West Valley School District students with students from the comparison district on the following variables: gender, race, over-age for grade, and Grade 9 credits (see Table 1). These supplemental analyses increased our confidence that the results are due to the intervention itself and not to some existing differences in the composition of our sample. Second, we provided descriptive statistics and major themes from the interviews and focus groups to administrators, parents, and students. In our presentation of these qualitative data we focused on two major issues: 1) the overall effectiveness of the West Valley Community Truancy Board, and 2) the importance of the court-based Truancy Specialist to the overall process.

Results

Quantitative Analyses

Table 2 presents the results of the chi-square analysis examining the relationship between educational outcomes and educational setting.

³ While the students selected attended the West Valley School District, they were not chosen based on Community Truancy Board attendance. We cannot say with certainty that the West Valley School District students classified as truant actually went before the Community Truancy Board. Given what we know of the district policies during the years of the study, we believe strongly that virtually all students identified as having a truancy petition filed would have had an appointment with the Board; however, we do not have definitive evidence that this was the case.

⁴ Sample sizes for the matched groups are not equal due to the decision to eventually drop contract-based education cases from the West Valley School District group (see Strand & Lovrich, 2010, p. 64).

West Valley School District truant students were more likely to graduate and less likely to drop out than truant students in the contract-based education and comparison district groups ($\chi^2 = 50.3$, $p < .001$). As noted in Table 1, however, West Valley School District students were also more likely to have a truancy petition filed against them (28%) compared with the similarly composed group of comparison district students (9%; Note: contract-based education students were at higher risk for truancy and less comparable to the other groups). This higher truancy rate has a direct bearing on the educational outcomes presented in Table 2. Specifically, the average number of unexcused absences at the time of filing differs for the groups (19 for comparison district students and seven for West Valley School District students). This discrepancy reflects procedural differences in the way truancy filings are conducted across these educational settings. Consistent with the standard stated in the Becca Statute, the West Valley School District uses five unexcused absences as the benchmark for filing. The other districts, in contrast, are more lenient as to when they file truancy petitions with the juvenile court. That is, students in these other

districts accumulate a higher number of unexcused absences prior to the school district's filing of a truancy petition. Accordingly, it is likely that the West Valley School District sample comprises truant youth who are, on average, at less risk than the sample of youth from the comparison districts.

As a way of moving beyond these potential selection effects, researchers from the Administrative Office of the Courts matched truant students from the West Valley School District with truant students from the comparison districts on a number of key variables, including dropping out of school and unknown outcomes, transferring out of school, and graduating or earning their general equivalency diploma (GED) (see Table 3). For ease of interpretation, students who transferred out of their districts were included in the category identifying students who dropped out or had unknown outcomes. Although perhaps not as detrimental as dropping out or having an unknown outcome, transferring out of district can be considered a negative outcome, especially for at-risk students. In fact, research indicates that children who experience a greater number of family and school transitions are at higher risk for criminality than those who experience fewer transitions (Krohn, Hall, & Lizotte, 2009; Patterson, 1996). Therefore, although school districts sometimes handle the problem of truancy by transferring truant students out of district, school districts should instead try to keep them in their current schools in an effort to reduce problems associated with transitions (Milliken, 2007). The analysis presented in Table 3 shows the relationship between educational outcomes and educational setting for the matched sample of truants and offers some support for the benefit of the West Valley Community Truancy Board; truant students from the West Valley School District performed slightly better than their matched counterparts on all outcomes ($\chi^2 = 2.72$, $p < 0.10$).

Table 2. Educational outcomes of students by educational setting, full truant sample

	WVSD* ^a (n = 239)	CBE** ^b (n = 182)	Comparison Districts (n = 200)
Dropout/Unknown (%)	28	59	43
Transferred Out (%)	20	15	30
Graduated/GED*** (%)	52	26	27
Average Number of Unexcused Absences at Time of Filing	7	NA	19

* $\chi^2 = 50.3$, $p < .001$

*WVSD = West Valley School District

**CBE = contract-based education

***GED = General Equivalency Diploma

^a Includes students enrolled in the West Valley School District in Spokane, Washington where the Community Truancy Board is employed

^b Includes students enrolled in CBE not experiencing the Community Truancy Board

^c Includes students enrolled in three comparison districts in Spokane County not experiencing the Community Truancy Board

Table 3. Educational outcomes of students by educational setting, matched truant sample

	WVSD^a (n = 136)	Comparison Districts^b (n = 172)
Dropout/Unknown/Transferred Out (%)	56	65
Graduated/GED** (%)	44	35

$\chi^2 = 2.72, p < .10$

*WVSD = West Valley School District

**GED = General Equivalency Diploma

^a Includes students enrolled in the West Valley School District in Spokane, Washington where the Community Truancy Board is employed

^b Includes students enrolled in three comparison districts in Spokane County not using the Community Truancy Board

Qualitative Analyses

As noted above, a key shortcoming of the quantitative analyses is that they represent data from *before* the crucial addition of the court-appointed Truancy Specialist to the West Valley Community Truancy Board process. Therefore, the quantitative results, although positive, potentially underestimate the true relationship between the complete process and the overall outcomes for truant youth. The face-to-face interviews and focus groups augment the above results by not only providing a descriptive element to the findings, but also by including information related to the utility of the Truancy Specialist.

School Administrators and Board Members

The vast majority of the interviewees (82%) identified themselves as board members ($n = 28$). Thirty-nine percent of those were school administrators, 36% were community or court personnel, and 22% were teachers, counselors, or secretaries. When asked whether the truancy board should be focused on holding truant youth more accountable or whether the truancy board should be focused on helping in the restorative process, 32% said that a restorative approach was appropriate; 68% called for a balance between restoration and accountability. No participants said the West Valley Community Truancy Board should focus primarily on seeking accountability

for truant youth. To determine how the participants felt about effectiveness of the West Valley Community Truancy Board, we asked interviewees their opinions about whether the board had achieved successful outcomes. Thirty-six percent responded "often"; 25% responded "not often." Nevertheless, 82% of respondents said the West Valley Community Truancy Board provided a positive experience for truant youth.

Interviewees were generally positive about the role of the court-appointed Truancy Specialist. Sixty-eight percent said the position was either a "good" or "very good" addition to the truancy board process, while 31% voiced no opinion. No participant said the addition of the Truancy Specialist was negative. Many respondents spoke about the invaluable contributions of the Truancy Specialist, commenting that he had a "sixth sense" for understanding the needs of students and finding solutions to their problems. The following comment of an elementary school principal was echoed by others: "The Truancy Specialist fits the general philosophy that we believe in...he is there to be a problem solver for kids. He is not there as a community probation officer...he is on board with making the process an intervention rather than a punitive session. For example, there can be what you might call a snooty teenager in front of you...he likes those kids he sees as the 'spicy ones.' He can deal with them being spicy in ways that are way more successful and sometimes bump up against us as administrators and teachers. So, it is partly his philosophy that jives with ours to make the whole thing work."

Parents and Students

In general, parents and students were positive about the West Valley Community Truancy Board process. Eighty-two percent of students said the process was beneficial, supported by comments such as "the group motivated me and made me aware of the issues" and "it made me feel like I was the center of attention in a good way." A common theme identified in the student responses was that the truancy board was "way better than

court." Eighty-one percent of parents also agreed that the process was beneficial, often mentioning that the West Valley Community Truancy Board gave them an added "tool" in attending to their children's problem behaviors. One parent commented, "I would rather explain myself to a group of caring people than a judge." There were, however, both students and parents who believed the process was a waste of time and that relatively minor adjustments could have helped them with their truant behaviors. This speaks to the possibility that truancy petitions may have been filed against low-risk students in the West Valley School District who may not necessarily have needed the intervention of the Community Truancy Board.

Overwhelmingly, students said the role of the Truancy Specialist was vital in attending to their individual needs and concerns. Responses supporting this opinion included the following comments, in which "you" refers to the Truancy Specialist: "You worked with me to help with school and now GED"; "You are the only one that talked to me and still talks to me about health and school"; and "You gave me a tour of the other schools and helped me move over." In short, there is a unique rapport between students and the Truancy Specialist that allows him to attend to truancy problems in an individualized way. Although parents were not directly asked about the usefulness of the Truancy Specialist, it is worth noting that they were willing to be interviewed by him about the often sensitive issues related to truancy—again indicating a rapport that is often not matched by school administrators or criminal justice personnel.

Discussion

Truant behavior on the part of youth is often looked upon as an annoyance in the daily workings of education in America. Students who are seemingly either unwilling or unable to attend and participate in school regularly often "fall through the cracks." Yet, life-course and

developmental theories suggest that the failure to attend to the causes of truancy early on may put youth on a path of cumulative disadvantage. Interventions based on these theories, such as the West Valley Community Truancy Board, can potentially serve as a turning point, giving youth the social support they need to succeed in life. An important advantage of such interventions is that they fit into a juvenile rehabilitation framework that is both supported by the public (Piquero, Cullen, Unnever, Piquero, & Gordon, 2010) and is cost-effective (Welsh, 2003), which appeals to politicians and policy makers who are charged with addressing significant social problems with limited budgets (see also Henggeler & Schoenwald, 2011). The current study sought to determine whether the West Valley Community Truancy Board approach offers a solution to truancy based on restorative justice and social support principles. In this regard, the work presented here leads to three broad conclusions.

First, life-course theories of informal social control and support provide a valuable framework for assessing truancy interventions. We cannot definitively say that the West Valley Community Truancy Board has served as a turning point for truant youth, yet we do have evidence that this may, in fact, be the case. Our quantitative analyses documented improved educational outcomes for a cohort of 9th grade students over a four-year period. Our qualitative analyses provided positive evaluations of the West Valley Community Truancy Board by board members, parents, and, perhaps most importantly, students themselves. The multiple agencies represented by the West Valley Community Truancy Board were able to attend to the myriad risks and needs of truant youth. Further, our findings made it clear that the Truancy Specialist, a dedicated agent of social support, is critical in understanding and handling the individualized nature of truancy. In short, when placing truancy in a developmental context, it becomes clear that interventions assume far more importance than boosting the attendance rates of schools.

Second, from a research standpoint, empirical studies of truancy intervention must go beyond atheoretical assessments of outcomes. Existing studies have provided valuable knowledge about “what works” to reduce truancy; but without a more cogent understanding of why these approaches work, such methods may experience less than promising outcomes when replicated elsewhere. We thus join other scholars (e.g., Wilson et al., 2001) in stressing the importance of going beyond assessments of individual components of what works to provide a more holistic response to truancy that is grounded in theory. Juvenile truancy has rarely been addressed in the scholarly criminological literature, yet life-course theories illustrate that it is deserving of more attention. To be sure, the causes and effects of truancy are likely to impact outcomes in adulthood, such as criminal behavior. The application of social support theory, in particular, provides a promising approach to the study of truancy that focuses on a supportive, rather than punitive, response. We hope that our work has provided a valuable step in this direction, but we acknowledge that future studies will need to operationalize and measure theoretical concepts more closely than our study has done.

Third, the policy implications of this study are that handling truancy should occur before system involvement and include members from the school, court, community, and family environments (see also Fantuzzo, Grim, & Hazan, 2005; Mueller, Giacomazzi, & Stoddard, 2006; Dembo & Gulledge, 2009). The West Valley School District appears to have created an intervention that benefits truant students compared with truant students in other districts. This intervention is guided by an overall philosophy that school re-engagement, rather than system involvement, should be the goal of a process emphasizing reintegration of students into an educational setting that works for them. Although we have focused largely on the theoretical foundations of the program, we cannot deny that the West Valley Community Truancy Board adds to the roster of

studies supporting a multi-faceted approach to truancy (similar to Multisystemic Therapy as well as the *Check & Connect* model, specifically). The West Valley Community Truancy Board thus creates a “continuum of care” by focusing on multiple systems (court, school, family, community, and individual) using a well-supported method of truancy intervention.

Perhaps most importantly, the Truancy Specialist is able to combine these two evidence-based practices in a manner that multiplies their effects. A fundamental question remains—can this position be replicated in other settings with the same degree of success? The Truancy Specialist in the West Valley School District combines a solid background in criminal justice and youth services with an outlook that promotes successful outcomes for youth (see Appendix III for a profile of the Truancy Specialist). The current Truancy Specialist and others believe that other individuals could engage in this type of work if they have the heart and the energy to help these struggling youth. As evidence of this, other districts in Washington State (e.g., East Valley School District in Spokane) have been able to “clone” the original Truancy Specialist by employing individuals who share his enthusiasm and determination to help truant youth. Indeed, the high level of engagement by the Truancy Specialist represents the epitome of an intervention program that puts life-course theories into practice by helping to create a better future for troubled youth.

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APPENDIX I

Interview Protocol (Confidential/Voluntary)

John D. and Catherine T. MacArthur Foundation

Models for Change Project, Spokane County

West Valley School District Community Truancy Board (WVSD-CTB)

Interview Subject _____ Times: Start _____ Finish _____

Preface & Ground Rules

- Purpose—Documenting the WVSD-CTB process for replication
- Condition—Confidential discussion; no attribution to individuals
- Condition—Informed consent and right to discontinue at any time
- Audio recording request; *best evidence* is standard for systematic evaluation research

Questions of Interest

- Do you have a clear idea of the purpose of the WVSD Community Truancy Board?

Yes No Please describe your own sense of the board's purpose.

Notes: _____

- As a member of the board, do you see your role as one of holding the juvenile client *accountable* for his/her actions, or do you see your role more as a *provider of help*?

Notes: _____

- Please describe the training you received for service on the community truancy board.

Notes: _____

- What background information on the juvenile client are you provided with before the community truancy board meeting, and how is that information conveyed to you?

Notes: _____

- Please describe the community truancy board hearing process as you have observed it.

Notes: _____

- Please describe the follow-up process after the board hearing, as you best understand it.

Notes: _____

- **What is your own definition of a SUCCESSFUL OUTCOME with respect to the board?**

Notes: _____

Probe Question: In addition to regular school attendance, what are some other desired outcomes? _____

- **Based on your own experience, what IMPROVEMENTS might be made in the West Valley School District Truancy Board?**

Notes: _____

- **Are you aware that the Becca Bill is the basic legislation giving rise to the creation of the West Valley School District community truancy board? Yes No**

Probe 1: Are you familiar with this law? Yes No

Probe 2, if YES above: What is your view of this law? _____

- **What have you learned from your involvement in the board?**

Notes: _____

- **In what ways have YOU PERSONALLY BENEFITED from your experience with the board?**

Notes: _____

- **Would you recommend this process as an effective countermeasure to truancy in other school districts? Yes No WHY?**

Notes: _____

CLOSING—Thank You for the Privilege of the interview

- Is it OK to follow up with you if the transcription process occasions the need for clarification? Contact number or e-mail _____
- Would you like to review the transcript of the interview upon its preparation?
- Would you be available to participate in a focus group to discuss the themes drawn from the interviews being conducted with other persons who have participated in the work of the West Valley School District Community Truancy Board?

APPENDIX II

Questions for students involved in the Community Truancy Board process:

- 1) When did you first start having issues with school attendance?
- 2) What were the reasons you missed school?
- 3) What supports did you need to improve your school attendance?
- 4) What are the current reasons you are not attending school?
- 5) Did (school name) or other agencies work with you prior to the truancy board, and what did they do?
- 6) What is your understanding of the requirements for the Becca Bill?
- 7) How were you notified that you had to attend the truancy board?
- 8) What do you think of the truancy board process?
 - a. What do other kids think about the process?
- 9) Did the truancy board help you?
 - a. If so, how?
 - b. If not, why not?
- 10) From the time you first begin missing school until now, what should have been done differently by your schools or community agencies that would have helped you attend school?

The above questions will be slightly altered for parents/guardians.

APPENDIX III

Background of Current Truancy Specialist in the West Valley School District, Spokane, WA

- BA in Criminal Justice from Eastern Washington University.
- Corrections officer experience working with adults.
- One year internship working with At Risk Youth (ARY) at Spokane County Juvenile Court.
- Diversion board member (Neighborhood Accountability Board).
- Work crew officer at Spokane County Juvenile Court (Community Service).
- Juvenile corrections officer working with youth in a secure detention.
- Electronic home monitoring probation officer working with youth and family.
- Dependency probation officer working with children/youth who are dependents of the state.
- Aggressive Replacement Training (ART) co-facilitator working with probation youth.
- Truancy Specialist.

Strengths and Philosophy of Current Truancy Specialist in the West Valley School District Spokane, WA

1. Public speaking.
2. Great listener (2 ears, one mouth).
3. Don't get in a hurry (It takes time to form relationships with all involved).
4. Patience for all people (Take time to learn about your youth/parents/school staff).
5. Explain your role to all (You may do this many times).
6. Advocate for all (Students, parents, teachers, principals, etc).
7. Don't be afraid to ask questions (Don't assume anything).
8. Learn about the system you are working for and in (People like to be asked about what they do).
9. Focus on the good and the bad (There is something positive in everyone's life).
10. Don't build barriers, help youth navigate them.
11. Know your staff and co-workers (Adults need relationships, too).
12. Ask others who you are working with for their feedback (It will not always be positive).
13. Change with the times (Be educated on new programs in your area).
14. Don't be afraid to ask for help with families (Most people want to help).
15. Don't take no for an answer (Know your limits).
16. Use your resources (They are the experts).
17. Keep your co-workers informed and educated (People want to know the good and the bad).
18. Set goals and help all involved achieve them.
19. Be a silent leader.
20. Believe in change and that all people can (Some need more help and some need less).

Family Warmth and Delinquency among Mexican American and White Youth: Detailing the Causal Variables

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KEYWORDS: attachment, delinquency prevention, family effects, families, juvenile delinquency

Abstract

This study investigates the complex relationships between family factors and delinquency among Mexican American and White youth. We examined parental attachment, family cohesion, and parental control to determine whether these factors serve to prevent or reduce adolescent delinquency. Analyses of Wave I and Wave II from the National Longitudinal Survey of Adolescent Health ($n = 8,430$) demonstrate certain family variables were associated with multiple levels of delinquency involvement. None of the family-related items in this survey either predicted delinquency or seemed to protect against delinquency for Mexican American youth; however, for White youth, stronger family cohesion was related to a reduced likelihood of delinquent involvement while stronger parental attachment was associated with lower levels of delinquency. Tests for gender effects indicate these results were similar for both White males and White females. These results have implications for enhancing family parent-child relations to prevent and reduce adolescent delinquency, especially among White youth.

Happy families are all alike; every unhappy family is unhappy in its own way.

— Leo Tolstoy, *Anna Karenina*

Introduction

The concept that “attachment”—the notion that high-quality, close family relationships characteristic of happy families constitutes a strong protective factor against delinquency—has been posited by a number of prominent criminologists. Most notably, Hirschi (1969) held that attachment, in conjunction with commitment, involvement, and belief, is critical and “foundational” (Mutchnick, Martin, & Austin, 2009) to creating and maintaining the social bond. Although all facets of the social bond are important, Hirschi stressed that attachment is the most critical element in the creation and maintenance of a positive parent-child relationship.

Within the concept of attachment, which includes relations with peers, siblings, teachers, and parents, the link to parents is the most critical aspect of attachment itself (Hirschi, 1969; Nye, 1958).

Young people who are unable, by dint of disposition or circumstance, to attach to parents will presumably have an impaired ability to attach to significant others outside the immediate parental orbit and may find that involvement in conventional activities, commitment to conventional goals, and belief in the validity and relevance of the greater social system is also impaired.

Hirschi was far from the first to identify attachment as a key element of the social bond. Piaget (1932) noted the crucial importance of this social connection in what he termed "the moral judgment of the child." The Gluecks (1950) also inferred parental attachment as a critical influence on desistance from delinquency from their interviews with parents and their sons. The McCords (1958) also examined the significant influences of parents and the family on delinquency, finding that a lack of cohesion and low levels of domestic affection were linked to higher rates of delinquency among boys in the Cambridge-Somerville Study. Nye's (1958) seminal work also focused heavily on the family as the pivotal factor in adolescent social control. Most of the delinquent youth in Nye's study, which included 780 high school boys and girls, held high levels of disrespect for parents and could be said to have poor relations with them. In fact, the most delinquent youth felt rejected by their parents. The least delinquent children, in contrast, enjoyed a good relationship with their parents, spent recreational time with them, and respected their advice on issues emerging from their status as adolescents.

The clear theme that emerges from this early research is that young people, as well as conformist adolescents whom Hirschi later studied in his own research, accepted their status as parental wards, accepted their status as children, and were also attached to parents in what seems to be almost an idealized 1950s *Leave it to Beaver*-ish way. In fact, Hirschi "reports an inverse relationship between delinquency and bonds or attachment within the family..." and treats this

relationship as a "core truth" (Mutchnick et al., 2009, p. 289). In early formulations of his ideas, Hirschi focused on indirect controls, such as emotional attachment, since they are operative when the child is not under direct parental observation or potential intervention. As Hirschi stated:

"The more the child is accustomed to sharing his mental life with his parents, the more he is accustomed to seeking or getting their opinion about his activities, the more likely he is to perceive them as part of his social and psychological field, and the less likely he would be to neglect their opinion when considering an act contrary to law—which is, after all, a potential source of embarrassment and/or inconvenience to them." (1969, p. 90).

Attachment to parents has a strong indirect influence that deters the child from deviant acts. "The stronger this bond, the more likely the person is to take it into account when and if he contemplates a criminal act" (Hirschi, 1969, p. 82) and would then, presumably, desist. Thus, in a high-quality relationship between child and parent, the parent is a truly **significant other** whose opinion and regard are taken seriously; the notion of attachment, therefore, binds the parent and child in the bonds of a mutual filial-parental (dare we say it?) love.

A sound parent-child relationship that fosters positive family interaction appears to be the basis for the most effective efforts aimed at delinquency prevention, although parental control, both direct and indirect, are also important. Parental control describes the extent to which parents are attentive to children's behavior both inside and outside of the home. Nye (1958) pointed out that indirect controls are critically important, and that "affection for parents and other conforming individuals plays a major role in the suppression of deviant behavior" (p. 6). He ultimately stated that indirect control is effective "only when there is an affectional relationship to conforming individuals," (p. 6) be they peers or parents, but especially when they are parents.

The importance of familial warmth as protective against deviance is one of the strongest relationships in the entire study of juvenile delinquency. Yet while many criminologists seem to recognize the importance of a close family bond in theoretical considerations of delinquency prevention, few have concentrated empirical attention toward the multidimensional relationship between familial warmth and juvenile delinquency. Researchers in the social work field, on the other hand, have recognized and highlighted the effects of the family on promoting prosocial behavior through a strength-based approach to family counseling. High-functioning families have strong bonds that serve as significant resources that allow adolescents to succeed and flourish (Saleebey, 1996). Adolescents receive support and encouragement through those that hold the most important roles in their lives: their parents, other family members, and guardians. Nurturing relationships give adolescents the ability to develop positive values, prompting them to engage in prosocial activities and decreasing their likelihood of delinquency (Saleebey, 1996).

Specifying and operationalizing family variables in the context of warm and cohesive families is crucial for fostering protective relationships between parents and children. Research has found that when parents are responsive and when strong affection is present, delinquency desistance is much more significant than when only one of these factors is present (Conger, 1976). This suggests that the positive aspects of the family should be disaggregated and examined in greater detail. Going back to Tolstoy: this may suggest that happy families may not all be alike and we should strive to find the areas of warmth that reinforce nondelinquent sentiments and behaviors.

Specifying the relations between family warmth, parental attachment, and delinquency

Family warmth is a general concept that refers to a variety of features characterizing high functioning families, including trust, support, emotional

closeness, open and honest communication, empathy, cooperation, parental responsiveness and attentiveness to children's needs, and mutual respect. Together, these factors foster the development of parental-child attachment, high levels of communication between parents and children, and a cohesive family environment, which can serve important roles in delinquency prevention.

Several features of family warmth result in parent-child attachment, such as parental responsiveness to their children's needs. Adolescents are most likely to form positive attachments to their parents based on the extent to which they feel emotionally close to them. Rankin and Kern (1994), for example, found a child's strong attachment to both parents had a greater protective effect against several forms of delinquency than attachment to only one or neither parent. Similarly, in their analysis of the Gluecks' data, Laub and Sampson (1988) found the emotional ties adolescent boys had with their parents, including a warm association and expressions of admiration for their parents, were associated with a lower likelihood of becoming involved in delinquent activity. Empirical evidence also shows that a warm parent-child relationship promotes adolescents' honestly communicating with their parents about their activities, and that adolescents reporting poor relations with their parents are more likely to lie about their activities outside the home (Warr, 2007). Taken together, the research indicates that parents who are responsive to their children's needs are likely to elicit a greater sense of attachment from their children than are neglectful parents.

Parents who place reasonable demands on children's behavior while fostering their children's respect and cooperation may have greater opportunities to prevent delinquency than parents who do not. It may come as no surprise that a fairly consistent inverse relationship has been established between parents' efforts to control adolescent behavior and their children's involvement in delinquency (Hoeve et al., 2009). The assumption is that adolescents are significantly less likely to

engage in delinquency if their parents are actively making decisions about adolescents' activities in key areas of their lives. Parents may use this technique as an immediate form of directly controlling their child's behavior, but it has also been found to have lasting protective effects against delinquency involvement (Fletcher, Steinberg, & Williams-Wheeler, 2004).

Another vitally important yet understudied factor in delinquency prevention is family cohesion, which refers to the degree to which adolescents generally experience positive interaction with their parents. Cohesive families are likely have positive relationships, enjoy each other's company, and spend quality time together. During familial interactions adolescents from cohesive families are likely to internalize conventional social norms, which can keep them from engaging in delinquent activities. Family cohesion can help to prevent delinquency by increasing the likelihood that adolescents will want to participate in family-based activities, which can help them avoid becoming involved with delinquent peers (Church et al., 2009). Adolescents who experience a strong connection to their families are also likely to receive increased attention from their parents, providing beneficial effects for delinquent and aggressive behavior, as well as reducing children's likelihood of being withdrawn, anxious, or depressed (Lucia & Breslau, 2006).

Differences in family warmth and parental attachment between Latino and White youth

Family relationships are important for encouraging positive behavior among all youth, but it is important to recognize the traditional Latino cultural values that specifically emphasize strong family relationships. These bonds are intricately connected to "familism," which involves "feelings of loyalty, reciprocity, and solidarity towards members of the family, as well as to the notion of the family as an extension of self" (Cortez, 1995, p. 249). Latino families who maintain close emotional ties, healthy parent-child relationships, and high levels of family cohesion can develop a

strong foundation for minimizing tension within the family. Avoiding or effectively addressing family-related stress can similarly reduce conflicts between parents and children, fostering a healthier family climate. Preventing the erosion of familism is perhaps one of the most effective ways to decrease Latino adolescents' vulnerability to anti-social behaviors, including substance abuse (Vega & Gil, 1999) and aggression (Smokowski & Bacallao, 2006).

A fair amount of research has examined potential ethnic differences in family relations between Latino and White youth, with special attention paid to how adolescents relate to their families. For instance, Latino youth have been found to have greater expectations to assist, respect, and support their families than White youth (Fuligni, Tseng, & Lam, 1999). Beyond expectations of family relations, Latino youth have also been found to spend more time helping their families than White youth (Hardway & Fuligni, 2006). The higher levels of respect and support among Latino youth can lead to greater likelihood of turning to their parents for advice (Harwood, Leyendecker, Carlson, Ascenio, & Muller, 2002) and to developing significant levels of trust in their parents, increasing the likelihood that they will openly discuss personal problems with them (Crockett et al., 2007).

Despite our knowledge of how family relations can vary by ethnic group, the vast majority of studies in this area have not investigated differential family factors as protection against delinquency. The few studies that have been conducted have produced mixed and sometimes conflicting results. Cernkovich and Giordano (1987) found that multiple forms of family attachment predicted a greater amount of the variance in delinquency among Whites in their sample compared with nonwhites. Perez-McCluskey and Tovar (2003) demonstrated that although parental attachment, parental supervision, and family involvement served as protection against delinquency among White youth, only parental supervision reduced delinquency among Latino youth.

Other researchers found family involvement had a greater protective influence on delinquency among Latino adolescents than on their White and African American peers, among whom supervisory techniques, such as parental control (Smith & Krohn, 1995), had a greater impact on reducing delinquency. Given the emphasis on honoring the family over the individual in traditional Latino culture (de la Rosa, 2002), Latino adolescents may develop stronger attachment to their parents, respond well to these relationships, and subsequently experience less delinquent involvement compared with White adolescents, who may be more independent from their parents and families by comparison.

The purpose of the current study is twofold. The first is to advance the knowledge of how several family factors, including parent-child attachment, family cohesion, and parental control can decrease delinquency among Mexican American and White adolescents. To achieve this objective, the current study focuses solely on Mexican American and White adolescents to minimize the complications that can emerge from grouping many different Latino subgroups into a single sample. The second purpose of this study is to investigate whether these family factors serve multiple protective functions. In other words, this study has examined whether these variables serve to (1) prevent delinquent involvement and (2) reduce delinquent involvement among adolescents who have a self-reported history of delinquency. Our primary hypothesis was that parent-child attachment, family cohesion, and parental control would prevent delinquent involvement and reduce levels of delinquency among Mexican American and White youth. Given the evidence emphasizing the importance of the family in traditional Latino culture compared with youth from mainstream Euro-American traditions, we expected to find strong protective effects against delinquency resulting from parent-child attachment, family cohesion, and parental control among Mexican American youth.

Methods

Background

Data for this study were part of the National Longitudinal Survey of Adolescent Health (Add Health), a nationally representative, school-based study examining health-related and risk behavior among 20,745 adolescents in grades 7–12 in Wave I (1994–1995) (Mullan et al., 2008). The analyses presented here used data collected from parent reports and in-home interviews collected at Waves I (1994–1995) and II (1996). An interviewer-assisted questionnaire was administered to parents, and the parents entered their responses directly onto computers. One-on-one interviews were conducted with the adolescents. Interviewers read non-sensitive questions to the adolescents and entered the adolescents' responses directly onto a computer. For sensitive questions, adolescents listened to pre-recorded questions via earphones and entered their own responses directly onto a computer to help ensure confidentiality. Participants in the Wave II sample are the same as those who participated in Wave I, with the exception of those in the disabled sample and those who were in grade 12. A detailed description of the clustered sampling design is available on the study Web site: (<http://www.cpc.unc.edu/projects/addhealth/design>). We conducted all multivariate analyses using Stata 11 (StataCorp, 2009) to account for the nationally representative stratified sampling design of the Add Health study.

Sample

The study sample included a total of 8,430 respondents between the ages of 11 and 20 (Mean age = 14.94) at Wave I. Eighty-nine percent of the sample self-identified as White and 11% self-identified as Mexican American. All respondents in the study sample reported they lived with a parent or guardian at Wave I. Table 1 includes sociodemographic characteristics of the sample.

Measures

The dependent variable in the study, involvement in delinquency, was assessed with a series of 13 questions at Wave II (a complete list of items is provided in Appendix A). Participants were asked about a range of delinquent activities, with each item beginning with the statement, "In the past 12 months, how often did you..." followed by items such as "...paint graffiti or signs on someone else's property or in a public place?" "...take something from a store without paying for it?" and "...sell marijuana or other drugs?" The original response scale for each of these items was 0 = 'never,' 1 = '1 or 2 times,' 2 = '3 or 4 times,' and 3 = '5 or more times.' We then recoded these items to indicate whether the adolescent had reported no involvement in the delinquent activity (coded '0') or some involvement in the activity (coded '1'). We then summed these items to create a count of the number of delinquent activities the adolescent had been involved in (ranging from 0–13, $\alpha = 0.77$ for the aggregate sample, $\alpha = 0.77$ for the White sample, and $\alpha = 0.78$ for the Mexican American sample).

A principal components factor analysis confirmed that a three-factor solution fit the items comprising these three family-related variables, which we measured at Wave I. The first family-related factor was *parent-child attachment*, which assessed adolescents' feelings about their relationship with their parents with three questions that included, "Overall, you are satisfied with your relationship with your mother/father," "Most of the time your mother/father is warm and loving toward you." We scored each item on a 5-point scale ranging from 1 = 'strongly disagree' to 5 = 'strongly agree' (factor loadings for the three *parent-child relationship* questions ranged from 0.55–0.93; $\alpha = 0.84$ for the aggregate sample, $\alpha = 0.84$ for the White sample, and $\alpha = 0.85$ for the Mexican American sample).

Family cohesion assessed the extent to which adolescents felt that family members enjoy, love, and care about one another. It was assessed by

four items that begin with the item "How much do you feel that..." followed by items such as "your parents care about you" and "you and your family have fun together." We scored each item on a 5-point scale, ranging from 1 = 'not at all' to 5 = 'very much' (factor loadings for the *family cohesion* items ranged from 0.36–0.84; $\alpha = 0.77$ for the aggregate sample, $\alpha = 0.77$ for the White sample, and $\alpha = 0.75$ for the Mexican American sample).

Parental control, which was assessed with seven items, measured the extent to which adolescents believed their parents set rules and monitored their behavior. The items begin with the statement "Do your parents let you make your own decisions about..." followed by items such as "...the time you must be home on weekend nights" and "...the people you hang around with." Each item was scored as a dichotomy, with 0 = 'No' and 1 = 'Yes' (factor loadings for the *parental control* items ranged from 0.38–0.54; $\alpha = 0.59$ for the aggregate sample, $\alpha = 0.59$ for the White sample, and $\alpha = 0.61$ for the Mexican American sample).

These three family-related variables measured distinct constructs, but they were correlated with each other. *Parent-child attachment* was moderately correlated with *family cohesion* ($r = 0.56$, $p < .01$) and weakly negatively correlated with *parental control* ($r = -.04$, $p < .01$). *Family cohesion* was also weakly negatively correlated with *parental control* ($r = -.08$, $p < .01$).

We also included in the analyses several control variables likely to be associated with delinquency and family dynamics. Adolescents' gender was measured as male (coded '0') and female (coded '1'). Ethnicity was a dichotomous measure, with "Mexican American" representing adolescents who self-reported being Latino with Mexican background (coded '1') and "White" representing adolescents who self-reported being non-Latino White (coded '0').

We also included family structure, which is likely related to family factors, parenting practices, and delinquency (Rosen, 1985) as a control variable. We coded adolescents coming from a

single-parent family as '0' and those coming from a two-parent family as '1.'

Because researchers also have associated adolescents' academic performance with delinquency (Maguin & Loeber, 1996) and parenting practices (Amato & Fowler, 2002), we statistically controlled for these relationships by including a measure of adolescents' self-reported grades. We assessed their grades with four items asking for their most recent grades in (a) English or language arts, (b) mathematics, (c) history or social studies, and (d) science. Responses ranged from 1 = 'D or lower' to 4 = 'A.'

We coded parents' highest level of education, a proximal assessment of socioeconomic status, into three categories: parents who had 'less than high school completion,' those who 'completed high school,' and those who had 'formal education beyond high school.' We treated the group with 'less than high school completion' as the comparison group in the multivariate analyses.

We also included a continuous measure of age as a control to address the variability within the sample and the likely association between age and delinquency observed in prior research (Farrington, 1986).

Empirical evidence also shows that past delinquent involvement is one of the most potent predictors of subsequent delinquency (Nagin & Paternoster, 1991). We included a measure of self-reported delinquency assessed at Wave I to control for prior delinquency. The Wave I control measure of delinquency was based on the same 13 items as the Wave II outcome measure ($\alpha = 0.78$ for the aggregate sample, $\alpha = 0.78$ for the White sample, $\alpha = 0.81$ for the Mexican American sample).

Results

Descriptive analyses

Table 1 provides descriptive statistics by racial/ethnic group. Preliminary analyses indicated the

Table 1. Descriptive statistics of study sample by ethnic group

Variable	White sample <i>n</i> = 7,509			Mexican American sample <i>n</i> = 921		
	Percentage	M(SD)	Range	Percentage	M(SD)	Range
Female	51%			51%		
Two-parent household	59%			62%		
Parent education						
Less than high school	9%			46%		
Graduated high school	31%			26%		
More than high school	60%			28%		
Age	15.18(1.57)	11–20		15.63(1.60)	11–20	
Grades	2.86(.78)	1–4		2.59(.77)	1–4	
Prior delinquency	2.31(2.34)	0–13		2.78(2.74)	0–13	
Parental attachment	4.25(.77)	1–5		4.19(.80)	1–5	
Family cohesion	4.01(.66)	1–5		4.04(.70)	1–5	
Parental control	5.14(1.49)	0–7		4.81(1.66)	0–7	
Dependent variable						
Delinquency (Wave II)	1.92(2.19)	0–13		2.07(2.33)	0–13	

Mexican American adolescents were, on average, slightly older than the White adolescents ($t = -8.04, p < .001$). White adolescents earned higher grades than their Mexican American peers ($t = 9.65, p < .001$), reported higher mean levels of parental attachment ($t = 2.28, p < .05$), and higher levels of parental control ($t = 6.24, p < .001$). Parents of Mexican American adolescents were less educated than parents of White adolescents ($\chi^2 = 355.51, p < .001$). Although Mexican American adolescents reported higher mean levels of Wave I delinquent involvement than White adolescents ($t = -5.67, p < .001$), mean levels of delinquency assessed at Wave II were not statistically different from one another across these racial/ethnic groups.

Multivariate analyses

Given that we drew the study sample from a nationally representative dataset, occurrences of delinquency were far fewer than in samples of at-risk youth. This preponderance of zero involvement in delinquency resulted in the overdispersion of the dependent variable. To properly address this issue, we analyzed the distribution of the Wave II delinquency measure with Stata 11 (StataCorp, 2009) to determine which regression model was most appropriate for this analysis. Tests indicated that zero-inflated negative binomial regression was better suited for this application than poisson regression ($LR = 511.90, p = 0.06$) or negative binomial regression (Vuong = 11.52, $p < .001$) (Bulsara, Holman, Davis, & Jones, 2004; Cameron & Trivedi, 1998; Hilbe, 2007).

This regression model is ideally suited for analyzing the effects that family factors can have on the prevention and reduction of delinquency because it produces results in two parts. The first part represents a logistic regression predicting the likelihood of adolescents engaging in any delinquency and is expressed in the form of an odds ratio (Sheu, Hu, Keeler, Ong, & Sung, 2004). The second part represents a rate (or level) of involvement in delinquency only for the adolescents who reported some delinquency involvement. In other

Table 2. Results of zero-inflated negative binomial regression models

Variable	Logistic portion of model		Counts portion of model	
	Odds of use 1/(exp ^b)	SE	IRR (exp ^b)	SE
Gender	1.39*	0.16	0.93**	0.03
Age	0.91†	0.06	0.93**	0.01
Ethnicity	1.35	0.38	1.00	0.05
Two-parent household	1.01	0.17	0.98	0.03
Grades	0.85	0.12	0.94**	0.02
Parent education: HS grad	1.37	0.30	0.95	0.05
Parent education: More than HS	1.39	0.29	1.01	0.05
Prior delinquency	5.19**	0.19	1.17**	0.01
Parent-child attachment	0.89	0.15	0.95*	0.02
Family cohesion	0.59**	0.19	0.99	0.03
Parental control	1.01	0.05	1.01	0.01

Note: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Ethnicity: White youth are coded '0' and treated as the comparison group

words, the 'counts' portion of the model indicates the extent to which the independent variables predict the level of delinquent activity for those adolescents reporting involvement in at least one of the activities included in the delinquency scale.

Table 2 contains the results of the first zero-inflated negative binomial regression model that we estimated with the aggregate study sample. In the logistic portion of the model, girls had higher odds of delinquent involvement than boys ($OR = 1.39, p < 0.05$) and prior delinquent involvement predicted delinquency at Wave II ($OR = 5.19, p < 0.01$). Age approached significance, with older adolescents less likely to be involved in delinquency ($OR = 0.91, p < 0.10$). The only family factor that predicted the likelihood of delinquency involvement was family cohesion. Greater family cohesion predicted a lower probability

Table 3. Results of zero-inflated negative binomial regression models by racial/ethnic group

Variable	Mexican American sample				White sample			
	Logistic portion of model		Counts portion of model		Logistic portion of model		Counts portion of model	
	Odds of use 1/(exp ^b)	SE	IRR (exp ^b)	SE	Odds of use 1/(exp ^b)	SE	IRR (exp ^b)	SE
Gender	0.79	0.44	0.91	0.09	1.48*	0.16	0.93**	0.03
Age	1.20	0.16	0.88**	0.02	0.89*	0.06	0.93**	0.01
Two-parent household	0.90	0.73	1.05	0.10	1.03	0.17	0.97	0.03
Grades	0.63	0.77	0.89	0.07	0.82†	0.12	0.95*	0.02
Parent education: HS grad	0.36	1.01	1.00	0.13	1.81†	0.35	0.95	0.07
Parent education: More than HS	1.40	0.99	0.93	0.12	1.71	0.35	1.01	0.07
Prior delinquency	3.11†	0.59	1.15**	0.02	5.32**	0.21	1.17**	0.01
Parent-child attachment	0.89	0.56	1.05	0.07	0.91	0.17	0.94*	0.02
Family cohesion	1.97	0.97	0.93	0.12	0.56**	0.20	0.99	0.03
Parental control	1.05	0.21	1.02	0.03	1.02	0.06	1.00	0.01

Note: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

of being involved in delinquency ($OR = 0.59, p < 0.01$). Gender and age were also significant in the counts portion of the model. Although girls had higher odds of delinquent involvement in the logistic portion of the model, girls who reported delinquent activity had lower levels of delinquency than boys who reported delinquent activity ($IRR = 0.93, p < 0.01$). Age was also negatively correlated with delinquency involvement. Older adolescents involved in delinquency were involved at lower levels than younger adolescents ($IRR = 0.93, p < 0.01$). Higher grades in school predicted less delinquency involvement ($IRR = 0.94, p < 0.01$), and higher levels of prior delinquency predicted higher levels of subsequent delinquency ($IRR = 1.17, p < 0.01$). Parent-child attachment was the sole significant family variable in this portion of the model, predicting lower rates of delinquency involvement in the aggregate sample of White and Mexican heritage youth ($IRR = 0.95, p < 0.05$).

The results from the next set of zero-inflated negative binomial models, which we estimated

within the two racial/ethnic groups, are presented in Table 3. There were two significant predictors in the Mexican American sample and both were in the counts portion of the model. Age was inversely associated with levels of delinquency ($IRR = 0.88, p < 0.01$) and prior delinquency was positively associated with Wave II delinquency ($IRR = 1.15, p < 0.01$). None of the family factors were significant in this model for the Mexican American sample.

In the White sample, however, family cohesion predicted a lower probability of delinquent involvement ($OR = 0.56, p < 0.01$) and parent-child attachment predicted lower levels of delinquency for White adolescents who had reported some delinquency previously ($IRR = 0.94, p < 0.05$). In other words, family cohesion was associated with lower odds of White youth engaging in delinquent activities, while parent-child attachment suppressed the level of delinquency for those who did engage in these activities. Prior delinquency remained a significant predictor for delinquency among White adolescents in the

logistic portion of the model ($OR = 5.32, p < 0.01$) and the counts portion of the model ($IRR = 1.17, p < 0.01$). Older White adolescents had a lower probability of being involved in delinquency ($OR = 0.89, p < 0.05$) and lower levels of delinquency when family cohesion and attachment to parents was strong ($IRR = 0.93, p < 0.01$). White females had a higher probability of becoming involved in delinquency ($OR = 1.48, p < 0.05$) than White males, but females involved in delinquency were involved at lower levels than their male counterparts ($IRR = 0.93, p < 0.01$) when parental attachment was strong. In addition, higher academic performance predicted reduced levels

of delinquency for White adolescents ($IRR = 0.95, p < 0.05$).

Observing the effects of gender on delinquency involvement and levels of delinquency in the White sample prompted us to investigate further to determine whether the family factors may have had differential effects for females and males (results are presented in Table 4). None of the gender-by-family factor interaction terms were significant, however, suggesting that family cohesion prevented delinquency involvement and that parent-child attachment reduced levels of delinquency equally among males and females in the White sample.

Discussion

Nye (1958) and Hirschi (1969) emphasized the crucial importance of the family as a primary source of learning conventional social behavior that could diminish adolescents' likelihood of becoming involved in delinquent activities. Despite the level of importance that the family unit assumed within this social control framework, there were few details offered in these early writings about the relative importance of certain elements of family connections and parenting processes. Nye (1958) highlighted the significance of parenting practices to ensure that children were prevented from becoming involved in delinquency, while Hirschi (1969) concentrated on the bond between parents and children to direct adolescents toward conventional behaviors to lower their likelihood of delinquency involvement.

From this social control perspective, the current study examined the relationships between several different, yet related, family factors to determine (1) their viability in preventing adolescents' future delinquent involvement, and (2) their ability to reduce adolescents' levels of delinquency involvement, especially for those who had reported some experience with delinquency. Family cohesion emerged as a significant factor in preventing White adolescents from becoming involved in future delinquency. A healthy family environment can be characterized as parents and

Table 4. Results of zero-inflated negative binomial regression models with interaction terms in the White sample

Variable	Logistic portion of model		Counts portion of model	
	Odds of use 1/(exp ^b)	SE	IRR (exp ^b)	SE
Gender	1.43†	0.20	0.93*	0.03
Age	0.89*	0.06	0.93**	0.01
Two-parent household	1.03	0.18	0.97	0.03
Grades	0.81†	0.12	0.95*	0.02
Parent education: HS grad	1.76	0.36	0.96	0.07
Parent education: More than HS	1.72	0.35	1.01	0.07
Prior delinquency	5.42**	0.22	1.17**	0.01
Parent-child attachment	0.75	0.26	0.97	0.04
Family cohesion	0.63	0.29	0.95	0.04
Parental control	1.06	0.07	1.00	0.02
Gender x Parental attachment	1.44	0.30	0.94	0.05
Gender x Family cohesion	0.76	0.36	1.09	0.06
Gender x Parental control	0.93	0.10	1.01	0.02

Note: † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

children who spend time together engaged in recreational activities, openly and honestly communicating with each other, and enjoying each other's company. These positive family attributes are likely to divert adolescents from engaging in delinquency by fostering the development of certain traits, such as high self-esteem, which research has demonstrated protects adolescents from antisocial behaviors (Parker & Benson, 2004).

One important finding that emerged from this study is that parent-child attachment predicted lower levels of delinquency for adolescents already involved in delinquent behavior. Prior research has shown similar family processes may have beneficial effects on delinquency involvement. Similar to our measure of parent-child attachment, Demuth and Brown's (2004) measure of parental closeness proved to have desired effects on adolescents' levels of delinquency. This research supports Hirschi's (1969) conception that the creation and maintenance of a positive social bond can reduce future delinquency. Although adolescents may become involved in delinquency, this evidence suggests parents should continue efforts to maintain a positive relationship with them. Building and sustaining strong relationships with their children may serve to indirectly limit adolescents' levels of delinquency involvement at the most crucial moments, especially when parents cannot directly supervise them (Cernkovich & Giordano, 1987).

The results of the current study offer partial support for the effect of ethnic differences in family factors on delinquency. Similarly, prior research suggests that parent-child relationships may differentially predict delinquency by racial or ethnic group (e.g., Perez-McCluskey & Tover, 2003). These researchers suggest that family cohesion and parent-child attachment prevents and reduces delinquency involvement among White adolescents, but the same effects are not experienced by Mexican American adolescents. One explanation for this difference may be related to the socioeconomic position of Mexican American families in the United States. Mexican Americans

disproportionately occupy lower socioeconomic strata than their White counterparts, evidenced by the larger proportions of Mexican American parents with lower levels of education in our sample. For example, less than 10% of White adolescents' parents in our sample did not finish high school, while 46% of Mexican American adolescents' parents did not complete high school. As a consequence, Mexican American families are more likely to experience high levels of financial hardship and neighborhood danger, two chronic unavoidable stressors that economically disadvantaged families may encounter on a daily basis (Attar, Guerra, & Tolan, 1994; McLoyd, 1990). These stressful conditions have, in turn, been found to increase depression and negatively impact parental warmth and attentiveness toward children among some Mexican American parents (White, Roosa, Weaver, & Nair, 2009). In the context of delinquency prevention in a stressful social environment, it is possible that some Mexican American parents may be preoccupied with providing their families with basic necessities while their children are also exposed to greater neighborhood disorganization favorable to delinquency. This array of social conditions may make it more difficult for Mexican American families to contend with the pull of the neighborhood toward delinquency.

In addition to economic strain, Mexican American families may also be suffering from acculturation-related stress (Samaniego & Gonzales, 1999). Acculturative stress includes, but is not limited to, tension stemming from discrimination, difficulties related to language use, general feelings associated with being an outsider, and challenges related to reconciling norms, values, and customs from one's cultural heritage within a dominant culture (Hovey, 2000). Mexican American adolescents, for example, may be become more adept than their parents at developing bicultural adaptation techniques, such as speaking English and speaking Spanish; their parents may continue to speak primarily Spanish as one example of honoring traditional Latino cultural values. Adolescents

may become more oriented toward mainstream American culture than their parents through forced assimilation in school and significant periods of time spent with American-oriented peers. Such a situation could create an acculturation gap between adolescents and parents, reducing adolescents' sense of familial obligations and decreasing parenting effectiveness. Adolescents in this position may experience less protection from family warmth due to acculturation-related tension while simultaneously being exposed to more frequent opportunities for delinquency.

Contrary to previous research showing significant gender differences in the way in which family ties protect against delinquency (e.g. Cernkovich & Giordano, 1987; Griffin, Botvin, Scheier, Diaz, & Miller, 2000), similar findings did not emerge in this study. Instead, we found family cohesion and parental attachment to be the key family variables to reduce delinquency for White males and females alike. In their study of gender differences in risk and protective factors, Fagan et al. (2007) also found protective family factors, such as maternal and paternal attachment, receipt of rewards for positive behaviors, and the availability of prosocial opportunities in the family to be equally important delinquency prevention measures for males and females. This evidence clearly highlights the relevance of Hirschi's (1969) conception of the social bond, especially in the form of high levels of family cohesion and parent-child attachment, as effective measures to prevent and reduce adolescent delinquency, especially for White males and females.

Limitations and Conclusion

Although this study offers a detailed examination of the ways in which certain elements of the family bond can help to prevent or reduce adolescent delinquency, we acknowledge several limitations. This study was based on a large population-based survey, which left us unable to ascertain the influence of particular family factors that are likely related to delinquency for the subgroups analyzed here. Using culturally specific

measures relevant to Mexican heritage family traditions, such as *familism, respeto, and simpatia* (Castro & Alarcón, 2002), could serve as important sources of delinquency prevention for this group compared with the ethnically generic measures included in these data.

In addition to including these culturally relevant family factors, future studies should assess the role of acculturation-related stress and how it may operate to place Mexican American youth at greater risk for delinquency that was not captured by this study. It is also possible that adolescent males and females react differently to parent-child interactions (Cernkovich & Giordano, 1987; Miller & White, 2003), creating a qualitatively different protective experience for each gender group that is not fully captured in the measures used in the current study. Future research should take this into account and assess the nature and extent to which adolescent boys' and girls' experiences with familial warmth provide long-term protections from delinquent involvement.

After acknowledging these limitations, this study contributes a more detailed explication of the various family-related dimensions underlying the all-important social bond. Attachment to the family unit, represented by positive engagement with family members and close connections with parents, emerged as two critical elements for delinquency reduction among White adolescents. The positive reinforcement these adolescents receive from their parents and family through these strong bonds has the encouraging effect of helping them to avoid and minimize their involvement in delinquent activities.

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Appendix A

Items included in the delinquency and family scales

Variable and Responses	Items
Delinquency (0) Never (1) 1 or 2 times (2) 3 or 4 times (3) 5 or more times	<p>1. In the past 12 months, how often did you paint graffiti or signs on someone else's property or in a public place?</p> <p>2. In the past 12 months, how often did you deliberately damage property that didn't belong to you?</p> <p>3. In the past 12 months, how often did you lie to your parents or guardians about where you had been were or whom you were with?</p> <p>4. In the past 12 months, how often did you take something from a store without paying for it?</p> <p>5. In the past 12 months, how often did you run away from home?</p> <p>6. In the past 12 months, how often did you drive a car without the owner's permission?</p> <p>7. In the past 12 months, how often did you steal something worth more than \$50?</p> <p>8. In the past 12 months, how often did you go into a house or building to steal something?</p> <p>9. In the past 12 months, how often did you use or threaten to use a weapon to get something from someone?</p> <p>10. In the past 12 months, how often did you sell marijuana or other drugs?</p> <p>11. In the past 12 months, how often did you steal something worth less than \$50?</p> <p>12. In the past 12 months, how often did you act loud, rowdy, or unruly in a public place?</p> <p>13. In the past 12 months, how often did you take part in a fight where a group of your friends was against another group?</p>
Parent-child attachment (1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree (5) Strongly agree	<p>1. Most of the time your mother/father is warm and loving toward you</p> <p>2. You are satisfied with the way your mother/father and you communicate with each other.</p> <p>3. Overall, you are satisfied with your relationship with your mother/father</p>
Parental control (1) Yes (0) No	<p>1. Do your parents let you make your own decisions about the time you must be home on weekend nights?</p> <p>2. Do your parents let you make your own decisions about the people you hang around with?</p> <p>3. Do your parents let you make your own decisions about what you wear?</p> <p>4. Do your parents let you make your own decisions about how much television you watch?</p> <p>5. Do your parents let you make your own decisions about which television programs you watch?</p> <p>6. Do your parents let you make your own decisions about what time you go to bed on week nights?</p> <p>7. Do your parents let you make your own decisions about what you eat?</p>
Family Cohesion (1) Not at all (2) Very little (3) Somewhat (4) Quite a bit (5) Very much	<p>1. How much do you feel that your parents care about you?</p> <p>2. How much do you feel that people in your family understand you?</p> <p>3. How much do you feel that you and your family have fun together?</p> <p>4. How much do you feel that your family pays attention to you?</p>

Polygraph Testing for Juveniles in Treatment for Sexual Behavior Problems: An Exploratory Study

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KEYWORDS: *sex offenders; treatment programs; assessment; juvenile offenders*

Abstract

Post-adjudication polygraph testing for juveniles with sexual behavior problems remains controversial. This study investigated the impact of polygraph testing in a sample of 60 adolescent males participating in specialized outpatient treatment specific to this population. Polygraph testing resulted in a significant increase in the number of victims disclosed. The types of victims disclosed as a result of polygraph testing tended to be younger and male, compared with the types of victims disclosed before polygraph testing. There was a non-significant trend toward proportionately more disclosure of extra-familial victims during polygraph testing than before. In addition, a substantial proportion of participants revealed sexual contact with same-age peers that they had previously not disclosed during the course of treatment. Results suggest that polygraph testing may be used to gain additional information and potentially help to inform specialized treatment.

Introduction

Data from a variety of sources indicate that adolescents commit a large number of sex offenses. According to official data from the U. S. Department of Justice's National Incident-Based Reporting System (2004), juveniles comprise more than one in four sex offenders and perpetrate more than one in three sex offenses against other youth. Unofficial reports, such as victim surveys, suggest that the actual number is even higher, given that a vast number of sexual assaults go unreported, particularly in cases of incest (Snyder & Sickmund, 2006). Given the extent of this problem and the serious threat it poses to society, measures should be taken to improve the efficacy of juvenile sex offender treatment and promote community safety (Association for the Treatment of Sexual Abusers, 2004; Center for Sex Offender Management, 1999).¹

¹ We recognize that historically the term "juvenile sex offender" has been used to refer to this population. We use the term "juveniles with sexual behavior problems" in the treatment program and in this article to differentiate between the behavior and the youth. We have placed the first term in the list of keywords to allow for ease of searching the literature on this population.

Polygraphs have emerged as a tool that may substantially improve the management (Center for Sex Offender Management, 2008), supervision (Consigli, 2002; Matte, 1996), and treatment (Ahlmeyer, Heil, McKee, & English, 2000; Grubin, 2008) of individuals with sexual behavior problems. Polygraph testing has been integrated into the recommendations of leading adult sex offender treatment and management organizations: For example, the Association for the Treatment of Sexual Abusers *Adult Male Practice Standards and Guidelines* (2004) include recommendations for the post-conviction polygraph testing of adult male sex offenders; Colorado's "community containment approach" involves a multidisciplinary case management team comprising a probation or parole officer, a treatment provider, and a polygraph examiner who gather as much accurate information as possible to reduce access to victims and opportunities to reoffend (English, Jones, & Patrick, 2003). While the use of polygraphs for the treatment and supervision of juveniles with sexual behavior problems is increasing, polygraph testing in this population is used less often than polygraph testing among adults (McGrath, Cumming, & Burchard, 2003). This may be due, in part, to continued controversy over the reliability and validity of polygraph testing as well as to a lack of empirical research that includes adolescent populations. In this paper, we provide a brief overview of how polygraph testing is used with adolescents with sexual behavior problems, specifically in treatment settings, and then present an empirical study of polygraph testing with juveniles in an outpatient treatment center.

The use of polygraphs with juveniles with sexual behavior problems

Similar to adult sex offenders, juveniles are often reluctant to admit the full extent of their offense histories (Barbaree & Marshall, 2006; Hindman & Peters, 2001; Marshall, Laws, & Barbaree, 1990). Unsurprisingly, fear of legal recourse and societal stigma lead many offenders either to deny their

crimes altogether, or simply admit to the minimum they think is necessary (Blasingame, 1998; Hindman & Peters, 2001). For example, in a study of 20 adolescent males admitted to an outpatient treatment clinic, 40% denied having any interaction with the victim or denied that the interaction constituted a sexual offense; an additional 50% minimized their responsibility for the incidents, the harm to victims, or both (Barbaree & Cortoni, 1993).

Offenders who are in denial about their offenses do not typically engage in and comply with treatment (Hunter & Figueiredo, 2000; Maletzky, 1991). Most therapists agree that the first goal of treatment is to assist the perpetrator in acknowledging that he exhibits behavior that is problematic (Schlank & Shaw, 1996). To benefit optimally from treatment, the offender needs to hold himself accountable for his abusive actions, recognize his difficulty in managing his sexuality (Winn, 1996), and give up the secrecy that accompanies offending behavior (Barbaree & Cortoni, 1993). Perpetrators who deny their offenses are less likely to complete treatment (Levenson & MacGowan, 2004) and may be at a higher risk to reoffend than those who admit their offenses (Maletzky, 1991). Thus, there is a need to encourage complete disclosure among this population.

Proponents of polygraph testing argue that such testing can be used to attain more accurate information about a youth's history, range of victims, types of offending behaviors, and possible paraphilic interests, resulting in treatment that addresses his specific needs as closely as possible (Emerick & Dutton, 1993; Heil, Ahlmeyer, & Simons, 2003). While most adolescents with sexual behavior problems are not sexual predators and do not meet the DSM-IVR criteria for pedophilia (American Psychiatric Association, 2000; Becker, Hunter, Stein, & Kaplan, 1989), a number have deviant sexual arousal and/or deviant sexual fantasies, which they may be reluctant to admit during group therapy. Information gained from polygraph testing can potentially assist clinicians in the differential diagnosis of youth who meet

the criteria for paraphilic disorders as opposed to those who do not. Considering many sexual preferences develop during puberty, and research suggests that adolescents' sexual arousal patterns are more amenable to change than adults' (Hunter & Becker, 1994), intervention during adolescence may facilitate such change (Groth, Longo, & McFadin, 1982).

According to the Center for Sex Offender Management (1999), several different types of polygraphs are commonly used with sex offenders. "Sexual history" polygraphs are the most common type of polygraph, involving verification of the completeness of the entire sexual history the offender has disclosed; this is generally accomplished by having the offender complete a comprehensive sexual history questionnaire. "Maintenance" polygraphs, those required for an individual's treatment and/or parole, verify the offender's report of compliance with supervision rules and restrictions. Finally, "specific issue" or "instant" offense disclosure polygraphs test the accuracy of the offender's report of his or her behavior in a particular sex offense, usually the most recent offense related to being criminally charged.

In this paper, we focus on sexual history polygraphs and their use in treatment settings. Grubin (2008) notes that because the focus of these polygraphs is not on "passing" or "failing" but on facilitating disclosures that assist in treatment, post-conviction polygraphy of sex offenders differs significantly from testing that is conducted in criminal investigation settings. In this context, sexual history polygraphs are "probably better thought of as a truth facilitator than a lie detector" (Grubin, 2008, p. 182). In the outpatient treatment program that is the focus of this study, polygraph testing is used in the initial stages of treatment to supplement the offenders' self-reported sexual history.

Another way polygraph testing can potentially improve treatment is by increasing the rapport between client and therapist, as well as

establishing trust between the youth and his family and/or group therapy members (Blasingame, 1998). In situations where denial and secrecy are common, many people in these youths' lives understandably find it difficult to have trusting relationships; thus, a main objective of treatment is to re-establish trust between the youth and his family, and between the youth and his peers (Barbaree & Marshall, 2006). Within a post-adjudication treatment setting, this goal can be facilitated when therapists discuss the results of polygraph examinations with the youth and his family. This process has the potential to benefit clients as well as the other stakeholders involved. One study of 95 convicted adult sex offenders found that the majority reported polygraph testing to be a helpful part of their treatment, and these clients agreed with examiners' conclusions 90% of the time (Kokish, Levenson, & Blasingame, 2005).

Despite the potential benefits of polygraphs, their use with adolescents with sexual behavior problems remains controversial. In a recent review, Meijer et al. (2008) concluded that evidence for the claims about the clinical potential of polygraph tests is "weak, if not absent" (p. 423). Such conclusions are based on understandable concerns about polygraphs' reliability and validity and the possibility that confessions may be due more to offenders' beliefs that procedures will elicit a confession than the polygraph test itself (Ben-Shakar, 2008). Critics also argue that polygraph testing can have a negative effect on therapeutic relationships or an offender's self-esteem (see Grubin, 2009). A major concern is the current lack of well-conducted empirical studies demonstrating the efficacy of polygraph testing within the therapeutic context. Much of the existing research on polygraph testing has focused on reliability and validity in relation to investigation-type protocols and criminal justice settings, often employing the use of mock trials (Grubin, Madsen, Parsons, Sosnowski, & Warberg, 2004). Less research has been conducted examining the actual application of post-conviction polygraphs

with sex offenders, and there is a dearth of empirical studies that specifically include adolescent populations.

The current study

To date, there has been little research on polygraph testing with juveniles with sexual behavior problems (Hunter & Lexier, 1998). The purpose of this study was to explore whether polygraph testing, when utilized as part of offender-specific evaluation and treatment, resulted in disclosures of new victims among juveniles in an outpatient treatment program. We expected participants to disclose significantly more victims during polygraph testing than before testing. We also hypothesized that more offenses against male victims would be revealed, in part due to the stigma associated with male-on-male sexual behaviors (Sorsoli, Kia-Keating, & Grossman, 2008).

In the outpatient treatment program that is the focus of this study, we used sexual history polygraphs to assure the greatest treatment benefit and to minimize the risk for future offending behaviors and possible punitive legal measures as these adolescents become adults. We made decisions related to service delivery, length of stay, and goals on a case-by-case basis; these decisions were informed by the sexual history, clinical issues, and presenting needs of each youth. This approach represents a contrast to the "one size fits all" method of service delivery that has not been proven effective (Center for Sex Offender Management, 1999; Zimring, 2004). For youth who could potentially benefit from a polygraph exam, these examinations were paid for by the treatment contract. We believed that information about all sexual history, including the youth's own possible victimization, should be revealed and addressed in therapy. Sexual history polygraphs allowed this information to be presented following the initial stages of treatment.

Method

Participants

We randomly selected polygraph data from 60 case files for inclusion in this study. Participants were males aged 12-19 enrolled in an outpatient treatment program for juveniles with sexual behavior problems in Florida.² Demographic characteristics are presented in Table 1. This group included youth who received only outpatient treatment as well as those returning to the community for aftercare services following commitment to a residential program specific to youth with sexual behavior problems. Services provided included group, individual, family, and crisis counseling specific to this population. The program director and clinicians were licensed mental health providers who met established criteria for providing treatment to juvenile sex offenders in the state of Florida. All participants had exhibited sexual behaviors toward younger children and/or peers, the majority of which were hands-on (contact) offenses ranging from exposure to penetration. These behaviors caused enough attention or concern for family members or law enforcement personnel to refer the youth for assessment and, subsequently, treatment for sexual behavior problems. All youth were court-ordered for services specific to their sexual behaviors. As relatively few females were referred for treatment, only male participants were included in this study.

Table 1. Demographic Characteristics of the Sample

	Range	M	SD
Age at polygraph testing	12-19	16.32	1.60
	N	%	
Age at first offense	11-18	14.00	1.66
Caucasian	45	75	
African American	14	23	
Latino	1	2	

² All youth were aged 11-18 at the time of their offense. Three youth were 19 years old at the time of the study, as they were still completing the treatment program from their juvenile offense.

Following the recommendations of the Center for Sex Offender Management (1999; 2008), polygraph testing in this treatment setting is generally conducted with adolescents aged 14 and older because younger juveniles have generalized movements that often result in inconclusive exams. Youth who are under age 14 are referred for polygraph testing only when it is recommended by their therapists—usually in cases of persistent denial.³

Instrument

Two independent examiners conducted the polygraph testing between 2006 and 2008. Both examiners are members of the American Polygraph Association and have worked extensively with juveniles who have sexual behavior problems. These examiners used the Axciton/Acer Computerized Polygraph System and the Lafayette LX 4000 Computerized Polygraph System. Both systems used the PolyScore computer scoring algorithm developed by Johns Hopkins/Applied Physics Laboratories for the purposes of score reliability and validity confirmation.

Procedure

The two examiners mentioned above conducted polygraph testing as part of treatment specific to juveniles with sexual behavior problems. The polygraph testing was funded by the treatment contract. Polygraphs were used for treatment purposes only and the results were made available only to qualified clinicians. Juveniles had typically been in this treatment program for an average of one to six months at the time of their examination. The therapists gave juveniles the opportunity for disclosure in group and individual therapy settings prior to the polygraph exam, and informed the juveniles that the purpose of the exam was to support their disclosure and validate their history. Scheduling was often based on the comfort level of the juvenile and reported

readiness for testing. The examiners provided written and verbal information on the clinical polygraph to the juveniles and their parents or caregivers at initial assessment; parents, guardians, or other caregivers gave their permission for the juveniles to take the polygraph examination. The examiners reviewed medical and other information about the juveniles, as well as their ability to understand instructions, prior to the exam. The examiners provided the juveniles with a detailed explanation of the polygraph instrument, examination procedure, and physiology as it applies to the polygraph, and gave them the opportunity to ask questions before the examination. Youth were advised of the voluntary nature of the polygraph examination and indicated willingness to be examined in writing.

The polygraph examination contained pre- and post-test components. The pre-test established which questions the examiner would ask based on 1) the juvenile's self-report of new admissions of past offending, or 2) the absence of accountability statements for known offending behaviors identified at the beginning of treatment. Polygraph testing consisted of the examiner measuring the youths' cardiovascular, respiratory, and galvanic skin resistance to three relevant questions (e.g., "Have you sexually touched anyone you have not told me about?") regarding his past sexual offending behaviors (Zone Comparison Technique; Gordon, Fleisher, Morsie, Habib, & Salah, 2000). The post-test consisted of the examiner reviewing the information obtained throughout the examination and addressing areas of deception with the examinee. The juvenile was then given the opportunity to disclose any additional victims and/or sexual contacts to the examiner or therapist.⁴

Of the 60 polygraph examinations included in this study, 39 (65%) had No Significant Response (nondeceptive), 11 (18.3%) had Significant

³ Two 13-year-old and one 12-year-old youth were included in this study.

⁴ Due to mandatory reporting laws, therapists were required to report any new disclosures of sexually abusive behavior reported during the therapy sessions. In this sample, one new arrest was made based on such a disclosure. In that case the original abuse was re-initiated upon contact with the victim.

Response (deceptive), and 10 (16.7%) had No Opinion (inconclusive) results. These rates are similar to other polygraph studies using similar methodology (e.g., Gordon et al., 2006).

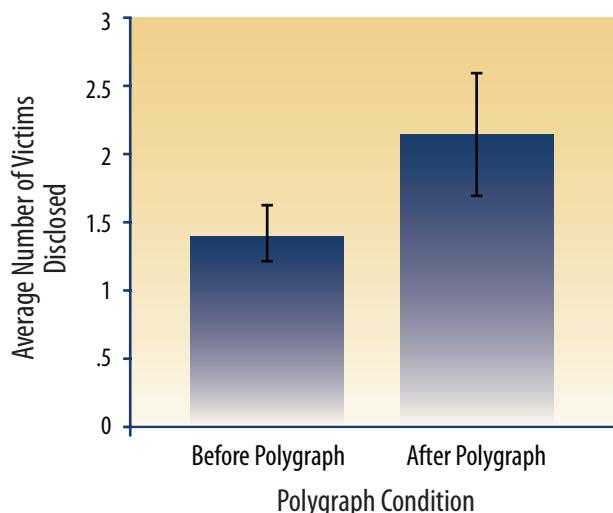
Statistical Methods

We conducted the following statistical analyses to compare the disclosures made before and during polygraph testing: 1) Paired samples *t*-tests to compare the total number of victims disclosed; 2) Chi-square analyses to test for differences regarding victim gender (male or female), use of force (force, contact, or exposure), and relationship to victim (intra-familial or extra-familial); and 3) Paired sample *t*-tests to compare the average age of victims disclosed.

Results

First, we examined whether polygraph testing resulted in disclosures of additional victims. Indeed, results indicated that polygraph testing resulted in an increase in the number of victims disclosed (before polygraph $M = 1.42$, $SD = 0.98$; during polygraph $M = 2.15$, $SD = 1.55$). A paired-samples *t*-test indicated that this increase was statistically significant, $t(59) = -4.89$, $p < .001$; see

Figure 1. Average number of victims disclosed before and after polygraph.



Note. Error bars represent 95% confidence intervals.

Figure 1. Under polygraph, 24 participants disclosed a total of 45 new victims, with the number of new disclosures ranging from one to five new victims ($M = 0.73$, $SD = 1.16$).

We then explored whether patterns emerged in the types of new disclosures made. During polygraph, the average age of victims disclosed trended toward younger victims (before polygraph $M = 8.28$, $SD = 4.32$; during polygraph $M = 7.11$, $SD = 3.77$; $t[129] = 1.56$, $p = .12$, Cohen's $d = .29$), and toward male victims (before polygraph, 54 female and 27 male victims were disclosed; after polygraph, an additional 22 female and 23 male victims were disclosed; this proportionate increase in disclosures of male victims trended toward significance, $\chi^2[1, N = 125] = 3.32$, $p = .07$).

Of the new victims disclosed under polygraph testing, 33 were contact victims, 10 involved use of force, and two were victims of exposure. In contrast, victims disclosed without polygraph included 45 involving the use of force, 32 involving contact, and eight involving exposure. Differences between the types of offense disclosed before and during polygraph were significant, $\chi^2(2, N = 130) = 15.00$, $p < .001$. The victims disclosed before polygraph testing included 35 intra-familial victims and 41 extra-familial victims. Of the new disclosures, 14 were intra-familial and 30 were extra-familial. There was a nonsignificant trend for proportionately greater disclosure of extra-familial victims during polygraph testing than before, $\chi^2(1, N = 120) = 2.34$, $p = .12$. Summary data are presented in Table 2.⁵

Discussion

Key Findings and Implications

As expected, juveniles disclosed significantly more offenses during polygraph testing than before. While this finding is consistent with our hypothesis, it is particularly interesting

⁵ We defined the use of force as a youth who was at least three years older than the victim and used penetration; we defined familial offenses as those committed against victims who were immediate family members, half- or step-siblings, or cousins.

Table 2. Summary of Polygraph Data

Variable		Before Polygraph	During Polygraph
Number of victims	M	1.42	2.15
	SD	0.98	1.55
Age of victims	M	8.28	7.11
	SD	4.32	3.77
Gender of victims	Male	27	23
	Female	54	22
Type of offense	Contact	45	33
	Exposure	32	2
	Force	8	10
Relation	Intra-familial	35	14
	Extra-familial	41	30

considering these youth had been involved in treatment prior to undergoing the polygraph examination; in fact, at least one-third of participants in our study were aftercare clients who had already completed a residential program and were in outpatient treatment for follow-up. Thus, even while in confidential treatment settings, a substantial proportion of these boys had failed to reveal pertinent information, suggesting that polygraphs served to elicit additional disclosures above and beyond what would typically be revealed throughout “treatment as usual.” These results support the use of polygraphs for providing relevant information that can subsequently be addressed in therapy. In addition, the fact that a substantial proportion (40%) of new disclosures revealed child victims aged 6 or younger, many of whom were family members, suggests that polygraph testing may directly impact community safety.

Interestingly, many new disclosures were admitted during the pre-test interview, before the sensors of the polygraph were actually connected. This finding is consistent with Grubin et al. (2004), who found that most of the new information disclosed in their sample of 50 adult male sex offenders was obtained during the pre-test

interview. Apparently, the expectation of an upcoming polygraph test is sufficient to make many offenders disclose information (Grubin et al., 2004; Meijer et al., 2008); in a treatment setting, the process of preparing for a polygraph examination may facilitate disclosures made to therapists (Blasingame, 1998). Critics of polygraph testing conclude that pre-examination disclosures have less to do with the polygraph as a method for the detection of deception than the process of questioning and intimidation during the examination (Ben-Shakhar, 2008; Meijer et al., 2008). Supporters of polygraphs contend that the need for complete and accurate information in sex offender treatment is so fundamental that it outweighs these concerns (English et al., 2003; Grubin, 2008). Considering studies of juveniles who have undergone polygraph testing have revealed deception among 50% of youth in one study (Chambers, 1994) and 80% in another (Ahlmeyer et al., 2000), polygraphs may be critical in bridging the information gap.

In addition to disclosing additional victims, some participants revealed other information that could help inform treatment. More than one-third of participants revealed sexual contact with same-age peers that they had not previously disclosed in treatment. This suggests that although some youth were not hiding information about their victims, they nonetheless had not been fully forthcoming about their sexual behaviors. Information about all types of sexual contact is important when treating sexual behavior problems because it helps therapists to determine the nature of the youth’s sexual interests and possible deviant interests. When youths reveal such information, therapists are in a position to help them develop healthy sexuality (Barbaree & Marshall, 2006).

Perhaps most significant for treatment was the finding that under polygraph, nine participants (15%) disclosed that they themselves were victims of sexual abuse—information that up to that point had not been revealed during the course of treatment. This finding is consistent with research

suggesting that male victims of sexual abuse may be reluctant to disclose these experiences due to the feelings of shame, isolation, and sociocultural stigma associated with male victimization (Sorsoli et al., 2008). Considering qualitative studies suggesting that youth are often reluctant to initiate disclosures of their experiences of abuse, they may be more willing to do so when specifically asked, and in a private setting (Jensen, Gulbrandsen, Mossige, Reichelt, & Tjersland, 2005). Polygraph examinations may serve to facilitate this process. Such acknowledgement of their own victimization and its role in their psychosexual development can be a key part of treatment for juveniles with sexual behavior problems. Research suggests that disclosure of one's own victimization may moderate negative abuse-related symptoms and reduce the likelihood of further victimization (Kogan, 2004). Disclosure experiences that juveniles perceive as positive and that are met with support have been associated with fewer negative psychological symptoms in adulthood (Roesler, 1994).

Future Research Directions

An interesting avenue for future research would be to investigate the role of internalized homophobia and/or perceived masculinity as a mechanism that may prevent youths' disclosure of offending behavior against males, as well as disclosure of their own victimization. Research suggests that men who hold strict masculine stereotypes may be less likely to disclose their own victimization than those who do not (Pollack, 1998). As we found to be the case with several boys in our study, males are much less likely than females to voluntarily bring their experiences of abuse to the attention of mental health professionals (Grossman, Sorsoli, & Kia-Keating, 2006). In a qualitative study of adult male survivors of childhood sexual abuse, Sorsoli et al. (2008) found that few of these men had disclosed their experiences during childhood; for those who did report the abuse, most reported their disclosure brought negative consequences. Indeed, females are more

likely than males to disclose childhood sexual abuse to others and to obtain positive responses, such as empathy and support, after doing so (Ullman & Filipas, 2005).

Limitations of the Study

Considering that only approximately one-third of children who are sexually victimized ever report the abuse to anyone (Finkelhor, 1984), one significant limitation of our study is that it only included youth whose crimes were detected and who were subsequently referred for treatment. Thus, this study's results may not be generalizable to the entire sex offender population. In addition, our cross-sectional design prevented us from exploring whether polygraph testing impacted treatment outcome and re-offending. Future researchers may wish to conduct longitudinal research to better understand the longer-term impacts of polygraph testing among adolescents with sexual behavior problems. Finally, we did not include a control or comparison group of juveniles who did not undergo polygraph testing; Grubin (2008) notes that few studies have implemented such designs, and such methodology could help to determine whether differences in treatment outcome are specifically related to polygraph testing.

Conclusions

A substantial proportion of the youth in our sample admitted to additional sexual offending behaviors while undergoing polygraph testing. As with other psychophysiological tools, the Center for Sex Offender Management (2008) recommends that polygraphs never be used in isolation, and treatment decisions should not be made solely on the basis of their results. More importantly, even when conducted by qualified examiners, the reliability and validity of polygraph testing remains questionable; as such, information gained from polygraph testing should be used in conjunction with information from other sources. We propose that results be processed

with the client in a feedback session, and his reactions addressed in therapy. These interactions can provide rich clinical information; no matter what technological advances develop, it remains the client who is our most valuable source of information regarding his ability to change and willingness to take responsibility for his behaviors. With these ethical and practical guidelines in mind, our study's results have promising implications for the use of polygraph testing as part of a comprehensive treatment approach for juveniles with sexual behavior problems. Our results suggest the need for further research to better determine how polygraph testing can be integrated into treatment for youth with sexual behavior problems.

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The 10-Question Tool: A Novel Screening Instrument for Runaway Youth

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Abstract

Adolescents who run away face high rates of sexual and physical assault, yet there are no established brief screening tools that police can use to determine adolescents' safety or that help police refer such youth to needed services when they are located. We developed the 10-Question Tool for law enforcement officers to screen runaway youth about issues related to their safety. We reviewed 300 10-Question forms completed by law enforcement officers in St. Paul, Minnesota. Our analyses explored demographic characteristics of runaway youth, including their reasons for leaving home, disclosure of injury, sexual assault, and their need for health care. This novel approach to screening by law enforcement officers appears to identify, locate, and refer runaway teens needing services as a result of myriad harms, including sexual assault.

Introduction

Running away is a relatively common experience, yet many youth who run away leave difficult home situations and face becoming victims of crime while on the run (Tucker, Edelen, Ol, Elickson, & Klein, 2011). Once teens leave home, caretakers may or may not report their running away to the police (Malloch & Burgess, 2011). Regardless of whether anyone files a missing persons report, runaway teens may come into contact with law enforcement. Because there is no brief standard screening tool being used by police when they locate or encounter runaway youth, police may be missing a potentially important opportunity for assessing a teen's safety and possible victimization while away from home.

Background

A number of factors are associated with running away, such as a history of intra-familial physical or sexual abuse, the mental illness of a parent, teen-parent conflict, and social isolation (Slesnick, Dashora, Letcher, Erdem, & Serovich, 2009; Tyler & Bersani, 2008; Sullivan & Knutson, 2000). Youth who have behavior disorders, communication disorders, and learning disabilities are more likely to run away than those who do not (Slesnick & Prestopnik, 2005). Tucker et al. (2011) found running away was predicted by school disengagement, depression, a lack of parental support, and heavy substance use. The long-term outcomes of running away are seldom studied, but in two prospective longitudinal studies, runaways were more likely to become sexually active (Thrane & Chen, 2010) and more likely to report symptoms of depression and problem substance use than non-runaways (Tucker et al. 2011). However, neither of these studies controlled for physical or sexual abuse, which have been linked to such outcomes in the general population.

Sexual abuse, whether by family members or those outside the family, can be a precipitating factor in a first runaway event. Researchers have found that up to 60% of boys and 45% of girls who reported sexual abuse have also run away from home (Saewyc, Magee & Pettingell, 2004). Tyler & Cauce (2002) noted more than one-third of runaway and homeless youth experienced sexual abuse by four or more different perpetrators, and 41% of the young men identified a female abuser. Unfortunately, running away to escape abuse may not protect them from further victimization. A 2006 survey of 762 street-involved youth in western Canada found more than 90% of sexually exploited boys and girls had run away at least once prior to being exploited (Saewyc, MacKay, Anderson, & Drozda, 2008). The average age of first involvement in prostitution among runaway youth has been estimated at 13 or 14 years old (Friedman, 2005; Saewyc et al., 2008).

Runaway youth, and particularly those who have been sexually abused or assaulted, have a greater likelihood of physical and mental health problems than those who do not run away (Tyler, Whitbeck, Hoyt & Johnson, 2003). Mental health problems include post-traumatic stress disorder, depression, anxiety, and substance abuse (Rotheram-Borus, Mahler, Koopman, Langabeer, 1996). Self-mutilation by cutting or burning is also more common among runaway teens than others (Tyler, et al., 2003). While existing research documents the risks and health problems of runaways, clear points for potential intervention are seldom identified in the literature.

Encounters between runaway youth and law enforcement may offer one such point of intervention. Running away is a status offense in most regions of the United States. Depending on the state, a runaway is classified as either a child in need of protective services (for an example, see Fla. Stat. §984.03, 2010) or as a status offender (see Idaho Code Ann. §20-516, 2010). In either case, states specifically authorize law enforcement officers to take the runaway into custody and bring the youth home, or place the youth in a shelter or other appropriate facility (see Minn. Stat. §260C.175, 2010). Nowhere in this sequence is safety necessarily assessed, despite evidence that runaways have a high incidence of being victims of crimes, and may have co-occurring physical and mental health needs (Halter, 2010). Some have called for collaboration between law enforcement and social service agencies to coordinate care, but there are few existing tools police can use to assess the safety and service needs of runaway teens (Halter, 2010; Dedel, 2006).

A pilot intervention in Scotland introduced Return Home Welfare Interviews to ensure better outcomes for youth who had run away (Burgess et al., 2010). In this intervention, police officers or social workers interviewed youth five days after returning home to gather relevant information about the incident, and to identify factors that prompted the teen to leave home. It appeared

that the interviewer's ability to relate to the young person determined the interviewer's effectiveness. Community service providers believed the police were the most appropriate agency to conduct these interviews because police had the greatest access to the youth and the authority to investigate crimes. Community service providers also thought police had access to other information that community providers would not know. The interviews appeared to be effective for intervening with high-risk runaway teens who had been found by law enforcement. A potential weakness of the intervention is the delay; it takes place five or more days after the runaway returns home. Teens who leave home frequently and repeatedly may not stay home for this screening; it may not occur soon enough if the family is in crisis. Screening teens for safety when they first encounter police could be more effective for identifying acute safety needs; screening teens for sexual assault at this point, when police might still obtain biologic evidence, could reveal teens' additional needs for services and referral.

Researchers have developed a number of tools to assess teens' symptoms of distress, substance abuse, traumatic experiences, and family relationships (for an extensive list, see the National Clearinghouse on Family and Youth). Most of these measures have been designed to provide assessments as part of planning and intervention by professionals, such as case managers and counselors. These tools have not been designed as brief screening instruments for outreach, case-finding, or referrals to services. Assessment tools tend to be longer than screening instruments, with as many as 50 to 100 items for each content area, taking from 15 to 60 minutes or more to complete. Most of the available assessment tools focus on a single topic area, such as mental health issues, violence and aggression, or substance abuse, and few include measures to screen for acute physical or sexual abuse. Many of these tools are proprietary or copyrighted and require a fee for use. Those that do not require specialized training to administer are often to be completed

by the youth, and so may require certain levels of literacy, access to the Internet, or completion of several pages of questions on a paper survey. All of these issues make it difficult to use most assessment tools in a street setting, where law enforcement first encounter a runaway youth.

Two of the more commonly-used assessment or screening tools in the criminal justice system are the Youth Assessment & Screening Instrument (YASI; Orbis Partners, Inc., 2010) and the Massachusetts Youth Screening Instrument: Second Version (MAYSI-2; Grisso & Barnum, 2000). These tools are used primarily by probation officers, case managers, or by the staff of detention facilities at intake. While neither of these tools requires special training to administer, they are long, with approximately 30 items in the pre-screening portion of the YASI, and 52 items in the MAYSI-2. Both require fees for use. Neither of these tools screens for recent injury or sexual assault—issues that would be important in police encounters with runaways, but potentially less relevant for case managers or probation officers.

The development of the brief 10-Question Screening Tool (see Table 1) began in 2006 with discussions between an Advanced Practice Nurse (Edinburgh) in the Child Advocacy Center and a Commander in the Juvenile Unit of the St. Paul Police Department. These individuals consulted a university adolescent health researcher (Saewyc) to help word questions about abuse and resiliency. The aim was to identify teens who had been sexually or physically victimized during the runaway episode, and those being abused at home, in order to help them access health care. A secondary aim was to help teens with substance abuse or gang involvement receive referrals to appropriate community agencies to reduce future law enforcement contact. The 10-Question Tool was pilot tested with a few officers in the St. Paul Missing Persons Department in 2007, and refined to ensure it was brief, clear, and useable. The Police Chief issued an order in April 2008 directing all law enforcement officers who had contact with runaway juveniles to use the 10-Question

Table 1. The 10-Question Screening Tool Used by Law Enforcement with Runaway Youth

<p><i>Instructions:</i> Write the youth's answers to the following 10 questions in narrative form:</p> <ol style="list-style-type: none">1. Why did you leave home?2. How long have you been away from home?3. Who have you been staying with while away from home?4. Did someone touch you in a way you did not like or sexually assault you when you were away from home?5. Do you have health issues that you need medical care for now?6. Has anyone hurt you or tried to hurt you while you were away from home?7. Are you afraid at home? If yes, why? Will you be safe at home? <i>Use a 0–10 scale to quantify safe feeling (In this scale, 0 is safest and 10 is least safe).</i>8. Do you have someone you can talk to at home or school?9. Do you drink or do drugs?10. Are you a member of a gang?

Tool prior to returning youth home; in May 2008, officers in these departments received training to implement the tool.

The 10-Question Tool is a paper-and-pencil form, easily copied and available on the police department's Intranet. Completed 10-Question Tool forms were reviewed weekly by a runaway youth coordinator in the County Attorney's office; if youth were already involved in the County's Truancy Intervention Program, case management and referrals for services were made by the truancy coordinator. Younger runaways who disclosed sexual abuse or high risk for abuse were also referred for case management and health services in a specialized program at the Child Advocacy Center.

The purpose of this research study was to evaluate the use of this 10-Question Tool as it was implemented during the first two years, in order to understand: 1) whether teens would disclose sensitive information to the police, 2) whether there are gender differences in the pattern of responses to the 10 Questions, and 3) whether disclosure to the police results in appropriate referrals. We also wanted to know whether teens who were referred to services after disclosing a sexual assault or abuse actually received those services.

Methods

We reviewed all 10-Question Tools completed from September 2008 through September 2010 ($N = 300$). Youth were asked the 10 Questions

wherever they were located, such as in malls, private homes, at school, or on the street. Law enforcement officers encountered youth in these locations due to a variety of circumstances. For example, private citizens may have identified a young person staying in their home as a runaway. School liaison officers encountered some runaways who had been reported missing but who were still attending school. Officers also identified some runaways in cars stopped by the police for other reasons, as well as when police were called to a private home for a domestic dispute, a drug bust, or other situations. Many of the teens were also located by missing persons officers specifically assigned to locate youth who had been reported missing. Sometimes youth were brought to the police station to speak with missing persons officers and were asked the 10 Questions prior to placement in a shelter, the juvenile detention center, or being returned home. Runaways were not placed in detention facilities unless they had an outstanding warrant. Some teens ran away more than once during this time period, and had multiple 10-Question forms completed; therefore, the data represent 269 individual runaways. Cases were excluded if the youth was younger than age nine or older than age 17.

Two researchers (Edinburgh and Huemann) abstracted the data from the 10-Question forms and coded them for statistical analyses. The researchers assigned narrative answers a numerical code; they reviewed items to ensure consensus, and often coded the responses simultaneously to ensure consistency. A third researcher (Saewyc) audited the coding decisions after data entry. Researchers supplemented data from the 10-Question forms with information from previous police runaway reports to assess the number of discrete runaway events; they included results of forensic exams for runaways who were seen by the local hospital-based Child Advocacy Center. The Child Advocacy Center evaluates children and teens when law enforcement, child protection, parents, or medical providers express concerns of physical or sexual abuse, and

offers a specialized program for assessing runaway youth for such abuse. To comply with the Health Insurance Portability and Accountability Act (HIPAA) regulations, Ms. Edinburgh, the research team member who is also a clinician in the Child Advocacy Center, was the only person to collect Child Advocacy Center information; she de-identified this information before linking it to the 10-Questions reports for analyses.

As part of validating the measures, we used data collected from the Child Advocacy Center to assess the concordance between the responses elicited from law enforcement officers' use of the 10-Question Tool, and sexual abuse as documented by the forensic exam. Because the 10 Questions are primarily a set of categorical screening questions focusing on several different issues, typical psychometric assessments for scales (i.e., internal consistency reliability, split-half reliability, exploratory or confirmatory factor analysis, and inter-item correlations) are inappropriate. Instead, our psychometric evaluation focused on analyses of missing responses and triangulation with other data from the Child Advocacy Center and other runaway reports.

Analyses explored response rates, demographic characteristics, reasons for leaving home, disclosure of injury, sexual assault, substance use, feelings of safety at home, and referrals. Cross tabulations with chi-square analyses examined differences between male and female runaways' responses, and whether there were differences in responses to the 10 Questions by members of the different specialty sections of the law enforcement department. Among the subset of teens who disclosed sexual assault while on the run, further analyses documented the percentage who either were taken to an emergency room or referred to the hospital-based Child Advocacy Center. In addition, a subset of teens who did not disclose abuse or the need for medical care to the police were nevertheless referred to the Child Advocacy Center; we included their responses to questions about sexual abuse from the Child Advocacy Center's forensic exam.

Results

The runaway sample was primarily female and ranged in age from 9 to 17 years. Girls were significantly older on average than boys (see Table 2). More than one-half of the teens identified as African American (52.4%), followed by 15.2% Hmong/Asian, 13.8% White, 6.7% Hispanic, 4.5% American Indian, 4.8% multi-ethnic, and 2.6% said they did not know their ethnicity. Boys were more likely to be African American or American Indian, while girls were more likely to be White or Hmong/Asian.

Table 2. Demographic characteristics of runaways ($N = 269$)

Demographics	Females ($n = 163$)	Males ($n = 106$)	χ^2 or t , (df), p
Sex	60.6%	39.4%	
Mean age in years (SD)	15.00 (1.44)	14.43 (1.77)	$t = 2.87$ (266) $p = 0.004$
Ethnicity:			
African American	42.9%	67.0%	
Hmong/Asian	19.0%	9.4%	
White	17.8%	7.5%	
Hispanic	9.2%	2.8%	
Native American	1.8%	8.5%	
Multi-ethnic	4.9%	4.7%	
Do not know	4.3%	0	$\chi^2 = 30.67$ (6), $p = 0.000$

The 10-Question Tool was intended to be used by any law enforcement officer who came into contact with a reported runaway. More than one-half of the 10-Question Tool responses were recorded by the three officers in the Missing Persons Unit ($n = 155$, or 51.7%), and 38.6% were obtained by law enforcement officers working on patrol. An additional 21 reports (7%) were obtained by School Liaison Officers; there was no record of who collected 2.7% of 10-Question Tool reports. There were no significant differences in response rates or response patterns among those administering the tools.

Nearly all teens provided answers to some of the 10-Question screening items (99.98%); only three refused to answer any questions. Data are missing for some questions either because the police did not ask a specific question or the teen chose not to answer a question. In general, only 2% to 4% of data were missing from any of the 10-Question Tools administered, even when the questions were about substance abuse, physical or sexual abuse, or gang involvement. The highest rate of missing responses related to the youth's need for medical care, with 10.3% missing an answer on the form. Responses to each item in the 10-Question Tool are described below; gender comparisons are shown in Table 3. In general, there were no reported differences in most responses for youth of different ethnicities, but where there were differences, these are noted below.

Question 1. Why did you leave home?

The most common reason for leaving home was conflict with parents, followed by conflict with other family members, and being abused. Boys were more likely to report being kicked out of their home than girls, while girls were more likely to say they left to "get freedom." Relatively few left home because they were bored or had nothing to do. In one of the few responses revealing ethnic differences, Asian teens were more likely than others to report leaving home to "get freedom" (36.4% of Asians vs. 5.9% of all other ethnic groups, $\chi^2 = 36.2$, $df = 1$, $p < .001$). An additional 6.3% either did not answer this question, or their responses were not recorded.

Question 2. How long have you been away from home?

There was a wide range of lengths of time teens said they were away, from a single day to 210 days. The median length of time being away from home was three days (54.8% of teens had been away from home 3 days or less) and nearly 80% had been away for one week or less. Very few teens reported being gone longer than one month. There was no correlation between the length of time youth reported being on the

Table 3. Gender differences in answers provided by youth to the 10-Questions ($N = 300$ episodes)

Questions asked		Girls (%)	Boys (%)	$\chi^2, df, p\text{-value}$
1. Why did you leave home?	Conflict with parent	45.0	47.3	ns
	Conflict with other family members	26.3	21.8	ns
	Abused	13.5	24.3	5.46, $df=1, p<0.05$
	Kicked out	7.0	15.5	5.14, $df=1, p<0.05$
	Boredom	9.9	4.4	ns
	"Freedom"	15.2	3.6	9.39, $df=1, p<0.01$
2. How long have you been away from home?	1–3 days	24.6	32.2	ns
	4–7 days	17.2	11.3	ns
	8–14 days	6.1	6.1	ns
	15–30 days	3.9	1.8	ns
	> 31 days	1.7	8.7	8.23, $df=1, p<0.01$
	Multiple short episodes (< 5 days)	23.9	13.9	4.36, $df=1, p=0.05$
	6–14 days, multiple episodes	22.2	21.7	ns
	> 15 days, multiple episodes	3.3	3.5	ns
3. Who have you been staying with while away from home?	Non-relative adult	35.0	28.3	ns
	Same-gender peer close in age	33.9	24.8	ns
	Couch surfing	30.0	23.9	ns
	Relative	14.4	22.1	ns
	Live on the streets	5.6	14.2	6.35, $df=1, p<0.05$
	Abandoned building	1.7	7.1	5.69, $df=1, p<0.05$
4. Did someone touch you in a way you did not like or sexually assault you while away from home?	Yes	15.3	1.8	13.9, $df=1, p<0.001$
5. Do you have health issues that you need medical care for now?	Yes	24.2	14.4	ns
6. Has anyone hurt you or tried to hurt you while you were away from home?	Yes	6.5	6.6	ns
7. Are you afraid at home? On 1–10 scale rate level of safety (1 = safest) mean, SD	Yes	55.2	43.2	3.86, $df=1, p<.05$
		3.60 (3.72)	3.28 (3.98)	ns
8. Do you have someone you can talk to at home or school?	Yes, family member at home	14.9	15.2	ns
	Yes, at school	29.7	17.9	4.56, $df=1, p<.05$
	Yes, other adult or relative	33.1	14.0	12.69, $df=1, p<.001$
	No one	28.6	57.1	23.8, $df=1, p<.001$
9. Do you drink or do drugs?	Yes, alcohol only	11.5	5.3	ns
	Yes, marijuana only	17.8	22.1	ns
	Yes, alcohol and marijuana	12.6	20.4	ns
	Yes, other drugs	7.5	8.8	ns
10. Are you a member of a gang?	Yes, gang member	9.2	12.3	ns
	Yes, associate with gang members	31.4	22.2	ns

ns = not significant

streets and their disclosure of sexual assault or abuse at home.

Question 3. Who have you been staying with while away from home?

The largest proportion of teens said they were staying with a non-relative, coded as an adult not identified as a relative (32.4%), followed by staying with a friend of the same gender who is close in age, defined as being within a few years of the runaway teen's age (see Table 3). In 27.6% of the runaway episodes overall, teens reported couch-surfing (staying with a series of friends and sometimes gang members). A smaller percentage reported staying with a relative, with only five teens reportedly staying with a non-custodial biological parent. Boys were more likely than girls to report living in the most precarious and risky situations, such as staying on the street and living in an abandoned building. Two youth specifically told law enforcement officers they were living with a pimp.

Question 4: Did someone touch you in a way you did not like or sexually assault you when you were away from home?

One in 10 youth reported being sexually touched or assaulted while a runaway, but there were significant gender differences (1.8% boys vs. 15.3% of girls). When asked follow-up questions about who had touched them, 89.6% reported an unrelated adult, 6.8% multiple adults, and 3.4% multiple juveniles. There was no relationship between length of time away from home and whether a teen disclosed being physically hurt or sexually touched while away from home.

Question 5: Do you have health issues that you need medical care for now?

Youth were asked if they wanted to see a doctor or nurse, and 55 teens indicated they wanted health care. Girls were more likely to report needing health care (24.2% vs. 14.4%). Youth sought treatment for dog bites, infected piercings, suicidal ideation, intoxication, fractures, asthma, injuries that needed stitches, and pregnancy.

Question 6: Has anyone hurt you or tried to hurt you while you were away from home?

In contrast to the question about sexual assault while away from home, only 18 teens reported being hurt while on the run (fewer than one in 10) and there were no statistical differences between males and females (shown in Table 3), or between racial groups (data not shown).

Question 7: Are you ever afraid at home? If yes, why? Will you be safe at home? Use a 0–10 scale to quantify safe feeling (in this scale, 0 is safest and 10 is least safe).

In order to prevent youth from being returned to an abusive home, teens were asked if they ever felt afraid at home and, if so, how afraid they were on a scale from 0–10. Fully one-half of the teens indicated they were afraid at home and there were no statistical differences between gender or racial groups. Being afraid at home was highly correlated with the score on perceived safety ($r = 0.89$, $p < .001$); among those who said they were not afraid at home, all but two teens indicated a 0 (mean, .04, $sd = 0.43$), while the mean response among those who said they were afraid at home was 6.86 ($sd = 2.39$). Of the teens who indicated they were very afraid—that is, those who reported 8–10 on the scale—only 21.8% went to a shelter and 40% were returned home to parents. Similarly, of those who disclosed they ran away because they were being abused at home, 30% were brought to a shelter, 11.6% were taken to a hospital, and 27.8% were returned home. In many of the 10-Question Tools, the reason for not being safe at home was not collected; however, as reported above, boys were more likely to report they left home because of physical abuse than girls (24.3% boys vs. 13.5% girls).

Question 8. Do you have someone to talk to at home or school?

The majority of boys and girls said they had no one to talk to at home (85.7%). Girls were more likely than boys to say that they had someone to talk to at school (29.7% vs. 17.9), and to identify someone else they could talk to about problems

(33.1% girls vs. 14.0% boys). Boys were twice as likely as girls to report that they had no one to talk to either at home, school, or anywhere else (57.1% of boys vs. 28.6% of girls).

Question 9: Do you drink or use drugs?

Teens were asked two questions about topics that could be perceived as having a potential legal consequence. The goal of asking the question, however, was to identify risk, and not to arrest teens. The questions asked focused on substance abuse and gang involvement. Surprisingly, more than one-half of the teens disclosed alcohol and drug use to law enforcement (52.3% answered yes to any kind of use). There were no significant differences between boys and girls in the type of substances they disclosed. Nearly one in 10 overall reported alcohol use only; one in five reported marijuana use only; about the same reported both alcohol and marijuana use; less than one in 10 reported alcohol, marijuana, plus other drug use; and only one teen disclosed injection drug use.

Question 10: Are you a member or involved with a gang?

Unexpectedly, about one in 10 disclosed they were gang members and just over one in four said they associated with gang members. There were no gender differences in gang membership or having gang-involved friends.

Use as a screening tool for sexual assault or medical care

An important outcome of implementing the 10-Question Tool was to learn whether asking teens about sexual assault or needing medical care would lead to referrals to appropriate community resources. Figure 1 depicts the sexual assault disclosure, referral, and treatment results. Nearly one in 10 teens was transported by law enforcement to hospital emergency departments for medical care. Girls were more likely than boys to be referred to a Child Advocacy Center for further assessment of possible abuse, and to undergo a comprehensive evaluation developed for assessing health issues and resiliency of runaway youth. This program of the Child Advocacy

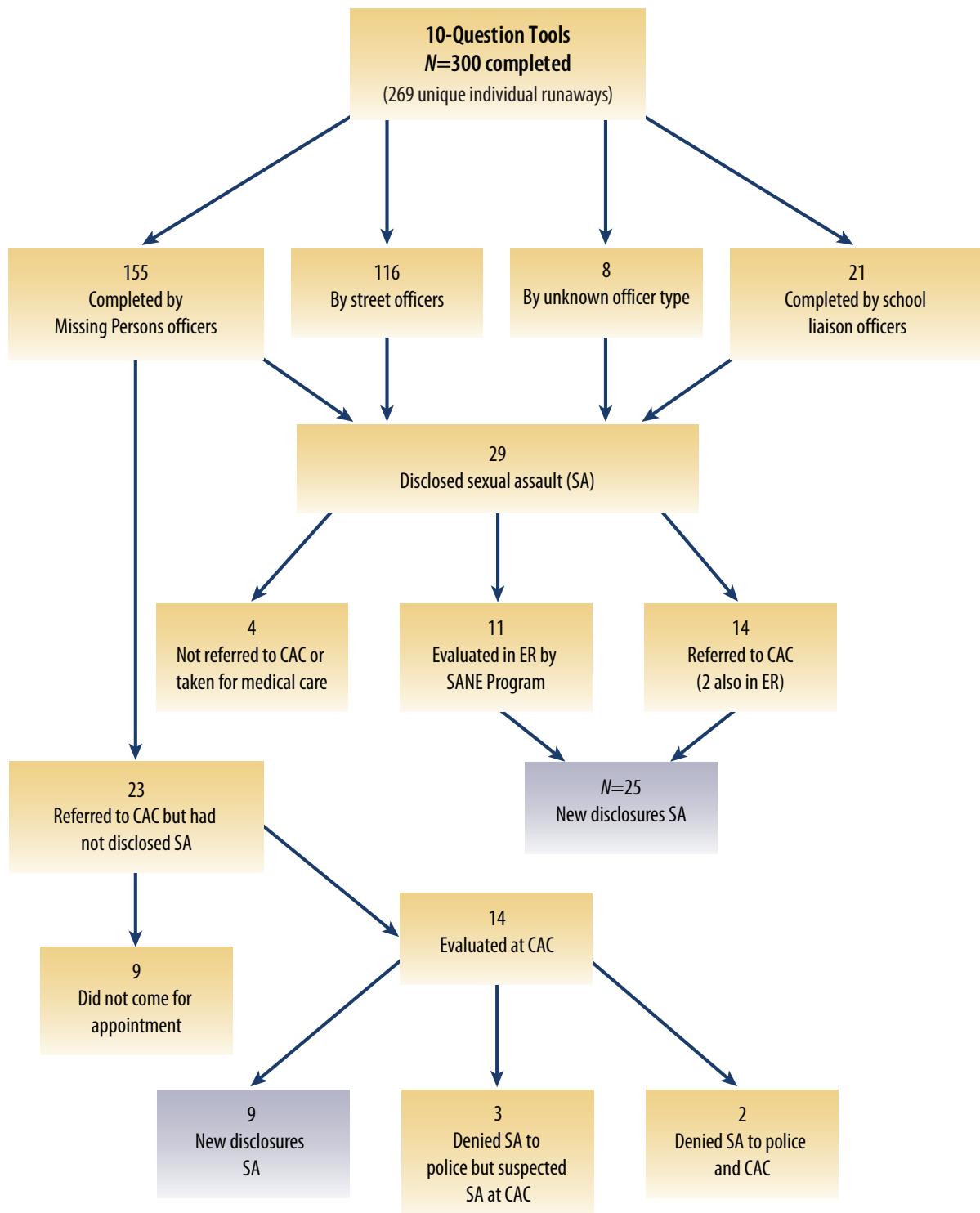
Center, when first implemented, focused only on girls, which may explain the gender difference in referral patterns (18.8% girls, 1.7% boys). For the 29 teens who disclosed sexual assault, 25 (86.2%) were referred to appropriate services by law enforcement (Emergency Room Sexual Assault Nurse Examiner programs, the Children's Hospital, or the Child Advocacy Center) while four were not (13.8%). All teens who disclosed sexual abuse to police and were seen for a health examination received a medical diagnosis of sexual abuse.

Part of the purpose of this study was to determine whether the 10-Question Tool could be used for case finding. In addition to the youth who disclosed sexual assault, police referred another 23 teens to the Child Advocacy Center who had not told the police they had been assaulted; police believed these youth to be at high risk for sexual assault or physical abuse due to their answers to questions about substance abuse, gang involvement, perceived safety at home, or a combination of these. Only 14 of the teens referred to the Child Advocacy Center (60.9%) came to an appointment. Of the nine teens (39.1%) who did not come for an appointment, no information is known. Nine of the 14 youth who were seen at the Child Advocacy Center disclosed sexual assaults, and an additional two were suspected of having been sexually assaulted after clinic staff obtained additional information in the guardian interview. Four teens denied abuse both to the police and the Child Advocacy Center. Thus, of the 52 teens referred to the Child Advocacy Center or emergency department for evaluation of possible sexual abuse or assault, 39 (75%) received care; the referrals resulted in 34 newly identified cases of sexual abuse or assault.

Discussion

Nearly all youth answered the 10-Question Tool when asked by law enforcement officers. This tool proved to be a feasible intervention that was easily incorporated into continuing education within the law enforcement community. The questions focused on assessing reasons a teen ran away

Figure 1. Results of Screening for Sexual Assault during the Runaway Episode



SA = Sexual Assault

CAC = Child Advocacy Center

SANE = Sexual Assault Nurse Examiner

from home, safety at home, and risk during the runaway event. Most teens ran away from home because of conflict with their parents and were either located by the police or returned home on their own in less than one week. There was no correlation between the length of time away from home and self-reports of prior intra-familial abuse or sexual assault. Even when police asked sensitive questions about abuse, girls disclosed sexual assault; boys were less likely to disclose sexual assault, although it is unclear whether this was because they were less likely to experience sexual assaults as runaways, or whether boys were more reluctant than girls to disclose sexual assaults to police.

Unexpectedly, this study found high rates of youth telling law enforcement officers about alcohol or drug use. If teens are indeed willing to talk with police about substance use, this is a timely opportunity to provide referrals to help teens get the help they need to ensure they do not remain in a cycle of substance use, running away, and truancy. We were unable to track whether this disclosure resulted in referrals to appropriate services, however; in addition, more research is needed to determine whether teens would follow through and seek treatment if provided a referral. It is still unknown whether runaway youth who report substance abuse issues to police would receive interventions and follow-up at the appropriate level and for the right duration.

A number of the youth who said they ran away because of abuse at home were nevertheless returned home by police to their parents or guardians. Because this is a brief screening tool, police did not document parents' responses when their children were returned or document whether the parents or guardians were present when they dropped the teens off at home. We were also unable to learn whether police notified Child Protective Services or followed up with any further investigations. Additional research is needed to track parental responses and youth's long-term safety after returning home following a runaway episode, in order to determine whether

this aspect of the screening, i.e., police asking why a teen ran away, improves future safety for runaways.

Receiving health care after a sexual assault is important to help prevent or reduce the negative consequences of such trauma (Edinburgh, Saewyc, & Levitt, 2008; Adams et al., 2007). In most instances, the teens who disclosed sexual assault to the police during this study had never reported this sexual assault before. This would suggest the 10-Question Tool could be used for case finding youth who have been sexually assaulted. Most youth who disclosed sexual assault in this study received health care. These youth benefited from an established sexual assault response protocol outlining when and where police should take youth for further assessment in the community. The health care evaluations were an opportunity to assess for sexually transmitted infections and symptoms of mental distress, prevent pregnancy, provide health education, and provide referrals for ongoing medical and counseling services. Research suggests that teens evaluated in a hospital-based Child Advocacy Center receive more comprehensive health care than those seen by community providers (Edinburgh et al., 2008). The screening and case-finding ability of the 10-Question Tool can help to ensure previously unreported crimes are reported, and may also help sexually assaulted teens get appropriate health and mental health care.

Unfortunately, some teens who disclosed sexual assault were not referred to services, and some who were referred did not actually go to those services. Because this was a retrospective audit of the forms, there was no way to determine why some teens were not referred, or to learn why some teens did not receive services after referral. In Minnesota, youth 13 years old or older can decide whether to report a non-familial or custodial sexual assault; if the teen does not wish to report the abuse or seek health care, there is no legal way to address this issue. Further strategies may be needed to help teens and their families

reach needed services, but it should be noted that without the screening, it is likely none of the 34 additional cases of sexual assault among these runaways would have been identified in a timely way.

Police implemented the 10-Questions Tool after its use was mandated by the Chief of Police for all officers to use with runaways. Training was provided for all police officers by the local Child Advocacy Center, Sexual Offense Services (SOS), the local sexual violence advocacy group, the County Attorney's office, and officers from the Missing Persons Unit of the police department. The broad coalition of support for changes in current practice helped to change the manner in which police handle runaways. Some research indicates that the ways in which law enforcement officers and social service providers respond to runaways varies depending upon whether they identify the youth as a victim or a delinquent (Malloch & Burgess, 2011). Our discussions with police who have used the 10-Question Tool over the past two years suggests that the process of asking these questions has shifted their perspectives about young runaways: after using this tool, police are more likely to perceive runaways as vulnerable youth rather than status offenders.

Using the 10-Question Tool provides the police with structured questions around which to assess risk. The tool provides consistency in terms of which questions are asked and how they are asked. How the questions are asked is vital to helping a youth feel safe, cared for, and believed. The youth's answers to the 10-Question Tool may necessitate a variety of interventions, all of which require critical thinking. The police need to determine whether a youth who requests medical care needs to receive this care immediately, or whether it is a health issue that the youth's guardian can attend to at a later time. Furthermore, youth who say they feel unsafe in their home often need further assessment to determine whether and why they would be unsafe if returned home.

There are limitations to this study that should be considered. This is a retrospective study; if there were 10-Question Tools that were administered by law enforcement officers but were not given to the Missing Persons Department, those responses could not be included in this study. In addition, the 10-Question Tool was administered only to youth who were found by law enforcement officers, and not to runaways who returned home on their own (except when a missing persons report was not cancelled and school liaison police located the teen at school). Neither was the 10-Question Tool administered to youth who had left home but were not reported to law enforcement.

Recommendations

Early identification of and intervention for runaway youth can decrease the risk of harm that may result from sexual assault while the teen is away from home (Saewyc & Edinburgh, 2010). Training in use of the 10-Question Tool should be offered to law enforcement leadership and to front-line officers. Training should include information on the following topics: 1) reasons why youth run away from home; 2) child abuse reporting laws; 3) health care workers' reasons and responsibility for providing confidential health care for youth; 4) situations in which secure detention may be required to protect youth from harm; 5) resources and services available in the community; and 6) laws and procedures for interagency communication (Dedel, 2006). The information obtained from the 10-Question Tool should be monitored and shared between multiple units within a police department, including specialized units responsible for gangs, computer crime, sex crimes, and child abuse.

Beyond sharing information among law enforcement units, information collected using the 10-Question Tool could also be shared with health and social service agencies that support youth at risk. Such referrals, however, usually require explicit data-sharing agreements between the

sectors. The legal data-sharing agreements created between the police and other juvenile justice services in this region—including the Child Advocacy Center, Child Protection Services, youth shelters, and victim support services—may have helped to increase the effectiveness of this screening tool. Implementing the 10-Question Tool within a joint data-sharing framework may help to ensure effective referrals and follow-up.

Although this appears to be a promising approach for screening youth, it is a first study, in one Midwestern police department. This study should be replicated in other law enforcement jurisdictions to assess whether it is an equally effective safety screening tool in different geographic regions, under different legal circumstances, and with other types of police officers. A prospective study monitoring the use of the 10-Question Tool may also allow for better tracking of teens who are not referred, and better follow-up of those who are referred but who do not access services, to better understand who is falling through the cracks. Qualitative studies with police officers who are using the 10-Question Tool would help us to better understand their experiences in administering the tool, and what goes into their decisions about whether to refer youth who either disclose or do not disclose sexual abuse. Such understanding would provide

additional information that could result in wider implementation of this screening tool.

Conclusions

This is a novel intersectoral approach to brief screening of runaway youth by law enforcement that identifies youth at risk and connects them to needed resources. Police officers' use of the 10-Question Tool appears to locate significant numbers of newly assaulted runaways and connects them to needed health care. Partnerships with local Child Advocacy Centers and other services can help to ensure that such screening and referral meets the myriad needs of runaway youth.

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Applying a Developmental Lens to Juvenile Reentry and Reintegration¹

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Abstract

Reentry is a crucial, but underdeveloped, component of the juvenile justice system. Altschuler and Armstrong's Intensive Aftercare Program model (Altschuler & Armstrong 1994a; 1994b) is arguably the most theoretically sound approach to juvenile reentry, yet evaluations of the Intensive Aftercare Program have not produced compelling evidence of effectiveness. We often judge the effectiveness of a reentry program exclusively in terms of recidivism and/or reincarceration. Juvenile reentry, however, is about preparing youths for their adult lives, and programs should be designed with more explicit attention to developmental goals in addition to recidivism reduction. Building upon the pioneering work of Altschuler and Armstrong (1994a; 1994b), this paper makes a case that the use of a developmental lens can improve the effectiveness of juvenile reentry through: 1) minor amendments to the Intensive Aftercare Program model, 2) systematic improvements in implementation, and 3) more comprehensive evaluation strategies.

Introduction

The volume of individuals returning from incarceration each year, estimated at more than 700,000 adults (Guerino, Harrison, & Sabol, 2011) and more than 80,000 juveniles (Sickmund, 2010), has placed enormous burdens on communities to find ways to effectively reintegrate ex-offenders into society. Evidence suggests that more than 50% of juveniles are rearrested within three years or less (Howell, 2003; Krisberg & Howell, 1998; Minor, Wells, & Angel, 2008; Snyder & Sickmund, 2006; Trulson, Marquart, Mullings, & Caeti, 2005). These trends and challenges have spurred recent interest in the subject of offender reentry among policy makers and researchers. The U. S. Department of Justice has launched several major initiatives to fund adult and juvenile reentry programs throughout the country, including "Going Home" and the "Serious and Violent Offender Reentry Initiative" (Lattimore et al., 2004; U. S. Department of Justice, n.d.).

Many juvenile reentry programs have drawn upon the Intensive Aftercare Program model developed in the late 1980s and early 1990s by Altschuler and Armstrong (1994a; 1994b; 2004). This model, to be described in some detail later in this paper,

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is well grounded theoretically, but efforts to demonstrate its effectiveness have produced mixed or muted results. The National Council on Crime and Delinquency (NCCD) evaluated the Intensive Aftercare Program model in three pilot sites (Denver, Colorado; Las Vegas, Nevada; and Norfolk, Virginia) over a five-year period, using an experimental design with random assignment to an Intensive Aftercare Program and a control group in each site (Wiebush, Wagner, McNulty, Wang, & Le, 2005). NCCD researchers found that recidivism rates were high for juveniles in both the Intensive Aftercare Program and the control groups; between 50% and 60% were arrested for felony offenses and between 80% and 85% were arrested for some type of offense within five years of study completion (Wiebush et al., 2005).

Subsequently, the Boys & Girls Clubs of America developed a variant of the Intensive Aftercare Program called Targeted Reentry. Targeted Reentry connected incarcerated youths to Boys & Girls Clubs inside juvenile correctional facilities; staff from partnering community Boys & Girls Clubs provided continuous case management. A quasi-experimental evaluation of Targeted Reentry in four sites found overall recidivism rates much lower than those in the NCCD evaluation—between 23% and 40% were arrested for any new offense during the first 12 months following their release—but the comparison groups' outcomes were similar to or more favorable than those of the Targeted Reentry groups (Barton, Jarjoura, & Rosay, 2008). A few evaluations of other juvenile reentry programs have had somewhat more positive results (e.g., Aos, 2004) with mentoring emerging as a promising strategy (Jarjoura, 2004), yet evidence for the effectiveness of juvenile reentry programs remains scant.

One possible interpretation of the lack of strong evidence for effectiveness could be that the Intensive Aftercare Program model simply does not work. In our view, such a conclusion would be premature, amounting to the proverbial discarding of the baby with the bathwater. Alternatively, one could argue that implementation of the

Intensive Aftercare Program and similar reentry approaches has been spotty and/or that methodological challenges in evaluating these programs to date limit the strength of results. We propose that both of these issues are primarily responsible for the lack of documented effectiveness, and that the Intensive Aftercare Program model could benefit from some minor adjustments as well.

Common wisdom suggests that successful implementation of innovations requires both a sound technical way and considerable political will. We contend that without greater attention to both of these components, juvenile reentry efforts will continue to underachieve. In addition, for accountability, evaluation of such efforts must track details of implementation and must closely follow the logic models of such programs. The Intensive Aftercare Program model incorporates a range of ecological factors encompassing individuals, families, and communities. Recidivism is a necessary marker of success, but is insufficient alone unless linked to intermediate outcomes theoretically hypothesized to affect behavior. Along these lines, we propose that a developmental lens can enhance juvenile reentry programs in three ways, by providing:

1. A more comprehensive theoretical model (the technical way), building upon the Intensive Aftercare Program model but with more explicit incorporation of the principles of positive youth development;
2. A detailed blueprint for implementation, again building upon but extending the Intensive Aftercare Program model by systematically transforming the culture of juvenile reentry programming into one that supports strength-based practices focused on positive youth development (the political will); and
3. A more comprehensive strategy for evaluation that: a) carefully monitors implementation and b) incorporates elements of positive youth development in the chain of outcomes to be tracked (the accountability mechanism).

Through its case management approach, the Intensive Aftercare Program model implicitly addresses many of the life domains relevant to adolescent development, such as physical and mental health, family and peer relationships, education, employment readiness, and use of leisure time. More recent advances in knowledge about adolescent development, however, provide an opportunity to improve the fit between reentry (and other juvenile justice) programming and positive youth development. Accordingly, the next section presents a brief overview of the developmental tasks of adolescence, and considers the implications of juvenile justice system involvement for the likelihood of accomplishing those tasks. The subsequent section reviews the Intensive Aftercare Program model, followed by a discussion of the three proposed enhancements: 1) “friendly amendments” to the Intensive Aftercare Program model to more clearly address the developmental tasks of adolescence; 2) recommendations for creating the conditions for successful implementation and sustainability; and 3) a more holistic framework for the evaluation of juvenile reentry programs.

The Tasks of Adolescent Development

Dahl provides perhaps the best definition of adolescence: “that awkward period between sexual maturation and the attainment of adult roles and responsibilities” (2004, p. 9). According to this definition, adolescence begins with biological markers (e.g., puberty), usually around the age of 12 or 13, and ends with the development of social roles. Specific ages denote society’s recognition of the attainment of those roles (e.g., the differing ages for eligibility to drive a car, get married, vote, enter military service, purchase alcohol, or rent a car), but individuals’ exit from adolescence varies greatly. Recent evidence suggests that the human brain is not fully developed until the mid-20s (Blakemore & Choudhury, 2006; Coalition for Juvenile Justice, 2006; Dahl, 2004; Weinberger, Elvevag, & Giedd, 2005).

During adolescence, individuals acquire great physical strength, are capable of rapid cognitive learning, and exhibit social resilience (Dahl, 2004). They also, however, are at great risk, with high morbidity and mortality rates (suicide and homicide), and a propensity for engaging in risky behaviors (Dahl, 2004). Aspects of adolescent brain development, in particular, exacerbate these risks. The frontal lobe, including the pre-frontal cortex (that part of the brain responsible for rational decision-making), is not fully formed (Coalition for Juvenile Justice, 2006). Moreover, the limbic system is still developing and dopamine levels are fluctuating, producing emotional volatility (Coalition for Juvenile Justice, 2006). As a result of these developmental phenomena, adolescents’ decisions are often based on emotional impulses, especially under conditions of high stimulation or anxiety. Recent research has also documented that risky behaviors increase when adolescents are around their peers and adults are not available to provide supervision (Romer, 2010).

Moreover, in the developing frontal lobe, gray matter is increasing, then decreasing, with the remaining synapses coated by myelin, which speeds up communication (Blakemore & Choudhury, 2006). In lay terms, portions of the brain that are not used atrophy while those that are used become more efficient and entrenched. Patterns of thought and behavior that are reinforced in adolescence become more stable parts of the individual’s adult functioning. For the purposes of the present paper, this has two implications: 1) adolescents are malleable, and thus effective supports and opportunities can facilitate positive development; and 2) what happens to adolescents strongly affects the way they will emerge in adulthood, for better or worse; the absence of positive influences may lead to entrenched patterns of problematic behaviors.

In the best case scenario, adolescents are surrounded by networks of supports and opportunities that foster positive developmental outcomes. Supports include strong families and other

positive adult role models; sufficient resources to cover basic needs such as housing, food, and health; as well as neighborhood and community resources to provide effective education and opportunities for engagement. With a base of such support, youths are able to pursue opportunities for cognitive growth, skill development, social connectedness, creative expression, and the setting of ambitious but attainable long-term goals for a productive and satisfying adulthood. Positive youth development is a term that encompasses this constellation of supports and opportunities promoting positive life outcomes.

The literature contains many models of positive youth development. Pittman and Irby (1996) define the four tasks of adolescent development in terms of "4 Cs": competence, confidence, character, and connections, to which Benson and Pittman (2001) add a fifth C, contributions. Connell, Gambone, and Smith (2001) prefer to describe the tasks of adolescent development as learning to be productive, learning to connect, and learning to navigate. Still others describe positive youth development as acquiring a sense of competency, usefulness, belonging, and influence (Boys & Girls Clubs of America, 2000). The Search Institute (Scales & Leffert, 1999) defines youth development in terms of 40 social and developmental assets that encompass eight dimensions. Levine (2005) lays out twelve growth processes connected to the preparation of adolescents for their adult work life. Regardless of the acronym or specific terms, all positive youth development frameworks stress a combination of attributes, skills, and relationships related to healthy, productive, and satisfying outcomes in adulthood.

Settings conducive to positive youth development are characterized by three main elements: 1) goals that include promoting competency building and positive connections with adults, peers, and community institutions; 2) a supportive and empowering environment that includes high expectations for positive behavior; and 3) activities that include opportunities to build skills,

real and challenging experiences, and exposure to new social and cultural influences (Roth & Brooks-Gunn, 2003). The education and skill training in most juvenile justice settings is limited, the environment is typically control-oriented rather than supportive and empowering, and the activities are highly circumscribed.

Youths involved in the juvenile justice system clearly do not experience the best case scenario described above. Even prior to their involvement in the system, most of these youths face an array of risks that create challenges to positive developmental outcomes (Hawkins et al., 2000; Howell, 2003; Lipsey & Derzon, 1998; Office of the Surgeon General, 2001; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikström, 2002; Williams, Ayers, Van Dorn, & Arthur, 2004). The mere presence of risks, however, does not doom these youths to negative long-term outcomes. Since adolescents are still malleable, it is not too late to reduce risks and provide appropriate supports and opportunities to promote a positive long-term developmental trajectory.

Viewed through the lens of positive youth development, the traditional juvenile justice system either disrupts the course of positive development (e.g., via labeling, forcing association with delinquent peers, interrupting school or family life, and/or foreclosing future opportunities) or, more frequently, fails to provide the conditions for positive youth development for youths whose trajectories are already disrupted. Several recent studies document the iatrogenic effect of involvement with the juvenile justice system, with the damage increasing with each level of penetration into the system (Feld, 1991; Frazier & Bishop, 1985; Frazier & Cochran, 1986; Gatti, Tremblay, & Vitaro, 2009; Holman & Ziedenberg, 2006; Lipsey, 1992; Loeber & Farrington, 1998; Loughran et al., 2009). Recognizing that incarcerated youths, having penetrated furthest into the system, are the least likely to be prepared for positive integration into the community, reentry represents the last chance to reverse that negative trajectory.

Summary of the Intensive Aftercare Program Model

Altschuler and Armstrong's (1994a; 1994b) Intensive Aftercare Program model is based on an integration of strain (e.g., Agnew, 1992), social learning (e.g., Akers, 1985), and control (e.g., Hirschi, 1969) theories. The Intensive Aftercare Program requires:

- Collaboration among probation/parole, juvenile corrections, community service providers, and family members;
- Continuity of relationships across three phases: incarceration, structured transition (with both a pre-release and post-release sub-phase), and community reintegration;
- Individualized assessment and intervention planning, with attention to addressing criminogenic needs and preparing youths for successful community reintegration in terms of education, employment, living arrangements, social skills, use of leisure time, health, mental health, and substance abuse arenas, as individually appropriate;
- Case management, including brokering arrangements with local service providers, monitoring, and adjustment of the plan as necessary; and
- A combination of graduated sanctions (appropriate to the nature of any violations of probation/parole conditions) and rewards (for positive behaviors).

Throughout, the plan and its implementation are intended to strike a balance between community restraint (e.g., surveillance) and needs-based services (Gies, 2003). In addition to identifying and brokering community services as indicated, the implementation plan must include graduated incentives and sanctions to encourage prosocial behavior and to respond to rule violations. As the youth moves through the three phases, the role of the juvenile justice system professionals gradually diminishes, replaced by the increasing involvement of formal and informal community supports.

Using a Developmental Lens to Enhance Juvenile Reentry

As mentioned above, evaluations of the Intensive Aftercare Program model have not provided compelling evidence of effectiveness. Given the model's theoretical richness, detailed prescriptions for case management and collaboration, and focus on addressing criminogenic needs, one may well ask why the evidence is not more supportive. As is always the case with evaluations, several explanations for disappointing results exist. While it is possible that the model itself is flawed, such results could also follow from poor evaluation design or less than optimal program implementation. The NCCD study design was relatively strong (Wiebush et al., 2005), the Targeted Reentry evaluation less so (Barton et al., 2008). But the process evaluations of both studies highlight the difficulties sites experienced in implementing the Intensive Aftercare Program model. It is most likely that the explanation lies in a combination of all three sources—the model, its implementation, and the evaluation designs, with the primary contribution being the implementation limitations.

Amendments to the Intensive Aftercare Program Model

Perhaps the most important contributions of the Intensive Aftercare Program model have been its prescriptions for collaboration and continuity. The major amendments we propose to the Intensive Aftercare Program model consist of elaborations of its assessment, planning, and case management components. In light of the previous discussion of the tasks of adolescent development, all juvenile justice programming, and reentry in particular, might benefit from an explicit acknowledgement of these tasks and an emphasis on providing the supports and opportunities youths need to accomplish those tasks. The Intensive Aftercare Program's intent to apply individualized assessments and corresponding intervention plans is on the right track. Such assessments necessarily include identifying risks and needs—youths in the juvenile justice system do pose

varying levels of risk to public safety and possess a range of needs that should be addressed. But complete assessments must include systematic attention to youths' strengths and interests, and the plans must build upon these to truly assist youths in getting on a trajectory toward positive life outcomes.

Many juvenile justice agencies and programs use assessments derived from theories of criminogenic risks and needs (Andrews et al., 1990); that is, factors that research has shown are correlated with offending behaviors. Examples include the Youth Level of Services/Case Management Inventory (YLS/CMI) (Hoge & Andrews, 1996), the Washington State Juvenile Court Assessment (Barnoski, 2004), and the Oregon JCP Assessment (NPC Research, 2006). These instruments identify risks to be controlled or reduced through supervision, custody level, or interventions, and needs to be addressed in the treatment plan through referrals to specialized services. When used well, these assessments can provide information that can guide individualized intervention plans. Recent versions include some coverage of strengths, but typically as an afterthought, and seldom do the strengths inform case planning in any meaningful way.

Scholars and practitioners have increasingly called for the comprehensive, intentional incorporation of positive youth development concepts into juvenile justice policies and programs in general (Barton, 2004; Butts, Mayer, & Ruth, 2005; Frabutt, DiLuca, & Graves, 2008; Schwarz, 2004; Scott & Steinberg, 2008) and into reentry programming in particular (Barton, 2006; DiLuca et al., 2007; Frabutt et al., 2008). Butts, Bazemore, and Meroe (2010) have recently described a model of "Positive Youth Justice" that provides a helpful framework for reentry assessment and intervention planning. Adapting the principles of positive youth development to juvenile justice, Butts et al. propose:

... 12 key components depicted as a 2 by 6 matrix. Each cell in the matrix represents the

interaction of two key assets needed by all youths: (1) learning/doing, and (2) attaching/belonging. Each asset should be developed within the context of six separate life domains (work, education, relationships, community, health, and creativity) (p. 7).

These components resemble the life domains described by Altschuler and Armstrong (1994a; 1994b), but with an aim toward enhancing positive development rather than controlling deviance. To effectively develop individualized intervention plans in the spirit of Positive Youth Justice, it is necessary to assess strengths as well as risks and needs, and to adopt a strength-based approach to intervention planning and case management.

In addition to risk and needs assessments such as those noted above, there are instruments that staff can use to provide richer assessments of strengths, including the Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998), Child and Adolescent Needs and Strengths (CANS; Lyons, Griffin, Fazio, & Lyons, 1999), and the Youth Competency Assessment (YCA; Mackin, Weller, Tarte, & Nissen, 2005; Nissen, Mackin, Weller, & Tarte, 2005). Not only do these instruments encourage staff to create truly individualized intervention plans, but the process of administering the assessment also enables staff to develop stronger relationships with the youths, and such relationships are at the heart of producing positive change (Barton & Butts, 2008).

The combination of risk, needs, and strength assessments can provide information relevant to the Positive Youth Justice components. Staff can use the Positive Youth Justice matrix described above to systematically identify life domains requiring attention. These instruments enable staff to uncover information about youths' (and families') strengths, interests, hopes, and dreams. To make optimal use of this information, case managers should engage the collaborative reentry team, especially the youth and family members, in identifying intervention target priorities

that build upon existing strengths and assets while creating supports and opportunities for the development of new ones. Rather than just focusing on what youths cannot do, or cannot do well, or on instituting surveillance and sanctions to control undesirable behaviors, strength-based practice takes advantage of what youths can do or want to learn, and directs them toward setting positive goals. This does not mean that the plan ignores problem areas, but rather frames them as obstacles to overcome in order to pursue the positive goals.

It is important to consider why youths resist the temptations to get involved in delinquent behaviors. For some, they are so well supervised by adults that they do not have the opportunity to take part in delinquency. For others, the allure of delinquent activities is tempered by the risks they represent when youths have committed to prosocial goals or believe some of their personal relationships may be jeopardized (Hirschi, 1969). Reentry programs should devote substantial attention to positive youth development strategies that strengthen the positive and meaningful relationships for these youths and that anchor them to a set of goals that inspire them to stay out of trouble.

For example, one youth in a state juvenile correctional facility mentioned an interest in wrestling, identified a middle school wrestling coach as an important positive influence, and expressed disappointment that he had let this coach down by getting into trouble. A creative reentry case plan might invite this coach to be a member of the team and to permit the youth to serve as an assistant coach during the step-down phase of reentry intervention. Such a plan would build upon the youth's skills and interests, connect him to a caring adult, and provide him with an opportunity to make a contribution to others. In this example, a strength-based approach to assessment and planning with developmental tasks in mind uses a positive youth development framework focusing on enhancing supports and opportunities for positive developmental outcomes.

Strength-based practice, as illustrated in the example above, is somewhat alien to most juvenile justice settings. In a strength-based practice context, team members are truly collaborators. Traditional juvenile justice practice is more power-oriented; the staff and professionals act as authorities who set the conditions a youth must follow. A plan that engages the youth and family and focuses on developing assets is quite different from one that imposes conditions such as curfews, restrictions on movement, and reporting to the probation office, or that mandates general requirements, such as attending school regularly and avoiding contact with delinquent peers. For example, consider the requirement to attend school. Suppose that a youth has not been attending school regularly. A strength-based assessment would explore, among other things: the details of the youth's experiences in school; what aspects of school the youth likes and doesn't like; how the parents feel about the school and education in general, as well as what kind of support and supervision they can provide to assure attendance; what teachers or other adults in the school the youth trusts and likes; and how these adults could be engaged to help the youth want to attend and succeed in school. The plan that would emerge as a result of such an assessment would lay out a strategy, involving roles for many members of the reentry team, with concrete steps designed to achieve the outcome of the youth attending school regularly.

The Intensive Aftercare Program model prescribes the use of good risk and needs assessments for the purpose of developing individualized case management strategies (Altschuler & Armstrong, 2004). The Intensive Aftercare Program reference guide does mention that case managers should consider strengths in the context of assessment and treatment planning, but offers little explicit guidance in precisely how to do that (Altschuler & Armstrong, 2004). The Boys & Girls Clubs of America's Targeted Reentry version of the Intensive Aftercare Program, mentioned previously (Barton et al., 2008), did include youth

interests as an element for consideration in case planning. However, the Targeted Reentry case managers received no detailed training in assessing strengths or developing strength-based interventions. We argue that explicitly adding the strength-based, positive youth development perspective and thoroughly training staff in its implementation may provide a crucial element toward increasing the effectiveness of juvenile reentry practices. As should also be apparent from the discussion in this section, actual implementation of such a revised model in the context of juvenile justice is replete with challenges.

Addressing Implementation Challenges

Major implementation challenges for an Intensive Aftercare Program or its amended model include effective leadership; sustainable collaboration among juvenile justice and community stakeholders; effective, individualized case management; and strong quality control mechanisms. These and other challenges are discussed at greater length in Barton et al. (2008), but will be discussed briefly below.

Leadership means more than an endorsement from agency administration. Successful implementation requires what Bardach (1977) has termed a "fixer," someone who effectively communicates the vision, has credibility among stakeholders, and is able to intervene to troubleshoot and keep implementation on track. Too often, it seems that the agency charged with the case management role, usually probation, parole, or a contract provider, assumes sole responsibility for implementation. However, the Intensive Aftercare Program model depends upon a true collaboration among the agencies responsible for incarceration, community supervision, and the provision of other relevant services in the community. Again, leadership plays a vital role in establishing, nurturing, and sustaining such collaborations.

Effective, individualized case management incorporating strength-based, positive youth development principles requires a level of skill and creativity that exceeds what is usually found in

the caliber of staff available for such positions at typical pay levels. Furthermore, as discussed above, these attributes are relatively foreign to the traditional culture of juvenile justice (Hemmelmarn, Glisson, & James, 2006). In addition to endorsement from leadership, this form of case management practice requires extensive training in both the theory and practice of strength-based positive youth development, continual reinforcement through supervision, and support through personnel decisions such as hiring and promotion.

While daunting to contemplate, all of these implementation challenges must be met simultaneously for sustained, effective juvenile reentry—or, for that matter, any other aspect of the juvenile justice system—to be successful. To do so requires a systematic transformation of the juvenile correctional culture, policies, and practices. Without such a transformation, juvenile reentry becomes just another "program du jour," which the system will adapt to its existing culture with as little comprehensive change as possible. The program will exist only as long as special funding is available, and then fade into the archives of failed innovation attempts while the system returns to its former practices. How, then, can the culture be changed?

Change begins with a vision, one supported by evidence or at least a plausible, testable theory of change. Such a vision is contained in the notion of Positive Youth Justice (Butts et al., 2010) mentioned previously. Then, the vision must be effectively communicated to key decision makers in the juvenile justice system and the broader community, because both must partner to make the vision a reality. Juvenile reentry must be seen not just as a component of the juvenile justice system but as a component of community sustainability.

The communicator of the vision is nearly as important as what is being communicated, and the best ambassadors are persons, similar to local stakeholders, who have experienced success with aspects of the vision in their own communities.

That is, communities wishing to embark upon cultural transformation should engage trainers with credibility to key stakeholders, such as judges, probation officers, law enforcement personnel, and community leaders from sites where positive youth development-oriented juvenile justice programs exist. While few sites can be said to operate fully and explicitly from a Positive Youth Justice framework today, good candidates for such trainers include individuals from jurisdictions that have had success with the Annie E. Casey Foundation's Juvenile Detention Alternatives Initiative (JDAI) (Mendel, 2009) or from some progressive probation departments and juvenile correctional settings (Barton & Butts, 2008).

The key decisionmakers from both the juvenile justice system and the broader community, then, must make a commitment to change, hold themselves and each other accountable to that commitment, and communicate that commitment down the line. Bureaucracies live by procedural details, so such details must be made congruent with the new paradigm. For example, systems need to modify assessment forms, case planning documents, and progress report formats to reflect the strength-based orientation and Positive Youth Justice matrix of assets and domains. Staff hiring, training, and supervision practices need to incorporate and emphasize these elements as well. Transformation does not occur instantaneously, but if pursued consistently, will emerge over the course of a few years. Eventually, the new paradigm will become the new "business as usual."

It is critical that the community-based components of a juvenile reentry initiative connect youths with comprehensive support, either as a result of direct efforts of the service providers assigned to the case, or as a result of the connections to partner organizations and community volunteers. For instance, Butts et al. (2010) propose six key practice domains in their Positive Youth Justice model. These domains include work and education, as is commonly attended to in reentry programs. Yet, Butts et al. (2010) go beyond these two domains to emphasize four

other practice domains that are often neglected in juvenile reentry. They recommend deliberate attention to relationships, including the establishment and maintenance of healthy boundaries and supportive family relationships, communication skills, and conflict resolution. Health is another domain to which programs should pay particular attention, making efforts, for example, to build positive habits related to physical activity, diet, sexuality, and behavioral health (including substance use). Finally, Butts et al. (2010) encourage programs to find ways to support the involvement of the youths in creative activities, including all forms of arts and personal expression.

With regard to the role that youths will play in the community, Butts et al. (2010) recommend that programs focus on efforts at civic engagement, service, personal responsibility, and even community leadership. Reentry programs also are advised to go beyond basic interventions tied to general outcomes such as finding a job. Rather, as Levine (2005) proposes, it is important to prepare youths for success in their adult work life (i.e., a career that will allow them to support a family). To that end, Levine spells out a number of "soft skills" that adults must master for the greatest degree of success. This includes such skills as awareness of strengths and weaknesses, goal setting and planning, motivation, optimism for the future, comprehension and interpretation of expectations, evaluative thinking, organization, prioritizing, delaying gratification, communication skills (oral and written), impression management, and healthy coping strategies.

Developing Holistic and Theory-Driven Evaluation Strategies

Evaluators of juvenile reentry programs face numerous challenges – logically, methodologically, and theoretically. Some of these are common to the evaluations of any relatively long-term program involving multiple stakeholders, many of whom may change during the course of the study. In addition, evaluations involving children in the juvenile justice system rightly face intense

scrutiny by Institutional Review Boards, but sometimes this prevents evaluators from having direct contact with the youths, instead relying upon de-identified case data supplied by program providers. When that happens, evaluators have little control over the validity and reliability of the data, and attrition further limits the collection of complete data. Methodologically, identifying a strong control or comparison group can be difficult. Some jurisdictions may not be large enough to produce enough reentry cases to populate both a new reentry program and control group within a reasonable period of time. Others may resist the idea of denying the new program to any current cases, in which case a control jurisdiction or retrospective case sample may be necessary for comparison purposes.

The most serious challenges, however, are theoretical. Evaluations of juvenile justice programs typically rely upon one or more measures of recidivism as the only important outcome. This is understandable, in that the overarching purpose of such programming is to prevent or reduce future offending. Evaluators might alter the definition of criminal justice outcomes from recidivism to desistance; that is, the cessation of offending. Program evaluations that focus on recidivism tend to simply examine whether or not youths fail (and, in some cases, how long it takes them to fail). Program evaluations that focus on desistance take a more developmental approach. These recognize that desistance is a process and that as youths gain assets and become more resilient, they become increasingly less likely to recidivate. They may still recidivate, but they are slowly headed on a trajectory of desistance. Even improved reentry programming may not dramatically reduce short-term or dichotomous outcomes. However, with a developmental lens, we may see more gradual, incremental, long-term changes.

Another problem with focusing solely upon recidivism outcomes is that the essence of the programming becomes an afterthought; it doesn't seem to matter what is done as long as recidivism

is reduced. If the results are less than stellar, however, one is left not knowing why a program failed to reduce recidivism. Was it because of incorrect program assumptions or poor implementation of sound program assumptions? Evaluating program implementation (the specific interventions actually delivered, with what intensity, for how long, with what degree of fidelity to the program model, and so on) as well as outcomes can help answer this question. Evaluations of programs specifically addressing criminogenic risks and needs can be further strengthened by including as intermediate outcomes measures of the levels of such risks and needs prior to and following intervention.

Anthony, Alter, and Jenson (2009) have proposed a clear model for evaluating risk and resilience-based programming for youths. This model explicitly guides interventions and their evaluations within the ecological elements of the risk and resilience framework (Jenson & Fraser, 2011). Using a community-based, after-school program for high-risk youths as an example, Anthony et al. (2009) designed the intervention to enhance the protective factors of developing relationships with caring adults, increasing academic skills, fostering knowledge of positive norms and values, and providing supervised activities for youths during the otherwise unsupervised summer months. The evaluation included measures of intermediate outcomes based upon positive youth development domains of competence, confidence, character, and connection (Lerner, Fisher, & Weinberg, 2000). Interestingly, Anthony et al. (2009) framed self-reported indicators of anti-social behavior as one of the indicators of character rather than as an ultimate outcome of delinquency. Long-term outcomes included economic and personal self-sufficiency (Anthony et al., 2009).

As argued above, juvenile reentry program theory can expand beyond criminogenic risks and needs to include positive youth development concepts based on the Butts et al. (2010) Positive Youth Justice matrix, and evaluations could follow an

approach similar to that of Anthony et al. (2009). Assuming that the individualized assessment of strengths, risks, and needs uses the Positive Youth Justice matrix, the case plan created collaboratively by the reentry team should contain specific strategies to build upon existing strengths, develop new strengths, meet needs, and control risks in one or more of the cells of the matrix. Along with the action steps in the plan, the reentry team should specify indicators of success for each. For example, suppose that an individual youth has an interest in automobiles, lacks positive adult role models, and could benefit from structured activity after school. Perhaps the plan could include enlisting the support of a local auto repair shop to provide the youth with an opportunity to learn about engine repair and develop skills for two or three hours a few afternoons a week. Success indicators could include measures of the youth's knowledge and skills regarding engine repair as well as the extent to which a positive relationship developed between the youth and the adults in the shop. A longer term outcome might be subsequent employment in the field of auto repair. One can imagine a range of such scenarios involving the Positive Youth Justice core assets (learning/doing and attaching/belonging) and life domains (work, education, relationships, community, health, and creativity) (Butts et al., 2010).

A comprehensive evaluation strategy, then, would examine case records to track the fidelity of implementation of the assessment and case planning approach, documenting the extent to which the assessment included strengths as well as risks and needs, the involvement of the youth and collaborative partners in intervention planning, and the inclusion of strengths-related information in the intervention plan. Then, the evaluation would track the individualized chain of outcomes, including the reduction or buffering of risk factors, enhancement of protective factors, and effects on short- and longer-term behavioral outcomes. Recall the example of the youth interested in wrestling. In this case, the evaluation would

document the use of the assessment tools that elicited the information about the youth's interests. Case records would confirm the addition of the wrestling coach to the reentry team and subsequent occasions when the youth participated as an assistant coach during the step-down phase. Interviews with the youth and the coach (as well as with other team members) could provide an assessment of the relationship between them and of the youth's sense of competence in performing the positive role of assistant coach. Other data sources could provide information about relevant behavioral outcomes such as educational accomplishments, occupational goals, and, of course, any subsequent law violations.

Summary and Recommendations

Despite nearly three decades of efforts to deliver intensive, collaborative juvenile reentry services derived from the carefully developed Intensive Aftercare Program model, the research literature documents few, if any, highly successful efforts. In this paper, we have attempted to show that, rather than concluding that the Intensive Aftercare Program model simply does not work and should be abandoned, altering the traditional juvenile justice culture by adopting a developmental lens can produce theoretical enhancements, implementation strategies, and evaluation approaches that may strengthen juvenile reentry programming and lead to greater evidence of effectiveness.

In particular, the Intensive Aftercare Program service delivery model can be amended to more explicitly include elements of positive youth development and to emphasize a strength-based approach. For such a model to succeed, stakeholders must be committed to addressing the challenges of implementation, including effective and sustained leadership, incorporation of the intervention framework into the bureaucratic workings of the host agency, collaboration among agencies, and attention to quality control mechanisms. Finally, evaluators should adopt a theory-driven approach to evaluation of such

programs that includes indicators of relevant ecological risk and resilience elements. More specific recommendations for each of these three areas follow below.

1. Amendments to the Intensive Aftercare Program Model
 - a. Assessments should include a systematic process of strength discovery in addition to the assessment of risks and needs, and the resulting intervention plan should clearly include aspects that build upon existing strengths and/or seek to develop new ones.
 - b. Case planning must include the youth and family in setting goals, identifying resources, and selecting intervention strategies.
 - c. Case management should reflect strength-based practice principles.
 - d. Interventions should be guided by the Positive Youth Justice matrix (Butts et al., 2010).
2. Implementation Strategies
 - a. Leadership must be credible to all stakeholders; committed to the transformation to a strength-based, positive youth development culture; and able to communicate the vision effectively.
 - b. Create, nurture, and sustain a meaningful collaboration between juvenile justice agencies and community service providers. Formal memoranda of understanding and co-location of services may be helpful. In addition to the formal collaborative partners, other community resources may be identified and engaged as relevant to individualized case plans.
 - c. Staff turnover should be viewed as an opportunity to bring in new staff who are committed to a strength-based, positive youth development culture.
 - d. Case managers should receive extensive training in strength-based practice methods and adolescent development.
 - e. The bureaucratic infrastructure of the program (e.g., policies, procedures, forms, supervision practices, etc.) should reinforce the strength-based, positive youth development approach.
3. Evaluation Approach
 - a. Develop a logic model with a chain of outcomes that includes enhancing positive youth development elements as well as reducing recidivism (or promoting desistance). Link these outcomes to specific program activities.
 - b. Include a process evaluation that monitors the extent to which the program truly implements the strength-based, positive youth development approach.

We contend that adopting these recommendations will result in the creation of settings and programs that support positive youth development. That is, in the terms of Roth and Brooks-Gunn (2003), such programs would set goals aimed at competency development and positive social connectedness, provide supportive and empowering environments, and offer real-world opportunities for youths to build skills and gain broader exposure to social and cultural influences. In this way, reentry programs can prepare youths more effectively for productive engagement in adult roles. Strong implementation and holistic evaluation of a developmentally-enhanced Intensive Aftercare Program model may provide the best chance to improve upon the lackluster results of reentry efforts to date.

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COMMENTARY: Assessing Client Outcomes in Youth Justice Services: Current Status and Future Directions

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KEYWORDS: *Self-report measures, client outcomes, assessment, youth justice, juvenile justice, young offender*

Abstract

Youth justice services are increasingly expected to demonstrate that the services and programs they provide lead to measurable outcomes. This paper considers how client outcomes other than recidivism, which are considered important to youth justice service providers, might be conceptualized and reliably assessed. We conclude that there is a need to develop methods of assessment that are consistent with the principles of evidence-based assessment and we make a number of suggestions for the development of practice in this area.

Introduction

Youth justice services¹ have been characterized by some as adhering to one of two distinctive models of practice: the "Justice model," which is concerned with accountability, punishment, and due process; and the "Welfare model," which is based on administering justice in reference to the best interests of the young person (see Day,

Howells, & Rickwood, 2004; Noetic Solutions, 2010; Stephenson, Giller, & Brown, 2007). Recent years, however, may have seen a trend toward convergence, with elements of the "welfare" model gaining popularity in North America, and increasing pressure for European youth justice systems to use elements of the "justice" model (Richards, 2011).

Despite differences in emphasis, youth justice services typically aim to achieve multiple outcomes for their clients. In addition to justice outcomes, such as improving community safety by reducing rates of recidivism and ensuring compliance with justice orders, youth justice services seek to provide programs and services that address a broad range of social and emotional needs and facilitate the positive development of children and young people (see Hawkins, Letcher, Sanson, Smart, & Toumbourou, 2009). In addition to providing targeted interventions that manage risk in those who are considered to be serious and/or persistent offenders, most juvenile justice services thus also aim to provide interventions that promote social integration.

¹ The term "youth justice" is used in this paper to refer to services offered to children and young adults between 10 and 18 years of age. Other terminology, including juvenile justice and young offender, is commonly used in other jurisdictions.

This paper considers the way in which the success of services in achieving these multiple outcomes might be assessed. The importance of demonstrating that services do deliver their intended outcomes is illustrated by a recent United Kingdom government policy paper entitled "Breaking the Cycle," (Ministry of Justice, 2010) which proposes the introduction of a system of "payment by results" across the criminal justice system. The paper proposes that providers should be paid according to the success they achieve in reducing offending, and that this will be funded by subsequent savings to the criminal justice system. This represents a major shift in thinking (in the United Kingdom, at least) from a system that previously focused on process to one that will rely on outcomes. This paper's proposal draws, in part, on models emerging from the employment sector, in which providers are paid based on their success in getting the long-term unemployed into sustainable employment. However, any "payment by results" or "pay for performance" system is inevitably based on the extent to which outcomes can be measured in a meaningful and reliable way. Although the United Kingdom model proposes that recidivism should be used as the exclusive outcome measure, and notwithstanding the concerns that have long been expressed about the appropriateness and validity of recidivism statistics (e.g., Lloyd, Mair, & Hough, 1994), especially with juveniles (for a discussion of the limitations of recidivism statistics, see Stephenson, Giller, & Brown, 2007 or Tresidder, Payne, & Homel, 2009), there are grounds to argue that a broader range of short- and long-term outcomes are also relevant in youth justice and should be considered in any evaluation of services.

Any attempt to measure outcomes inevitably involves the collection of data that can be used to determine whether the goals and objectives of a service have been achieved. Outcome measurement relies on the collection of both *output* indicators (e.g., whether an intervention was provided as planned) and *outcome* indicators (e.g., whether the objective was achieved). Both

outputs and outcomes should be directly linked to *inputs*, or the activities that the case worker completes with a client in the course of case management. These typically relate to specific forms of intervention, rather than the social or administrative context in which interventions takes place. This is not to say that such contexts are irrelevant or unimportant, but rather that the aim of outcome measurement is to establish the association between client change and the case work activities that are undertaken. In line with most contemporary approaches to evaluation, there is a need to articulate the "logic" that underpins the model of service delivery (e.g., Scriven, 1998).

Whereas data on a range of output indicators (e.g., the number of service contacts or number of referrals made) are often available, outcome data (at the service level at least) are much less easily accessed. A search of the youth justice research literature reveals that although a number of individual program evaluations have been reported (see Lipsey, 2010), almost nothing has been published regarding service level outcomes in youth justice services. A recent review of United Kingdom youth justice services (National Audit Office, 2010) concluded that the lack of robust information about activities likely to be most effective in preventing offending makes it difficult to assess the success of the service in achieving its goal of reducing recidivism. This is a complex task, and one for which current approaches to client assessment in youth justice are probably poorly suited. It is suggested that there is a need to either complete further validation of current assessment tools or develop alternative approaches to client assessment if outcomes are to be adequately measured.

The Purpose of Client Assessment

The measurement of client outcomes is, of course, only one of a number of possible functions that assessment serves. Three of these are considered next, although clearly any assessment process should be multipurpose, integrated, and coordinated.

First, an important function of assessment in any justice system is client classification. The ability to predict those individuals who, once having entered the criminal justice system, are likely to continue their offending behavior is an important goal for most services that work with offenders, especially given evidence that those who are assessed at higher risk are most amenable to intervention (Lipsey, 2010). Including structured, standardized, formal measures of risk in any assessment has several advantages. Such measures help to ensure that the wide range of factors associated with future offending are properly covered by the assessment process and that any decisions made about client management are open to rational explanation. In addition, these measures provide a more consistent approach to assessment by eliminating the possible biases of individual professionals.

A number of different assessment instruments are available to classify young offenders. These include the Youth Offender Level of Supervision Inventory (Shields, 1993), the Youth Level of Services Inventory (Andrews, Robinson, & Hoge, 1984), the Youth Level of Service/Case Management Inventory (Hoge & Andrews, 2002), the Psychopathy Check List: Youth Version (Forth, Kosson, & Hare, 2003), and the Young Offender Assessment Profile (Youth Justice Board, 2006). These instruments have not been particularly well validated (see Welsh, Schmidt, McKinnon, Chatta, & Meyers, 2008) and are generally unlikely to meet what are considered to be the psychometric standards required for evidence-based assessment (see Hunsley & Mash, 2007; 2008). For example, the average Area Under the Curve (AUC) for juvenile risk assessment tools has been reported as 0.64 (Schwalbe, 2007), below what is generally considered an acceptable level of predictive validity (Dolan & Doyle, 2000). A recent systematic review and meta-analysis by Singh, Grann, and Fazel (2011), however, did find that the Structured Assessment of Violence Risk in Youth (Borum, Bartel, & Forth, 2003) had a high rate of predictive validity.

The problem of instrument validation may relate to some of the difficulties in predicting adolescent (rather than adult) behavior, in terms of the high base rates of re-offending (Leschied & Cunningham, 2000), the heterogeneity of young offenders (e.g., life course persistent offenders and adolescent risk takers; see Ayers et al., 1999), the role that life events and protective factors play in behavior, and the impact of developmental factors on rates of re-offending (as exemplified in the age-crime curve). For example, Van der Put et al. (2011) have recently shown that recidivism tends to be lowest in early adolescence, peak in mid-adolescence, and then diminish in late adolescence (recidivism risk is highest in those aged 14 years). None of the existing classification tools has been calibrated to accommodate these age-related changes.

A second important function of assessment is to accurately identify offender needs at the point of entry to the system. An assessment should screen each client for immediate physical and mental health risks before considering those longer-term areas of need that might then inform the development of a case plan. According to VanBenschoten (2008), although determining an offender's general risk level is critical to classification, the identification of specific dynamic risks (or criminogenic needs) is the primary basis of case planning. VanBenschoten also argues, however, that available risk/needs tools are often limited in their capacity to inform case plans and can be impracticable or unwieldy for practitioners to use in their daily work. He points to widespread difficulties in implementation and compliance: "If officers don't see how the risk/needs tool can help them better manage a case, then it relegates the tool to a data gathering instrument for administrators and researchers" (p. 38). This criticism would appear to apply to many of the assessment tools that are currently used in Youth Justice services (see above) and, anecdotally at least, many services have noted the poor quality of recorded data, poor levels of compliance with administration, especially at the end of an order, and a lack

of connection between the assessment process and the case plan (Day & Casey, 2011). In our view, many of these problems with compliance and implementation arise as a result of client needs not being assessed in a manner that makes it possible to complete a re-assessment at the end of a service contact (or order) so that feedback about change is available to the practitioner.

Andrews and Bonta (2010) define criminogenic needs as dynamic risk factors, and it is these that serve as the intermediate targets of change in any attempt to reduce the risk of further offending. Together with criminal history, largely a static construct, and the criminogenic domains of procriminal attitudes, associates, and antisocial personality, these represent what are referred to as the "big four" risk factors. The remaining criminogenic needs complete the "central eight" risk factors of criminal conduct.² Similar lists have been proposed by others. For example, Douglas and Skeem (2005) have identified a number of dynamic risk factors for violence that include impulsiveness, negative affect, psychosis, anti-social attitudes, current substance use, interpersonal relationship problems, and poor treatment compliance. Of these, the majority are covered by Andrews and Bonta's "central eight." Although these factors have been shown to apply to both juvenile and adult offender populations, it is likely that the relative weighting of particular factors will vary according to age (e.g., peer group relationships and criminal associates, given that juvenile offending commonly occurs in a social context). Here, the study by Van der Put et al. (2011) is significant in that it suggests that different types of risk factors exert most influence at different ages, with static risk factors becoming increasingly influential as age increases. Whereas younger adolescents are rated as experiencing fewer dynamic risk factors (criminogenic needs), it is the presence of these factors that appears to have the most predictive power.

A second set of client needs centers around the task of preparing for adulthood and living independently in the community. Adolescence is widely recognized as a period that involves significant cognitive, psychological, and social transitions (see Burrow, Tubman, & Finley, 2004) in which the adolescent is required to make adjustments in the face of changes in the self, in the family, and in the peer group (Lerner & Galambos, 1998). In early adolescence, young people are required to deal with institutional changes, such as the transition to high school during early adolescence and to work or university during the latter years. These changing relations constitute the basic process of adolescent development and, depending on the adolescent's developmental history, experience of adversity, and access to social resources, are thought to underlie the positive and negative outcomes that are associated with this period (Lerner, 1993). It thus becomes important to assess service outcomes not only in relation to re-offending rates or changes in criminogenic need, but also in terms of a range of other variables, the most important of which are considered next.

Additional Targets for Change

In addition to addressing criminogenic need, justice agencies also work to improve several key areas in an effort to facilitate the young person's pathway into adulthood and, hopefully, ameliorate risk factors associated with a transition from adolescent to adult offender. Developmental criminology theorists (e.g., Catalano & Hawkins, 1996; Farrington, 2005; Sampson & Laub, 1997, 2005; Thornberry, 1997) have consistently identified the important role of socializing factors (family, peers, school/work, community) in the onset and maintenance of serious and persistent antisocial behavior during adolescence. The three factors that are perhaps most often the target of interventions by juvenile justice workers are family functioning, involvement with antisocial peers, and engagement with education (see Stephenson et al., 2007).

² The other risk factors are those of social achievement (education, employment), family/marital status (marital instability, poor parenting skills, and criminality), substance abuse, and leisure/recreation activities (or the lack of prosocial pursuits); see Andrews & Bonta, 2010, p.46.

Parents and primary carers are possibly the most important influential force in a child's psycho-social development. Although the influence of peers grows and that of parents appears to wane during adolescence, parents retain the ability to influence the values and behaviors of their adolescent children (Allen et al., 2002; Allen, More, & Kuperminc, 1997; Collins & Laursen, 2004). Among the parental and familial factors identified in the literature as influencing delinquency, substance use, and risky sexual behavior are family environment, parenting styles, parental criminality, and the nature of attachment between the parent and child (Barnes, Welte, & Hoffman, 2002; da Silva, Sanson, Smart, & Toumbourou, et al., 2004; Dobkin, Tremblay, & Sacchitelle, 1997; Moffitt, 1993; Mullis, Cornille, Mullis, & Huber, 2004; Rutter, 1997; Turner, Irwin, Tschann, & Millstein, 1993). For example, research into the influence of family composition (the number of parents and siblings living at home) on risk behaviors suggests that adolescents living with two parents are significantly less likely than those living with only one parent to engage in delinquent behavior and substance use and less likely to initiate sexual intercourse at a younger age. Compared with adolescents living with only one parent, adolescents living with two parents are at reduced risk for depression (Barnes et al., 2002; Halfours et al., 2004; Mullis et al., 2004; Turner et al., 1993).

Larger family sizes have also been found to be associated with increased risk for delinquency (Farrington, 1995). Dysfunctional intrafamilial communications, such as conflict, hostility, and emotional distance, have been shown to be significantly related to antisocial behavior and substance use (Bergen, Martin, Richardson, Allison, & Roeger, 2004; Tolan, Guerra, & Kendall, 1995), higher levels of affiliations with antisocial or substance-using peers (Fergusson & Horwood, 1999), and increased likelihood of engaging in delinquent behavior (Chung, Hawkins, Gilchrist, Hill, & Nagin, 2002; Mullis et al., 2004).

Researchers have identified parenting styles, including disciplinary practices, monitoring of

children's activity, family management practices, communication styles, and availability to their children as having either the potential to protect against, or increase the risk of, engagement in risk behaviors (Dobkin et al., 1997; Farrington, 1995; Fergusson & Woodward, 2000). Family management practices, too, may either protect or promote risk among children. These practices include monitoring, setting rules and limits and using discipline (Kosterman, Haggerty, Spoth, & Redmond, 2004), parental monitoring and supervision (that is, the parent knowing where the child is, whom he or she is with, and what he or she is doing; Biglan et al., 1990), and communication style (that is, parents' ability to communicate with their children openly and to positively deal with issues relating to risk behaviors; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000).

The importance of peers increases as age increases. A significant goal in Western cultures during the adolescent period is the shift away from parental control to the development of one's own beliefs, values, and sense of identity or self-concept (Allen et al., 1997). Failure to successfully negotiate such change, for whatever reason, has consistently been implicated in the persistence of antisocial behavior into adulthood (Dishion, Nelson, & Bullock, 2004). Older adolescents spend more time with their peers, form more intimate and significant relationships with them, and receive increased emotional support from them. As a result, the influence of peers on behavior also increases during adolescence. An example of this is provided by Carroll and colleagues (Carroll, Durkin, Hattie, & Houghton 1997; Carroll, Hattie, Durkin, & Houghton, 2001), who found that at-risk and delinquent teens placed primary importance on maintaining an image of rebellious law-breakers, which they pursued as a means of attaining status among their peers. Further, one of the most robust findings with regard to risk behavior is that adolescents whose close friends and/or peers engage in risk behavior are also more likely to engage in that behavior. This has been demonstrated for delinquency (e.g., Ayers et al., 1999;

Farrington, 1995; Fergusson & Woodward, 2000; Mullis et al., 2004), substance use (e.g., Fergusson & Horwood, 1997; Kosterman et al., 2000; Parry, Morojele, Saban, & Flisher, 2004), and risky sexual behavior (e.g., Biglan et al., 1990; Garwick, Nerdahl, Banken, Muenzenberger-Bretl, & Sieving, 2004; Jaccard, Blanton, & Dodge, 2005; Jeltova, Fish, & Revenson, 2005).

Finally, an extensive body of criminological literature (e.g., Farrington, 1992; Maguin & Loeber, 1996; Monk-Turner, 1989) has shown that young people not committed to school and who demonstrate low academic achievement have poor school attendance (Katsiyannis & Archwamety, 1999; Thornberry, Moore, & Christenson, 1985), exhibit negative attitudes toward school (Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; Farrington & Hawkins, 1991), demonstrate school disciplinary problems (Flannery, Vazsonyi, Rowe, 1996), and who are truant or drop out of school (Farnworth & Lieber, 1989) are more likely to engage in delinquent and/or antisocial behaviors than those who do not exhibit these traits. This relationship, which is consistent across genders, also shows that young people with deficient academic skills not only offend more frequently, but also commit more violent and serious offenses and persist in delinquent behaviors longer than young people whose academic performance is age appropriate (Maguin & Loeber, 1996). Moreover, academic deficiencies in late childhood and early adolescence are frequently a precursor for limited life opportunities in later adolescence and adulthood. It follows that the provision of education services to juvenile offenders could have long-lasting positive effects on broader social contexts, including future employment, involvement in community activities, family and peer relationships, and decreased criminal activity (see Stephenson et al., 2007).

Outcomes Measurement

As noted above, you can use the outcomes measurement to determine whether the goals and

objectives of a service have been achieved. There are two principal methods by which outcomes can be assessed—the first is to ask clients to rate themselves on a series of domains that they consider important. For example, you may ask a client to rate how she or he experiences family relationships at the outset of a service or intervention, and then again after the service has been delivered. This method is most appropriate for measuring changes that only the client can report on, although it may be possible to think of observable indicators or *outputs* (e.g., the number of visits to the family) that would allow staff members to rate change. Researchers generally consider Likert-type scales to be the most user-friendly format for self-report measurement (Barnette, 2000; Brannon, 1981) and most suitable for use with people who have poor verbal skills (Davies, Lewis, Byatt, Purvis, & Cole, 2004). Some researchers have suggested that only positively worded items should be used, since younger children have been shown to have difficulties in interpreting negatively keyed items (Marsh, 1986).

While researchers view self-report as the most appropriate method for assessing constructs that are perceptual in nature (e.g., values, attitudes, affective responses), there are a number of threats to the validity of this method. These include the tendency to respond in socially desirable ways, especially when there are issues of secondary gain involved (such as securing early release from custody). Although some researchers have suggested that factors such as these undermine the validity of these assessments, making them inferior to those which are professionally rated (Kroner & Loza, 2001), there is sufficient empirical evidence from studies conducted with adult offenders to justify the use of self-report instruments, even in areas such as risk assessment where issues of secondary gain are perhaps most prominent. For example, Motiuk, Motiuk, and Bonta (1992) compared a self-report measure of risk classification (the Self-Report Inventory; SRI) and the Level of Service Inventory (LSI) and noted moderate to strong associations between

subcomponents of the two measures (ranging from 0.41 for leisure/recreation to 0.80 for criminal history). Motiuk et al. (1991) also showed the SRI to be a stronger predictor of misconduct and was as strong as the LSI in predicting reincarceration. More recently, Loza, Loza-Fanou, and Heseltine (2007) considered the issue of deceptive responding using the Self-Appraisal Questionnaire (SAQ), a validated self-report measure designed to predict violent and non-violent recidivism. They found no significant difference on SAQ scores between offenders who completed the instrument for research purposes and those who completed it as a precursor to decisions about release from prison. In fact, the offenders were much more consistent in their response to the SAQ than to items from a measure of socially desirable responding (i.e., deception was low).

A second method is to ask staff members to rate change. Assessors may, for example, have a view on how well the client has participated in an education or employment program and whether this has changed over time. In many ways this is the simplest way to assess outcomes, even though such ratings are based on clinical judgment and there are concerns about the validity (e.g., clinical assessment of risk) and reliability (e.g., do different members of the staff have different ideas, for example, about what constitutes change?) of such ratings. Staff ratings of change may also be influenced by the desire to be seen as an effective practitioner. In such circumstances, it can help to have a set of guidelines that structures how ratings are made. Stewart and Thompson (2004) have summarized some of the literature on human decision-making relating to practitioners' prediction of risk, which has applicability to the current discussion about how to assess change. These researchers have identified four biases, the first of which is the tendency to underuse base rates when predicting events that are uncommon (which leads to a tendency to overestimate the occurrence of an event). Second, confirmatory biases often prevent practitioners from considering evidence impartially (and lead to a tendency

to search for evidence consistent with the conclusion they believe to be correct), while illusory correlations involve the tendency to see two events as being related when they are not, or are related to a lesser extent. Finally, an over-emphasis on the unique characteristics of a case can lead to a tendency to believe that similar cases are quite different and that unique characteristics are better predictors than those that are more common.

Ways forward?

What emerges from this paper is the idea that an evidence-based approach to client assessment is required. Although the term *evidence-based assessment* has been used in the scientific literature in a number of different ways, Hunsley and Mash (2007; 2008) identify two underlying principles of evidence-based assessment as follows. First, the selection of constructs to be assessed and the assessment process should be guided by scientifically supported theories and empirical evidence that establish important facets of a particular problem or area of need. Second, practitioners should opt for instruments that are psychometrically strong. Whereas assessment measures that are commonly used in youth justice meet the first criteria, they fall short of the second. In addition to evidence of reliability, validity, and clinical utility, measures should also have appropriate norms for norm-referenced interpretation and/or replicated supporting evidence regarding the accuracy of cut-off scores used for criterion-referenced interpretation. This also extends to individual characteristics, with a need for evidence-based assessments to be sensitive to an individual's age, gender, and ethnicity, as well as specific cultural factors.

Given that youth justice services are likely to come under increasing pressure to demonstrate that they are achieving the outcomes for which they are funded, there appears to be a strong case for developing and validating needs assessment tools that meet the evidence-based assessment criteria and can be used to assess change over time. A number of tools are available, particularly

self-report tools, that might be adapted for this purpose (e.g., Inventory of Offender, Risk, Needs and Strengths [Miller, 2006]; General Health Questionnaire [Goldberg & Williams, 1988]; Commitment to Education Scale [James, 2002]; Utrecht Work Engagement Scale [Schaufeli, Bakker, & Salanova, 2006]; Resilience Scale for Adolescents [READ] [Hjeddal, Friberg, Stiles, Martinussen, & Rosenvinge, 2006]). There are, however, a number of additional considerations that also arise, the first of which concerns the demands placed on both the assessor and the young person being assessed. Evidence-based assessment is also concerned with the utility of any assessment (Cohen & Parkman, 1998). This includes such factors as the costs of any assessment and the time taken to administer it. Systemic considerations, most notably time constraints and resource limitations, highlight the need for assessments that are brief, clear, feasible, and user-friendly; that is, outcome measures that are "good enough to get the job done" (Hunsley & Mash, 2008, p.5). The brevity issue is a vital one in the youth justice setting where there are limited resources available, considerable demands on staff time, and there is a need for repeated administrations to detect change over time. There is a need to find a balance between setting criteria that are either too stringent (and rendering assessment a worthless exercise) or too lenient (and thereby undermining the notion of evidence-based assessment) (see Kazdin, 2005).

Another important issue if a triangulated approach to outcomes measurement is to be adopted (i.e., data are collected from multiple sources such as client self-report, staff ratings, and collateral sources) is to ensure that any observed change in ratings is not misinterpreted. The extent to which youth justice clients and professionals have quite different perceptions of whether change has occurred is currently unknown, and this represents an important avenue for further investigation. The judgment about when change is both clinically and statistically significant is also an important issue

(Nunes, Babchishin, & Cortoni, 2011) and relates to the program logic that underpins a service contact (i.e., the intended relationship between 'inputs' and 'outputs' [Pawson, 2006]). It may also be that the amount of change that is possible is constrained by a number of external or systemic factors.

The suggestion for future practice is to develop an assessment tool that incorporates both client self-report and case worker ratings of need in each of the domains in which a particular service seeks to bring about change. The assessment can then be re-administered at the end of an order or service contact to examine the extent to which change has occurred. This will then offer concrete data on individual client change which (when scores are aggregated across groups of young offenders) can directly inform judgments about the effectiveness of a service. While it is relatively easy to identify the type of self-report measure which might be used (see above), the challenge will be to establish the psychometric properties of any new assessment. In our view, the minimum required for this would be a pilot test of the tool to establish: (a) the factor structure and construct validity of the self-report scales used with clients; (b) the reliability of staff ratings; and (c) the extent to which scores on the measure are sensitive to change over time. Work of this nature is currently being undertaken by Youth Justice and Youth Services in Victoria, Australia, although the results of this pilot project have yet to be reported.

A number of other questions arise from this type of approach. For example, an important issue concerns the threshold for determining when significant change has occurred (i.e., What does a reduced score on an outcome measure actually mean in terms of behavior change? How much change should be expected?). It is, therefore, important that further validation includes an examination of the relationship between scores on the assessment measures and longer-term outcomes such as re-offending or re-entry into the justice system. It is also likely that different

individuals will have different needs and that some groups (e.g., young girls) will have different needs from others. There may be some outcomes that are specific to the setting in which services are delivered. There are two ways in which a new assessment process might address these issues. The first is to ensure that group-level outcomes are reported in a stratified way (by age group, gender, and culture, for example). The second is to produce individual reports that identify those changes each client has made and that can readily be incorporated into case files. This would allow only those outcomes that are considered relevant to identified needs in the case plan to be interpreted as meaningful. These, and other issues, will require careful thought and extensive testing if they are to be adequately resolved. They lie, however, at the heart of questions about what constitutes effective practice with young people in juvenile justice settings and, in our view, should be the topic of much more debate within the field.

Notwithstanding these issues, the conclusion of this paper is that evidence-based assessment in

the provision of professional services is the cornerstone of best practice in most modern health and human service systems and that there is scope to develop this aspect of youth justice service provision in ways that allow client outcomes to be reliably assessed and interpreted. This involves a consideration not only of population-based recidivism statistics, but also an analysis of changes in those areas of individual client need that the service aims to bring about.

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