University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Sociology Department, Faculty Publications

Sociology, Department of

2008

A Longitudinal Study of the Effects of Child Maltreatment on Later Outcomes among High-risk Adolescents

Kimberly A. Tyler

University of Nebraska-Lincoln, kim@ktresearch.net

Katherine A. Johnson

University of Nebraska-Lincoln

Douglas A. Brownridge

Arthur V. Mauro Center for Peace and Justice, University of Manitoba, Winnipeg, Canada

Follow this and additional works at: <https://digitalcommons.unl.edu/sociologyfacpub>

Part of the [Sociology Commons](#)

Tyler, Kimberly A.; Johnson, Katherine A.; and Brownridge, Douglas A., "A Longitudinal Study of the Effects of Child Maltreatment on Later Outcomes among High-risk Adolescents" (2008). *Sociology Department, Faculty Publications*. 48.

<https://digitalcommons.unl.edu/sociologyfacpub/48>

This Article is brought to you for free and open access by the Sociology, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Sociology Department, Faculty Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

A Longitudinal Study of the Effects of Child Maltreatment on Later Outcomes among High-risk Adolescents

Kimberly A. Tyler,* Katherine A. Johnson,* and Douglas A. Brownridge**

* Department of Sociology, University of Nebraska-Lincoln, 717 Oldfather Hall, Lincoln, NE 68588-0324, USA

** Department of Family Social Sciences, Arthur V. Mauro Center for Peace and Justice, University of Manitoba, Winnipeg, Canada

Abstract

The current study longitudinally examines the effects of child maltreatment, parenting, and disadvantaged neighborhood on victimization, delinquency, and well-being via running away and school engagement among a sample of 360 high-risk adolescents. Results of a path analysis revealed that parenting was associated with school engagement, running away, and well-being. Childhood neglect was related to victimization while sexual abuse and living in a more disadvantaged neighborhood were associated with poorer well-being. Greater school engagement was associated with higher levels of well-being and a lower likelihood of delinquency. Finally, running away was positively associated with participating in delinquent activities. In terms of the interactions, results showed that the effect of positive parenting on well-being was significantly stronger for females and the manner in which neglect related to school engagement was greater among males. Additionally, gender significantly moderated the relationship between running away and victimization and between running away and delinquency, both of which the effects were significantly stronger for males. Implications for families and adolescents are addressed.

Keywords: child maltreatment, running away, adolescents, well-being

Approximately 3.3 million cases of child abuse and neglect were reported in the United States in 2003, and an estimated 906,000 of these reports were substantiated (U.S. Department of Health and Human Services 2005). Many detrimental outcomes are associated with experiencing childhood maltreatment such as running away, re-victimization, and overall lower well-being (Beitchman et al. 1991; Tyler 2002). Poor parenting (i.e., conflict and low warmth and support) are also linked to similar adverse outcomes (Ek and Steelman 1988; Flannery et al. 1999; Schreck and Fisher 2004). Finally, although research examining neighborhood effects on child and adolescent outcomes is limited, neighborhood problems such as crime, delinquency, and social and physical disorder have been either directly or indirectly associated with poor adolescent development (Sampson et al. 2002). The current study uses longitudinal data to examine the effects of early abuse and neglect, parenting, and disadvantaged neighborhood on victimization, delinquency, and well-being via running away and school engagement among a sample of currently housed, high-risk adolescents.

Literature Review

Child Abuse and Poor Parenting

Numerous studies support the conclusion that many adolescents leave home as a way to escape abuse (Cauce et al. 1998; Kaufman and Widom 1999; Tyler et al. 2001a;

Whitbeck and Hoyt 1999) and familial problems (e.g., conflict and ineffective parenting) (Ek and Steelman 1988; Greenblatt and Robertson 1993; Whitbeck and Hoyt 1999). Indeed, research finds that runaways report having experienced high rates of physical and/or sexual abuse (McCormack et al. 1986; Tyler and Cauce 2002; Tyler et al. 2001a) and poor parenting (Dadds et al. 1993; Schweitzer et al. 1994) while at home. Finally, lower school engagement and/or poorer academic performance have also been associated with experiencing maltreatment and/or conflict with parents (Crozier and Barth 2005; Hagan and McCarthy 1997; Leiter and Johnson 1994; Tyler et al. 2006).

Because adolescents with lower levels of parental monitoring and closeness may have more opportunities to participate in numerous types of risky behaviors (Luster and Small 1994), these youth are likely to have higher involvement in delinquency. Research also finds that a history of child maltreatment (Beitchman et al. 1991; Shields and Cicchetti 2001) and poor parenting (Schreck and Fischer 2004; Tyler and Johnson 2006) are associated with victimization later in life. Finally, adolescents who have experienced neglect or abuse and ineffective parenting have been shown to suffer from posttraumatic stress disorder (PTSD) and/or depression (Whitbeck and Hoyt 1999). In addition, negative family experiences may have cumulative effects and can be detrimental to normative adolescent development (Hagan and McCarthy 1997; Wheaton 1999) resulting in poorer overall well-being.

Neighborhood

Unlike the research on parenting and running away, the relationships between environmental risk factors and running away are not well understood. Families are situated within social contexts where economic and social supports are differentially available (Fauth 2004). Specifically, living in poor, dangerous neighborhoods affects parenting behaviors by increasing the risk of harsh control, inconsistent discipline, and low maternal warmth (Hill and Herman-Stahl 2002), which may result in youth running away from home (Hagan and McCarthy 1997) and being less involved in school (Edelbrock 1980; Hagan and McCarthy 1997). Living in high crime neighborhoods also puts adolescents at risk of coming into contact with potential offenders and thus at increased risk for victimization. In addition, those who live in disadvantaged neighborhoods are more often in proximity to potential targets in the absence of suitable guardians; this may increase the likelihood that they will become involved in delinquent activities. Although

research examining neighborhood effects on child and adolescent outcomes is limited, it is evident that neighborhood problems (e.g., crime, delinquency, social and physical disorder) are associated with poor adolescent development (Sampson et al. 2002) and lower overall well-being.

Running Away

Adolescents from troubled family backgrounds tend to run away numerous times and spend time on the street (Janus et al. 1987; Tyler et al. 2001a; Whitbeck and Simons 1990). This increases their opportunity for exposure to delinquent youth and thus increases the likelihood that they will participate in delinquency themselves (Chen et al. 2004; Tyler et al. 2000; Whitbeck and Simons, 1990). Moreover, being on the street results in high visibility and exposes youth to potential offenders, which may increase their risk for victimization (Tyler et al. 2001b). Research also finds that a history of maltreatment leads to running away (Tyler et al. 2001a) and spending time on the street, increasing the risk for mental health problems, and consequently, lower adolescent well-being (Whitbeck and Hoyt 1999).

School

Poor school performance has been linked to high-risk behaviors in past research. For example, poor academic achievement is associated with numerous delinquent activities, including cigarette use (Bryant et al. 2004) and alcohol use (Crosnoe 2006). Other research also supports the link between school problems and delinquency (Wang et al. 2005). An association has also been found between school performance and multiple victimizations (Holt et al. 2007). Finally, in their recent review of the literature, Suldo et al. (2006) reported that students who do well in school and feel that they have a supportive school environment are more likely to perceive a higher level of well-being.

Gender

The literature also finds numerous gender differences with respect to our outcomes. For example, males and females tend to differ in terms of their rates of running away (Substance Abuse and Mental Health Services Administration (SAMHSA) 2004) and school engagement (Annunziata et al. 2006), which may be linked to different outcomes. This is supported by research, which finds gender differences in delinquency (U.S. Department of Justice 1997), victimization (Paetsch and

Bertrand 1999), and well-being (Schraedley et al. 1999; Thompson et al. 2004).

Purpose of the Current Study

Although previous research has examined the link between abuse and/or poor parenting and numerous negative outcomes, much of it is descriptive, based on cross-sectional data, and includes samples of currently homeless youth. Therefore, factors that predict the likelihood that housed adolescents will subsequently run away from home and factors that predict delinquency, victimization, and lower well-being have not been systematically examined over time. As such, the purpose of the current study is to use longitudinal data to examine the effects of early abuse and neglect, parenting, and disadvantaged neighborhood on victimization, delinquency, and well-being via running away and school engagement among a sample of currently housed, high-risk adolescents.

Theoretical Orientation

We draw on the risk-amplification model (Whitbeck et al. 1999), which is a combination of life course theory and social interaction theory, as a framework for our study. According to this model, adolescents who experience child maltreatment (i.e., physical abuse, sexual abuse, and/or neglect) or come from homes characterized by poor parenting (e.g., low monitoring and low warmth and support) are at greater risk for running away as a means of escaping a negative environment. Adolescents growing up in families that display aggressive and antisocial behavior may mimic this behavior in other social settings, leading to school problems and engagement in delinquent activities through their associations with deviant youth (Dodge 1983; Patterson 1982). Street experiences and running away from home amplify negative developmental effects originating in the family, and these developmental problems set the stage for later victimization, participation in high-risk behaviors, and overall poorer well-being.

Hypotheses

Based on the above literature review and the risk-amplification model, we hypothesize that having experienced child maltreatment (i.e., sexual abuse, physical abuse, neglect), having poorer parent relations (e.g., lower levels of closeness and monitoring), and living in a more disadvantaged neighborhood will be associated with running away, lower school engagement, a greater likelihood of victimization and delinquency, and lower

well-being. We also hypothesize that running away and lower school engagement will be associated with greater delinquency, victimization, and lower well-being. Finally, we hypothesize gender differences based on previous findings that males are more likely to run away and have higher rates of delinquency and victimization compared to females. Additionally, we expect females will have higher levels of well-being and experience more positive parenting compared to males.

Method

Data

The National Survey of Child and Adolescent Well-Being (NSCAW) is a longitudinal study of youth ranging in age from birth to 14 years old at the time of the initial sampling. The NSCAW study consists of two cohorts and includes a total of 6,228 children and adolescents. The cohort used in these analyses, NSCAW Child Protective Services (CPS), includes 5,501 adolescents. To be eligible for inclusion in the NSCAW CPS sample, adolescents must have been the subject of a child abuse or neglect investigation conducted by CPS between October 1999 and December 2000.

Data were collected in four waves (baseline, 12, 18, and 36 months) from a total of four possible reporters. Information was collected from the respondent, the child's teacher (if school aged) at wave 1, 3, and 4, and from the current caregiver, (defined as the caregiver most knowledgeable about the child), and the caseworker at all four waves. For the current analyses, only data from children, caregivers, and caseworkers were employed because of the large amount of missing data on the teacher reports (approximately 31%).

Sample

Several of the variables of interest were not available until the children reached 11 years of age; as such, analyses were restricted to youth who were 11–14 years old at baseline. Additionally, due to the fact that the measure of PTSD (a component of the well-being measure) was only available for youth who were 8–16 years old in wave 4, the age of the current sample was capped at 16 to avoid problems with missing data. Thus, the analyzed subsample included a total of 360 children and adolescents who were 11–14 years old at baseline and less than 17 years old at wave 4 who lived with a permanent caregiver (e.g., not in a group home or with a foster family) at wave 1. To be included in the sample, both the youth and the caregiver must have been interviewed at waves 1, 3, and 4 and the child must have been enrolled

in school in waves 3 and 4 because two endogenous variables (school engagement and well-being) included items that were only administered to youth currently enrolled in school. Finally, 70 respondents had missing data on one or more of the variables of interest. Of these 70 cases, 54 were dropped due to listwise deletion because Mplus requires that there are no missing data on any of the exogenous variables. The remaining 16 cases had missing data on endogenous variables only and thus had their values imputed using EM algorithm (see Muthén and Muthén 1998–2007 for more information on this process). No variable had more than 8% missing data. An analysis of the missing data revealed that those respondents with invalid data on one or more variables were significantly different from those with no missing data in the following ways: they were likely to have had lower family incomes, to have experienced less positive parenting, to be less likely to have experienced neglect, and to have lower well-being.

Measures

Positive parenting was measured in wave 1 when the respondents were 11–14 years old and is a composite variable created from three parenting constructs. The first construct, parental monitoring, is made up of five items adapted from Dishion et al. (1991) measuring the amount of knowledge the youth felt their primary caregiver had about their activities. Some of the items asked the youth how often they left the house without telling their caregiver and how often their caregiver knew who they were with. One item was reverse coded so that all items were positively oriented (i.e., a higher score indicated more frequent parental monitoring) and a mean scale was created (See Table 1 for a list of all parenting measures).

The second construct, closeness with primary caregiver, was assessed using two items adapted from the National Longitudinal Study of Adolescent Health, In-Home questionnaire (Carolina Population Center, University of North Carolina at Chapel Hill 2002). Youth were asked how close they feel to their caregiver and how much they thought their caregiver cared about them. These items were highly correlated ($r = .59^{**}$) and a mean scale was created.

Finally, youth were asked 12 questions (adapted from Connell 1990) regarding their relationship with their primary caregiver such as how they felt when they were with their caregiver and if their caregiver did a lot to help them. Seven items were recoded to obtain a positively oriented scale (i.e., a higher score indicates a better relationship) and a mean scale was created. These three constructs (monitoring, closeness, and relationship with caregiver) had a combined reliability coefficient of .54

and loaded strongly on one factor. They were standardized and a mean scale of positive parenting was created.

Childhood physical abuse was measured in wave 1 when the adolescents were 11–14 years old. Physical abuse scores were obtained by combining information from three sources: the youth themselves, their caregiver, and their caseworker. Caregiver and youth responses were gathered using eight items adapted from the Parent–Child Conflict Tactics Scale (Straus et al. 1998). Both the caregiver and the youth were administered a series of questions about physical abuse the child had experienced in the past year such as being slapped, hit, kicked, or threatened with a knife or gun. Youth were asked to report on abuse they had experienced from their parents or other adults that lived with them, and caregivers were asked to report on abuse they had inflicted upon the child (both were coded 0 = no physical abuse; 1 = physical abuse). Caseworkers were shown a list of 10 types of maltreatment and were asked to determine, based on the child's case report, which best described the most serious type of abuse reported to CPS. This variable was recoded into a dichotomous measure of physical abuse (0 = physical abuse was not the worst type reported to CPS; 1 = physical abuse was the worst type of abuse reported). Data from the three sources (youth, caregiver, and caseworker) were combined into a single dichotomous measure (0 = no physical abuse in the past year; 1 = experienced physical abuse in the past year). Individuals with missing data on these items (two respondents) were conservatively coded as never having experienced physical abuse in order to retain cases.

Childhood sexual abuse was measured in wave 1 when the adolescents were 11–14 years old by assessing caregiver and caseworker reports (youth were not asked about sexual abuse). Caseworkers were shown a list of 10 types of maltreatment and were asked to determine, based on the child's case report, which best described the most serious type of abuse reported to CPS. This variable was recoded into a dichotomous measure of sexual abuse (0 = sexual abuse was not the worst type reported to CPS; 1 = sexual abuse was the worst type of abuse reported). Additionally, caregivers were asked whether their child had ever been touched or forced to touch someone else in a sexual way when they didn't want to and if their child had been forced to have sex by an adult or older child in the past year. These two caregiver items were combined into a dichotomous measure (0 = no sexual abuse; 1 = experienced sexual abuse). The caseworker- and caregiver-reported variables were combined to form a single dichotomous sexual abuse measure. Respondents with missing data on these items (approximately 10% of the sample) were conservatively coded as never having experienced sexual abuse in order to retain cases.

Table 1. Parenting and well-being measures*Monitoring (1 of 3 Positive parenting variables); $\alpha = .70$*

How often do you leave the house without telling your (fill caregiver) or without leaving a note?*

How often does your (fill caregiver) know where you are when you are away from home?

How often does your (fill caregiver) know who you are with when you are away from home?

How often does your (fill caregiver) tell you what time to be home?

Before going out, how often do you tell your (fill caregiver) when you expect to be back?

Response categories: 0 = never, 1 = almost never, 2 = once in a while, 3 = pretty often, 4 = very often.

Closeness (2 of 3 Positive parenting variables); $r = .59^{**}$

How close do you feel to your (fill caregiver)?

How much does (fill he/she) care about you?

Response categories: 0 = not at all, 1 = a little bit, 2 = somewhat, 3 = quite a bit, 4 = very close.

Relationship with caregiver (3 of 3 Positive parenting variables); $\alpha = .67$

When I'm with my (fill caregiver), I feel good.

When I'm with my (fill caregiver), I feel mad.*

When I'm with my (fill caregiver), I feel unhappy.*

My (fill caregiver) enjoys spending time with me.

My (fill caregiver) does a lot to help me.

My (fill caregiver) doesn't seem to have enough time for me.*

My (fill caregiver) doesn't seem to know how I feel about things.*

My (fill caregiver) trusts me.

My (fill caregiver) doesn't let me make any of my own decisions.*

My (fill caregiver) is fair with me.

My (fill caregiver) doesn't think I can do very much.*

I don't know what my (fill caregiver) wants from me.*

Response categories: 0 = not at all true, 1 = not very true, 2 = sort of true, 3 = very true.

Physical health (1 of 5 Well-being variables)

NSCAW created variable.

Response categories: 0 = poor, 1 = fair, 2 = good, 3 = very good, 4 = excellent.

Depressive symptoms (2 of 5 Well-being variables); $\alpha = .72$

Which one of these sentences best says how you have felt in the past 2 weeks?

0 = I am sad once in a while*	0 = I do not worry about aches and pains*
1 = I am sad many times	1 = I worry about aches and pains many times
2 = I am sad all the time	2 = I worry about aches and pains all the time

Table 1, continued.

0 = nothing will ever work out for me	0 = things bother me all the time	0 = I do not feel alone*
1 = I am not sure if things will work out for me	1 = things bother me many times	1 = I feel alone many times
2 = things will work out for me O.K.	2 = things bother me once in a while	2 = I feel alone all the time
0 = I do most things O.K.*	0 = I like being with people*	0 = I never have fun at school
1 = I do many things wrong	1 = I do not like being with people many times	1 = I have fun at school only once in a while
2 = I do everything wrong	2 = I do not want to be with people at all	2 = I have fun at school many times
0 = I have fun in many things*	0 = I cannot make up my mind about things	0 = I have plenty of friends*
1 = I have fun in some things	1 = it is hard to make up my mind about things	1 = I have some friends but I wish I had more
2 = nothing is fun at all	2 = I make up my mind about things easily	2 = I do not have any friends
0 = I am bad all the time	0 = I look O.K.*	0 = my schoolwork is alright*
1 = I am bad many times	1 = there are some bad things about my looks	1 = my schoolwork is not as good as before
2 = I am bad once in a while	2 = I look ugly	2 = I do very badly in subjects I used to be good in
0 = I think about bad things happening to me once in a while*	0 = I have to push myself all the time to do my school work	0 = I can never be as good as other kids
1 = I worry that bad things will happen to me	1 = I have to push myself many times to do my school work	1 = I can be just as good as other kids if I want to
2 = I am sure that terrible things will happen to me	2 = doing schoolwork is not a big problem	2 = I am just as good as other kids
0 = I hate myself	0 = I have trouble sleeping every night	0 = nobody really loves me
1 = I do not like myself	1 = I have trouble sleeping many nights	1 = I am not sure if anybody loves me
2 = I like myself	2 = I sleep pretty well	2 = I am sure that somebody loves me
0 = all bad things are my fault	0 = I am tired once in a while*	0 = I usually do what I am told*
1 = many bad things are my fault	1 = I am tired many days	1 = I do not do what I am told most times
2 = bad things are not usually my fault	2 = I am tired all the time	2 = I never do what I am told
0 = I do not think about killing myself*	0 = most days I do not feel like eating	0 = I get along with people*
1 = I think about killing myself but I would not do it	1 = many days I do not feel like eating	1 = I get into fights many times
2 = I want to kill myself	2 = I eat pretty well	2 = I get into fights all the time

PTSD (3 of 5 Well-being variables)

NSCAW created variable.*

Response categories: 0 = not clinically significant PTSD, 1 = clinically significant PTSD.

Social skills (4 of 5 Well-being variables)

NSCAW created variable.

Response categories: 0 = low, 1 = high.

Peer relationships (5 of 5 Well-being variables); $\alpha = .91$

How often is this true about you...

It's easy for me to make new friends at school.

I have nobody to talk to at school.*

I'm good at working with other kids at school.

Table 1, continued.

It's hard for me to make friends at school.*
 I have lots of friends at school.
 I feel alone at school.*
 I can find a friend when I need one.
 It's hard to get kids in school to like me.*
 I don't have anyone to play with at school.*
 I get along with other kids at school.
 I feel left out of things at school.*
 There are no kids at school that I can go to when I need help.*
 I don't get along with other kids at school.*
 I'm lonely at school.*
 I'm well liked by the kids at school.
 I don't have any friends at school.*

Response categories: 0 = never, 1 = hardly ever, 2 = sometimes, 3 = most of the time, 4 = always.

* Indicates reverse coded item; ** $p < .01$

Childhood neglect was measured in wave 1 when the adolescents were 11–14 years old by assessing caregiver and caseworker reports (youth were not asked about neglect). When shown the list of 10 types of maltreatment and asked to determine, based on the child's case report, which was the worst type of abuse reported to CPS, those who chose neglect were coded as 1 and those who chose anything else were coded as 0. Additionally, caregivers were asked to respond to five questions designed to measure child neglect in the past year such as how often in the past year they had left their child home alone or had been too drunk or high to care for their child (0 = no neglect in the past year; 1 = experienced neglect in the past year). The caseworker report and the caregiver report were then combined into a single measure (0 = no neglect, 1 = neglect). Respondents with missing data on these items (approximately 4% of the sample) were conservatively coded as never having experienced neglect in order to retain cases.

Disadvantaged neighborhood was measured at wave 1 when the youth were 11–14 years of age with four items (adapted from Furstenburg 1990) in which caregivers were asked, for example, to compare their neighborhood to most other neighborhoods regarding safety and quality of living. A higher score indicated a more disadvantaged neighborhood. A mean scale was created ($\alpha = .79$).

Running away, measured at wave 3 (approximately 18 months after baseline), assessed whether or not youth had run away from home in the past 6 months. Responses were coded as 0 = no and 1 = yes.

School engagement was measured approximately 18 months after baseline in wave 3 with 11 child reported items adapted from the Drug Free Schools Community Act Survey (See NSCAW User's Guide—Dowd et al. 2004). For example, youth were asked how they feel when they are at school and how often they must be disciplined at school. Response categories ranged from 0 to 3 with a higher score indicating greater school engagement. A mean scale was created ($\alpha = .77$).

Delinquency was measured approximately 36 months after baseline in wave 4 by asking youth whether they had engaged in 10 different serious delinquent behaviors in the last 6 months (adapted from Elliott and Ageton 1980). These items included behaviors such as attacking someone with the intention of hurting them, being in a gang fight, and selling illicit drugs. Respondents answering yes to at least one item were coded as 1 = seriously delinquent, while those who answered no to all items were coded as 0 = not seriously delinquent.

Victimization was measured approximately 36 months after baseline in wave 4 by asking respondents two

questions: "In the past 12 months, how many times has someone physically hurt you on purpose?" and "In the past 12 months, have you had a gun shot wound or stab wound?" Those who gave an affirmative response to either question were coded as 1 (experienced victimization at least once); all others were coded as 0 (no victimization). In order to separate those who were abused by a caretaker from those who were victimized by someone else, the youth were asked if the person who physically hurt them on purpose was responsible for taking care of them. If the person who did this to them was a caretaker, the youth was coded as 0 because these reports would have been captured in the physical abuse measure.

Well-being, measured approximately 36 months after baseline in wave 4, consisted of five constructs (physical health, depressive symptoms, PTSD, social skills, and peer relationships) (See Table 1 for a list of all well-being measures). The first construct, physical health, was measured by asking caregivers to rate the physical health of their child. Responses ranged from 0 = poor to 4 = excellent.

Depressive symptoms were measured with 27 items adapted from the Children's Depression Inventory (Kovacs 1992). Youth were asked about how they felt in the past 2 weeks such as feeling sad and being liked by friends (certain items were reverse coded). Responses ranged from 0 to 2 with a greater score indicating less depressive symptoms (i.e., greater well-being). A summed scale was created.

The third construct is a measure of PTSD. This variable was created by NSCAW using items from the Trauma Symptom Checklist for Children (Briere 1996). Response categories were 0 = not clinically significant PTSD, and 1 = clinically significant PTSD. This item was reverse coded so that a greater score indicated no PTSD (i.e., greater well-being).

Social skills were also measured with a NSCAW created variable which used items adapted from the Social Skills Scale (Gresham and Elliott 1990). Response categories were 0 = low and 1 = average to high.

The final construct included in the measure of well-being was an assessment of the youth's peer relationships. This variable was created using 16 items adapted from the Loneliness and Social Dissatisfaction Questionnaire for Young Children (Asher and Wheeler 1985). For example, items asked youth how often they felt left out at school, how often they could find a friend when they needed one, and how often they got along with other kids at school. Some items were recoded to obtain a positively oriented scale, and response categories ranged from 0 = never to 4 = always, with a higher score indicating more positive peer relationships and social integration. A mean scale was created.

In order to create the composite measure of well-being, these five constructs were standardized and combined into a single global measure. A summed scale was created with higher scores indicating greater global well-being ($\alpha = .57$).

In terms of our control variables, gender was coded 0 = male and 1 = female, and race was coded 0 = white and 1 = non-white. Age was measured in wave 1 and ranged from 11 to 14 years. Income was measured using a NSCAW created variable. Response categories ranged from 1 = \$0-9,999 to 5 = \$40,000 and greater.

Results

Sample Characteristics

The sample was 58.1% female with an average age of 12.17 years at baseline. Approximately 49% of respondents were non-white and although the average annual household income was between \$10,000 and 29,999, caregivers tended to report that their neighborhoods were about the same or slightly better than other neighborhoods. The average level of positive parenting was .13 (range = -3.13 to 1.00). Over one-half of adolescents (61%) had experienced physical abuse with similar rates being reported for males and females (65 and 59%, respectively). Additionally, 25% of adolescents had suffered from sexual abuse with females experiencing significantly higher rates compared to males (31 vs. 19%, respectively). Approximately 73% of the sample had been neglected; this rate was similar for males and females (72 and 74% respectively). At wave 3, 9% of respondents had run from home in the previous 6 months, and the average level of school engagement was 2.08 indicating that youth were "often" engaged in school. At wave 4, the average level of well-being was .27 (range = -11.10 to 4.17), and 14% had engaged in serious delinquent behaviors with males being significantly more likely to have done so (20% compared to 10%). Finally, 38% of young people reported being victimized at least once with males and females experiencing approximately similar rates (39 and 36% respectively) (See Table 2 for correlations between all study variables).

Multivariate Results

A fully recursive path model was estimated using the weighted least squares means and variance adjusted (WLSMV) procedure with Delta parameterization in Mplus 3.13 (Muthén and Muthén, 1998-2007) because three endogenous variables were dichotomous in this study. The standardized path coefficients, β , represent

Table 2. Correlation matrix of all study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Female	-													
Non-White	.03	-												
Age	-.01	-.02	-											
Income	.01	-.16**	.06	-										
Positive parenting	.02	-.04	-.11*	.00	-									
Physical abuse	-.04	-.07	.10	.09	-.20**	-								
Neglect	.02	.11*	-.06	-.11*	-.09	-.02	-							
Sexual abuse	.12*	-.02	.07	.06	.03	-.05	-.19**	-						
Disadv. neighborhood	-.01	.18**	.01	-.24**	.05	.02	.18**	-.05	-					
School engagement	.16**	-.08	-.04	.09	.21**	-.08	-.04	.07	-.09	-				
Running away	.05	-.07	.12*	.01	-.19**	.03	-.08	.09	.00	-.02	-			
Victimization	-.02	.01	.02	-.03	-.06	-.02	.11*	.01	-.05	-.10	.08	-		
Delinquency	-.11*	.02	-.05	-.07	-.13*	.09	.05	.00	.02	-.21**	.16**	.18**	-	
Well-being	-.04	.01	.00	.06	.20**	-.11*	-.08	-.12*	-.12*	.32**	-.06	-.17**	-.16**	-
Range	0-1	0-1	11-14	1-5	-3.13-1	0-1	0-1	0-1	0-2	.36-3	0-1	0-1	0-1	-11.10-4.17
Mean	.58	.49	12.17	2.67	.13	.61	.73	.25	.81	2.08	.09	.38	.14	.27
Standard deviation	.49	.50	1.05	1.33	.66	.49	.44	.44	.59	.47	.29	.48	.34	2.88

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

Figure 1. Path model results ($n = 360$). Note: $^{\dagger} p < .10$; $* p < .05$; $** p < .01$; $*** p < .001$. Only significant paths shown.

the effect of a given predictor variable on the dependent variable after accounting for the remaining relationships in the model. Results for the path analysis in Figure 1 (only significant paths shown; control variables not displayed), revealed that greater school engagement at wave 3 was associated with having experienced more positive parenting at wave 1 ($\beta = .15^{***}$) and being female ($\beta = .16^{**}$), which is consistent with what was hypothesized. These variables explained 10% of the variance in school engagement.

As hypothesized, respondents who had run away from home at wave 3 were more likely to have experienced lower levels of positive parenting ($\beta = -.42^{**}$) at wave 1. Approximately 15% of the variance in running away was explained. Greater well-being at wave 4 was associated with more positive parenting at wave 1 ($\beta = .58^{**}$) and greater school engagement at wave 3 ($\beta = 1.90^{***}$), which was consistent with our hypotheses. Additionally, not having experienced sexual abuse ($\beta = -1.10^{***}$) and having lived in a less disadvantaged neighborhood ($\beta = -.48^*$) at wave 1 were related to greater well-being at wave 4 as predicted. These variables explained approximately 18% of the variance in well-being. As expected, victimization at wave 4 was associated with having experienced neglect at wave 1 ($\beta = .38^*$), explaining approximately 9% of the variance in victimization. Finally, having committed an act of serious delinquency at wave 4 was associated with being younger ($\beta = -.17^*$), male ($\beta = -.41^*$), having had lower levels of school engagement ($\beta = -.61^{***}$), and having

run away from home ($\beta = .39^{***}$) at wave 3, which is consistent with our hypotheses. These variables explained approximately 32% of the variance in delinquency.

Multiple Groups

Because much of the literature on school engagement, running away, well-being, victimization, and delinquency has supported differences by gender, we tested for gender interactions. As can be seen by the multiple groups path models (Figs. 2 and 3), a somewhat different set of relationships reached significance for boys and for girls. Among males (see Figure 2), greater school engagement was associated with more positive parenting ($\beta = .19^{***}$) and having experienced childhood neglect ($\beta = .16^{\dagger}$). Having engaged in severe delinquency was related to childhood neglect ($\beta = .59^*$), having run away from home ($\beta = .52^{***}$), and lower school engagement ($\beta = -.84^{***}$). Victimization at wave 4 was associated with having run away at wave 3 ($\beta = .51^{***}$). Finally, greater well-being was related to greater school engagement ($\beta = 1.80^{***}$).

Among females (see Figure 3), having less positive parenting ($\beta = -.52^*$) and being older ($\beta = .26^{\dagger}$) was associated with running away. Greater school engagement was related to more positive parenting ($\beta = .11^*$) and not having experienced neglect ($\beta = -.14^{\dagger}$). Having engaged in serious delinquency was related to childhood physical abuse ($\beta = .55^{\dagger}$), having run away from home ($\beta = .21^{\dagger}$), lower school engagement ($\beta = -.49^*$), and be-

Figure 2. Path model for males ($n = 151$). Note: $^{\dagger} p < .10$; $* p < .05$; $** p < .01$; $*** p < .001$. Only significant paths shown.

Figure 3. Path model for females ($n = 209$). Note: $\dagger p < .10$; $* p < .05$; $** p < .01$; $*** p < .001$. Only significant paths shown.

ing younger ($\beta = -.34^*$). Having experienced victimization at wave 4 was associated with neglect at wave 1 ($\beta = .43^*$). Finally, higher levels of well-being were related to greater positive parenting ($\beta = .92^{**}$), a lower likelihood of sexual abuse ($\beta = -1.23^{**}$), living in a less disadvantaged neighborhood ($\beta = -.78^*$), and greater school engagement ($\beta = 1.93^{***}$).

Despite these apparent differences, it is important to test the extent to which each path is significantly different by gender. In order to do this, each path was individually constrained to be equal across groups, and a chi-square difference test was conducted to assess the extent to which the fit of the model changed. In order to obtain an accurate difference test for change in model fit between nested models when using WLSMV in Mplus, the chi-square is adjusted using derivatives to obtain an accurate p -value (Muthén and Muthén 1998–2007). Results showed that the effect of positive parenting on well-being was significantly stronger for females ($\chi^2 = 3.256^\dagger$). Additionally, the manner in which neglect relates to school engagement was significantly moderated by gender ($\chi^2 = 6.828^{**}$). Ever experiencing neglect was related to greater levels of school engagement among males while for females, neglect was associated with less school engagement. Gender also significantly moderated the relationship between running away at wave 3 and victimization at wave 4 ($\chi^2 = 8.006^{**}$). Males who had run away from home were more likely to have been victimized than males who had not run away from home. Females who had run away from home were slightly less likely to have been victimized than females who had not run away. Finally, the relationship between running away and delinquency was significantly moderated by gender ($\chi^2 = 4.295^*$). Although having run away increased the likelihood of engaging in delinquency among both males and females, this relationship was stronger among males.

Discussion

Using multiple waves of data, the current study examines the effects of child maltreatment, parenting, and

neighborhood on victimization, delinquency, and well-being via running away and school engagement among a sample of currently housed, high-risk adolescents. Consistent with our hypotheses, positive parenting is associated with school engagement and running away; sexual abuse, neglect, and disadvantaged neighborhood are related to victimization and/or well-being. Additionally, we find that school engagement is associated with delinquency and overall well-being and running away is related to participation in delinquency. Finally, our results reveal numerous gender interactions indicating that unique pathways exist for males and females.

Discussion of Results for Total Sample

We find that positive parenting (e.g., monitoring and closeness) is related to running away for the total sample, which supports our hypotheses as well as previous findings: youth who have more positive relations with parents are less likely to run from home (Ek and Steelman 1988; Whitbeck and Hoyt 1999). It seems likely that adolescents who experience higher levels of monitoring and who feel very close to their caregivers may be less likely to run away because they feel wanted and cared about. Additionally, these youth may communicate more with their parents and discuss troubles when they arise and, as such, are less likely to use running away as a coping mechanism. Thus, positive parenting is an important buffer against running away from home. We also find, as hypothesized, that more positive parental relations are associated with greater school engagement. Research suggests that youth who have troubles at school typically have difficulties at home (Crozier and Barth 2005; Leiter and Johnsen 1994; Tyler et al. 2006). Therefore, it is plausible that youth who have positive relations with parents are more likely to follow the rules at school and do well in school as a result.

The strong impact of positive parental relations continues to protect adolescents over time. That is, more positive parenting is associated with greater adolescent well-being 3 years later. Although negative family experiences may have cumulative effects and be detrimental

to normative adolescent development (Hagan and McCarthy 1997; Wheaton 1999), our findings reveal that adolescents with positive family experiences are likely to have superior physical and mental health and to be better adjusted. Thus, the unique aspects of positive parenting not only benefit youth in the short term, such as enhancing positive school relations and keeping youth from running away, but it also benefits youth in the long term, resulting in positive adolescent development.

Although much has been written about sexual and physical abuse, less is known about the impact of neglect. In the current study we find that neglect, which has obvious short term consequences, continues to negatively impact youth 3 years later. That is, adolescents who report having experienced neglect at wave 1 are more likely to experience victimization 3 years later, which is consistent with our hypotheses. Parents who leave their child home alone and are unable to care for them because they are intoxicated or under the influence of drugs (i.e., indicators of neglect) are unlikely to be aware of what their child is doing and/or whom they are with. As a result, their child may be exposed to potential offenders, which places them at greater risk for victimization. Additionally, youth who feel as though no one loves them or cares about them may be more likely to engage in risky behaviors, which may also place them at greater risk for victimization. More research is needed on the consequences of neglect including long-term outcomes.

As expected, sexually abused adolescents tend to have lower overall well-being 3 years later. This is consistent with numerous studies, which find that sexually abused adolescents often suffer from emotional problems including depression and PTSD (Beitchman et al. 1991; Tyler 2002). Our findings suggest that experiencing sexual abuse has enduring consequences that affect normative adolescent development in numerous areas including physical, mental, and social aspects of the youth.

Consistent with our hypotheses as well as previous research, living in a disadvantaged neighborhood is associated with lower adolescent well-being. That is, youth who live in poor and dangerous neighborhoods are more likely to experience poorer adolescent development (Sampson et al. 2002). Youth exposed to crime and delinquency in their neighborhood are likely to worry more about their safety, which affects their mental and physical health. Additionally, it may not be safe for some of these young people to play outdoors in their neighborhood and, as a result, this may stifle potential peer relations, social integration, and physical health, which are all indicators of adolescent well-being.

Contrary to our hypotheses, physical abuse is not associated with any of our outcome variables among the sample as a whole. Although some studies find that physical

abuse is associated with negative outcomes, this research typically combines abuse items into a single construct or only looks at bivariate relations, which may account for this discrepancy. It is also likely that because we examined sexual abuse, physical abuse, and neglect simultaneously, only those that had the strongest effects remained significant. Additionally, despite the use of multiple reporters (youth, caregiver and caseworker), the fact that caregivers were asked to report on the physical abuse that *they* inflicted on their child, it is possible that some may have underreported and thus the true prevalence of physical abuse may have not been captured.

As hypothesized, our results also indicate that running away from home is associated with delinquency. It is likely that adolescents who run away are at increased risk of spending time on the street where they may interact with runaways or street youth. This contact with and exposure to potentially high-risk individuals may lead to youths' own participation in delinquent activities. This finding is consistent with numerous studies on homeless and runaway youth (Chen et al. 2004; Tyler et al. 2001a; Whitbeck and Hoyt 1999).

Having higher levels of school engagement is associated with a lower likelihood of delinquency and greater overall well-being, which is consistent with research in this area (Suldo et al. 2006) and with what we expected. It is likely that youth who do well in school, enjoy being there, and perceive a supportive environment are less likely to get into trouble. They are also likely to have more positive peer relations, and be more socially integrated, which results in a higher quality of life (Suldo et al. 2006) and more positive well-being overall.

Gender Differences

Consistent with our hypotheses, results also reveal some significant gender differences. First, the effect of positive parenting on well-being is significantly stronger for females, which may be due to the fact that females receive more monitoring than males and tend to internalize rather than externalize (Kim et al. 1999). As a result, having positive parental relations may significantly reduce females' likelihood for depression and PTSD compared to males.

Second, the effect of neglect on school engagement also differed by gender. Neglected males experience more school engagement whereas neglected females experience less school engagement. Because females tend to internalize more than males, neglected females may become depressed and withdrawn and, as a result, be less involved with school. Additionally, males may respond differently than females to being left home alone because our society emphasizes male independence and boys tend to be super-

vised less by parents in general. Hence, being neglected may not subsequently impact boys' school involvement in negative ways as it does for females.

Third, the relationship between running away at wave 3 and victimization at wave 4 also differed by gender with runaway males being more likely to have been victimized compared to females as hypothesized. Because males are more likely to run away compared to females (SAMHSA 2004), they may have more exposure to potential offenders, increasing their chances for victimization. Additionally, because homeless males are significantly more likely to stay in public places compared to homeless females (Ennett et al. 1999), this is likely an added element of risk for victimization.

Finally, the relationship between running away and delinquency was significantly moderated by gender. Although having run away increases the likelihood of engaging in serious delinquency among both males and females, this relationship was stronger for males as expected. It is possible that boys and girls have unique street experiences including engaging in different types of delinquency. For example, females are typically involved in less serious criminal activity and violent crime (Mears et al. 1998; U.S. Department of Justice 1997) compared to males. It is possible that if our measure included less serious crime, there may have been more female involvement.

Implications for Theory

Overall, our findings, based on longitudinal data, provide support for our hypotheses as well as for our theoretical model. First, consistent with a risk amplification model (Whitbeck et al. 1999), adolescents who experience poor parental relations are more likely to run away to escape their environment and they are more likely to have poorer well-being. Negative developmental effects originating in the family are also amplified through running away and subsequently affect adolescent well-being.

Our results also indicate that running away is associated with delinquency, which is consistent with what we hypothesized and can be explained by the risk amplification model. Youth who run away often associate with deviant peers and may be introduced to delinquent behaviors by these homeless youth (Whitbeck et al. 1999). As a result, this behavior increases the risk for the youth's own participation in delinquency.

Additionally, we find that youth with poor parental relations are less likely to be involved in school and that living in a disadvantaged neighborhood leads to poorer adolescent well-being. These findings can be best ex-

plained by Hagan and McCarthy's (1997) social capital theory. In disadvantaged communities and families, parents tend to have less social capital and, as a result, typically have fewer resources to pass on to their children. Limited availability of social capital increases the likelihood that youth will leave home. Furthermore, as a result of damaging family and environmental experiences, youth are more likely to have conflicts with teachers and are less likely to be committed to school. As a consequence of experiencing problematic parenting and conflicting interactions at school, youth suffer from an attenuation of bonds that keep them at home and uninvolved in crime (Hagan and McCarthy 1997).

Limitations

It is noteworthy that our study was primarily limited by measurement issues inherent in the use of secondary data sets. For example, we cannot determine how long the respondent was away from home before returning. It is likely that those who stay away for longer periods of time experience greater risk and therefore more involvement in delinquency and more victimization. Another limitation is that some of the measures in the current study are retrospective and may be subject to recall bias. Also, many caregivers may be unwilling to admit to physically abusing their child. We were able to deal with this issue to some extent, however, by including both caseworker and youth reports. Further, despite our focus on education, we were unable to use teacher reports in our analysis due to a large amount of missing data. Because only those who were enrolled in school at waves 3 and 4 were included in the sample, it is possible that we were missing some of the higher risk youth, which means the results may err on the conservative side. Finally, despite the fact that all variables had at least 92% valid data and data that were missing on the endogenous variables were imputed during analyses, it is possible that results may be slightly biased in this regard. An analysis of the missing data revealed that those respondents with invalid data on one or more variables were significantly different from those with no missing data in that they were likely to have had lower family incomes, to have experienced less positive parenting, to be less likely to have experienced neglect, and to have lower well-being. Thus, it is possible that the sample analyzed was slightly more conventional than the NSCAW sample as a whole.

Conclusions and Implications

Notwithstanding the aforementioned concerns, our data also have several strengths, which allowed us to ad-

dress many of the shortcomings in the current literature. First, much research on running away and victimization is based on samples of already homeless youth. The multiple-wave sampling design employed in the NSCAW data allows us to estimate causal ordering and examine the runaway patterns of housed adolescents, which has not previously been done in the homeless literature with these variables. Second, our data combined reports from multiple sources. Third, our findings build upon existing data with samples of homeless youth and shed important light on precursors to running away and victimization, delinquency and well-being among a sample of housed, high-risk adolescents. We also include indicators of neighborhood disadvantage and neglect, which are often overlooked in studies of runaway and homeless adolescents.

Our findings indicate the need to identify problems associated with running away because, if left unchecked, these issues may result in repeated running and lower school engagement, subsequently increasing the likelihood for victimization, delinquency, and poorer well-being. Additionally, it is important to target young people from disadvantaged neighborhoods, which can have long-term consequences for youth in terms of their overall well-being. It is also essential to recognize that males and females have different experiences and interventions need to attend to this. Finally, it is important to note that positive parental relations have unique buffering effects for youth at numerous levels and that these positive aspects could be targeted as potential sources of strength to improve adolescent well-being.

Future research should continue to employ general population samples that examine precursors to running away and their effect on victimization, delinquency and well-being given that little is known about the long-term consequences of some of these precursors and how they may differ for males and females. Additionally, it is important not only to collect information on the amount of time that adolescents are away from home but also to find out where they stay, why they return home, and if their relationships with parents/caretakers improve, worsen, or remain the same. Future research that takes into account such issues will be better able to provide services to high-risk youth before they run away, which would enhance positive adolescent development.

Acknowledgments

This document includes data from the National Survey on Child and Adolescent Well-Being, which was developed under contract with the Administration on Children, Youth, and Families, U.S. Department of Health and Human Services (ACYF/DHHS). The data have been provided by the National Data Archive on Child Abuse and Neglect. The information and opinions expressed herein reflect solely the position of the authors. Nothing herein should be construed to indicate the support or endorsement of its content by ACYF/DHHS.

References

- Annunziata, D., Hogue, A., Faw, L., & Liddle, H. A. (2006). Family functioning and school success in at-risk, inner-city adolescents. *Journal of Youth and Adolescence*, 35, 105-113.
- Asher, S., & Wheeler, V. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology*, 53, 500-505.
- Beitchman, J. H., Zucker, K. J., Hood, J. E., da Costa, G. A., & Akman, D. (1991). A review of the short-term effects of child sexual abuse. *Child Abuse & Neglect*, 15, 537-556.
- Briere, J. (1996). *Trauma symptom checklist for children: Professional manual*. Florida: Psychological Assessment Resources Inc.
- Bryant, A. L., Schulenberg, J., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (2004). Understanding the links among school misbehavior, academic achievement, and cigarette use: A national panel study of adolescents. *Prevention Science*, 1, 71-87.
- Carolina Population Center, University of North Carolina at Chapel Hill (2002). *The national longitudinal study of adolescent health*.
- Cauce, A. M., Paradise, M., Embry, L., Morgan, C. J., Lohr, Y., Theofelis, J., Heger, J., & Wagner, V. (1998). Homeless youth in Seattle: Youth characteristics, mental health needs, intensive case management. In K. Kutash, A. Duchnowski, & M. Epstein (Eds.), *Community-based programming for children with serious emotional disturbances: Research and evaluation* (pp. 611-632). Baltimore: Brookes Publishing.
- Chen, X., Tyler, K. A., Whitbeck, L. B., & Hoyt, D. R. (2004). Early sexual abuse, street adversity, and drug use among female homeless and runaway adolescents in the Midwest. *Journal of Drug Issues*, 34, 1-21.
- Connell, J. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition* (pp. 61-97). Chicago: University of Chicago Press.
- Crosnoe, R. (2006). The connection between academic failure and adolescent drinking in secondary school. *Sociology of Education*, 79, 44-60.
- Crozier, J. C., & Barth, R. P. (2005). Cognitive and academic functioning in maltreated children. *Children & Schools*, 27, 197-206.
- Dadds, M. R., Braddock, D., Cuers, S., Elliott, A., & Kelly, A. (1993). Personal and family distress in homeless adolescents. *Community Mental Health Journal*, 29, 413-422.
- Dishion, T. J., Patterson, G. R., Stoolmiller, M., & Skinner, M. L. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology*, 27, 172-180.
- Dodge, K. A. (1983). Behavioral antecedents of peer social status. *Child Development*, 54, 1386-1399.
- Dowd, K., Kinsey, S., Wheelless, S., Thissen, R., Richardson, J., Suresh, R., Mierzwa, F., Biemer, P., Johnson, I., & Lytle, T. (2004). *National survey of child and adolescent well-being (NSCAW): Combined waves 1-4 data file user's manual general release version*. Ithaca: National Data Archive on Child Abuse and Neglect.

- Edelbrock, C. (1980). Running away from home: Incidence and correlates among children and youth referred for mental health services. *Journal of Family Issues*, 1, 210-228.
- Ek, C. A., & Steelman, L. C. (1988). Becoming a runaway: From the accounts of youthful runners. *Youth & Society*, 19, 334-358.
- Elliott, D. S., & Ageton, S. S. (1980). Reconciling race and class differences in self-reported and official estimates of delinquency. *American Sociological Review*, 45, 95-110.
- Ennett, S. T., Federman, E. B., Bailey, S. L., Ringwalt, C. L., & Hubbard, M. L. (1999). HIV-risk behaviors associated with homelessness characteristics in youth. *Journal of Adolescent Health*, 25, 344-353.
- Fauth, R. C. (2004). The impacts of neighborhood poverty deconcentration efforts on low-income children's and adolescents' well-being. *Child, Youth and Environments*, 14, 1-55.
- Flannery, D. J., Williams, L. L., & Vazsonyi, A. T. (1999). Who are they with and what are they doing? Delinquent behavior, substance abuse, and early adolescents' after-school time. *American Journal of Orthopsychiatry*, 69, 247-253.
- Furstenburg, F. (1990). *Philadelphia family management study parent interview schedule*. Philadelphia, PA: Population Studies Center, University of Pennsylvania and Boulder, CO: Institute of Behavioral Science, University of Colorado.
- Greenblatt, M., & Robertson, M. J. (1993). Life-styles, adaptive strategies, and sexual behaviors of homeless adolescents. *Hospital and Community Psychiatry*, 44, 1177-1180.
- Gresham, F. M., & Elliott, S. N. (1990). *Social skills rating system*. Circle Pines: American Guidance Service.
- Hagan, J., & McCarthy, B. (1997). *Mean streets: Youth crime and homelessness*. New York: Cambridge University Press.
- Hill, N. E., & Herman-Stahl, M. A. (2002). Neighborhood safety and social involvement: Associations with parenting behaviors and depressive symptoms among African American and Euro-American mothers. *Journal of Family Psychology*, 16, 209-219.
- Holt, M. K., Finkelhor, D., & Kaufman Kantor, G. (2007). Multiple victimization experiences of urban elementary school students: Associations with psychosocial functioning and academic performance. *Child Abuse & Neglect*, 31, 503-515.
- Janus, M., McCormack, A., Burgess, A. W., & Hartman, C. (1987). *Adolescent runaways: Causes and consequences*. Lexington: Lexington Books.
- Kaufman, J. G., & Widom, C. P. (1999). Childhood victimization, running away, and delinquency. *Journal of Research in Crime and Delinquency*, 36, 347-370.
- Kim, J. E., Hetherington, E. M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalizing behaviors: Gender and family type differences. *Child Development*, 70, 1209-1230.
- Kovacs, M. (1992). *Children's depression inventory*. North Tonawanda: Multi-Health Systems, Inc.
- Leiter, J., & Johnsen, M. C. (1994). Child maltreatment and school performance. *American Journal of Education*, 102, 154-189.
- Luster, T., & Small, S. (1994). Factors associated with sexual risk-taking behaviors among adolescents. *Journal of Marriage and the Family*, 56, 622-632.
- McCormack, A., Janus, M. D., & Burgess, A. W. (1986). Runaway youths and sexual victimization: Gender differences in an adolescent runaway population. *Child Abuse & Neglect*, 10, 387-395.
- Mears, D. P., Ploeger, M., & Warr, M. (1998). Explaining the gender gap in delinquency: Peer influence and moral evaluations of behavior. *Journal of Research in Crime & Delinquency*, 35, 251-267.
- Muthén, L. K., & Muthén, B. O. (1998-2007). *Mplus user's guide*, (4th ed.). Los Angeles: Muthén & Muthén.
- Paetsch, J. J., & Bertrand, L. D. (1999). Victimization and delinquency among Canadian youth. *Adolescence*, 34, 351-367.
- Patterson, G. R. (1982). *Coercive family processes*. Eugene: Castilia.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing "neighborhood effects": Social processes and new directions in research. *Annual Review of Sociology*, 28, 443-478.
- Schraedley, P. K., Gotlib, I. H., & Hayward, C. (1999). Gender differences in correlates of depressive symptoms in adolescents. *Journal of Adolescent Health*, 25, 98-108.
- Schreck, C., & Fisher, B. S. (2004). Specifying the influence of family and peers on violent victimization: Extending routine activities and lifestyles theories. *Journal of Interpersonal Violence*, 19, 1021-1041.
- Schweitzer, R. D., Hier, S. J., & Terry, D. (1994). Parental bonding, family systems, and environmental predictors of adolescent homelessness. *Journal of Emotional and Behavioral Disorders*, 2, 39-45.
- Shields, A., & Cicchetti, D. (2001). Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. *Journal of Clinical Child Psychology*, 30, 349-363.
- Straus, M., Hamby, S., Finkelhor, D., Moore, D., & Runyan, D. (1998). Identification of child maltreatment with the parent-child conflict tactics scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect*, 22, 249-270.
- Substance Abuse and Mental Health Services Administration. (2004). *Substance use among youths who had run away from home*. The NSDUH Report. Rockville, MD: Office of Applied Studies.
- Suldo, S. M., Riley, K. N., Shaffer, E. J. (2006). Academic correlates of children and adolescents' life satisfaction. *School Psychology International*, 27, 567-582.
- Thompson, M. P., Kingree, J. B., & Desai, S. (2004). Gender differences in long-term health consequences of physical abuse of children: Data from a nationally representative survey. *American Journal of Public Health*, 94, 599-604.
- Tyler, K. A. (2002). Social and emotional outcomes of childhood sexual abuse: A review of recent research. *Aggression and Violent Behavior*, 7, 567-589.
- Tyler, K. A., & Cauce, A. M. (2002). Perpetrators of early physical and sexual abuse among homeless and runaway adolescents. *Child Abuse & Neglect*, 26, 1261-1274.
- Tyler, K. A., Hoyt, D. R., & Whitbeck, L. B. (2000). The effects of early sexual abuse on later sexual victimization among female homeless and runaway adolescents. *Journal of Interpersonal Violence*, 15, 235-250.

- Tyler, K. A., Hoyt, D. R., Whitbeck, L. B., & Cauce, A. M. (2001a). The impact of childhood sexual abuse on later sexual victimization among runaway youth. *Journal of Research on Adolescence*, 11, 151-176.
- Tyler, K. A., Hoyt, D. R., Whitbeck, L. B., & Cauce, A. M. (2001b). The effects of a high-risk environment on the sexual victimization of homeless and runaway youth. *Violence & Victims*, 16, 441-455.
- Tyler, K. A., & Johnson, K. A. (2006). A longitudinal study of the effects of early abuse on later victimization among high-risk adolescents. *Violence & Victims*, 21, 287-306.
- Tyler, S., Allison, K., & Winsler, A. (2006). Child neglect: Developmental consequences, intervention, and policy implications. *Child & Youth Care Forum*, 35, 1-20.
- U. S. Department of Health and Human Services (2005). *Child maltreatment 2003*. Retrieved September 6, 2005 from <http://www.acf.dhhs.gov/programs/cb/publications/cm03/chapterthree.htm>
- U. S. Department of Justice (1997). *Uniform crime reports: Juvenile female crime: A special study*. http://www.fbi.gov/ucr/Cius_97/97crime/97crime5.pdf
- Wang, Z., Blomberg, T. G., & Li, S. D. (2005). Comparison of the educational deficiencies of delinquent and nondelinquent students. *Evaluation Review*, 29, 291-312.
- Wheaton, B. (1999). The nature of stressors. In A. V. Horowitz & T. L. Scheid (Eds.), *A handbook for the study of mental health, vol. 1, social contexts, theories, and systems* (pp. 176-197). New York: Cambridge University Press.
- Whitbeck, L. B., & Hoyt, D. R. (1999). *Nowhere to grow: Homeless and runaway adolescents and their families*. New York: Aldine de Gruyter.
- Whitbeck, L. B., Hoyt, D. R., & Yoder, K. A. (1999). A risk-amplification model of victimization and depressive symptoms among runaway and homeless adolescents. *American Journal of Community Psychology*, 27, 273-296.
- Whitbeck, L. B., & Simons, R. L. (1990). Life on the streets: The victimization of runaway and homeless adolescents. *Youth & Society*, 22, 108-125.

≡ ≡ ≡ ≡ ≡ ≡ ≡

Kimberly A. Tyler Ph.D., is an Associate Professor in the Department of Sociology at the University of Nebraska-Lincoln. Her research interests include homelessness, child abuse and neglect, victimization, and high-risk behaviors among adolescents and youth.

Katherine A. Johnson is a doctoral candidate in the Department of Sociology at the University of Nebraska-Lincoln. Her primary research interests include the study of crime and high-risk adolescent behavior using both qualitative and quantitative methodology.

Douglas A. Brownridge Ph.D., is an Associate Professor in the Department of Family Social Sciences as well as an adjunct professor in the Arthur V. Mauro Center for Peace and Justice at the University of Manitoba, and Honorary Professor in the Department of Social Work and Social Administration at the University of Hong Kong. His research focuses on family violence with a current emphasis on violence in special populations.

≡ ≡ ≡ ≡ ≡ ≡ ≡