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*University of Arkansas, Fayetteville*

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Juvenile Justice System Involvement and the Transition to Early Adulthood:  
Does Direct Intervention Help or Harm?

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Psychology

by

Cameron M. Perrine  
University of North Florida  
Bachelor of Science in Psychology, 2013  
University of North Florida  
Master of Arts in General Psychology, 2015

August 2023  
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

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Ana Bridges, Ph.D.  
Dissertation Chair

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Lauren Quetsch, Ph.D.  
Committee Member

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Casey Harris, Ph.D.  
Committee Member

## **Abstract**

The present study examines the effects of the juvenile justice system on youth as they transition to early adulthood. The present study adds to the literature by incorporating comparison groups of youths and by testing multiple explanations of recidivism: Labeling Theory and the Life Course perspective. In total, 267 adults were recruited via online survey and sorted into three groups: Externalizing Behavior and Juvenile Justice Involved, Externalizing Behavior and Not Juvenile Justice Involved, and Not Externalizing and Not Juvenile Justice Involved. In addition to demographics, participants completed measures of past externalizing behaviors, past juvenile justice involvement, social disadvantage, deviant peer affiliations in youth and currently, current general mental health and psychopathy, and adult criminal behavior. Labeling did not mediate the relationship between juvenile justice involvement and adult crime. Social disadvantage did not moderate the relationships between juvenile justice involvement and distal psychosocial outcomes. Deviant peer relationships did not mediate the relationship between juvenile justice involvement and adult crime. Youth externalizing behaviors was associated with several distal psychosocial outcomes including deviant peer relationships, psychiatric symptoms, and adult crime. Juvenile justice involvement was significantly negatively related to educational attainment. Implications for future research are discussed.

*Keywords:* Juvenile justice system, recidivism, labeling theory, social disadvantage, deviant peer relationships

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## **Juvenile Justice System Involvement and the Transition to Early Adulthood: Does Direct Intervention Help or Harm?**

There are approximately 1.5 million Americans currently incarcerated in the United States (Bureau of Justice Statistics, 2019). Of those, approximately 44,000 Americans are incarcerated in the juvenile justice system (Office of Juvenile Justice and Delinquency Prevention, 2019). Juvenile contact with law enforcement is also a frequent occurrence in the United States, with approximately 2.18 million arrests of juveniles reported in 2007 (Office of Juvenile Justice and Delinquency Prevention, 2009). Any contact with the juvenile justice system sets children down a byzantine and challenging pathway through a complex system filled with many different departments, professionals, and interventions. Each of these levels have unique implications for the disposition of the juvenile.

However, the many implications for the long-term outcomes of these juveniles at these levels are not well understood. For example, at the level of arrest, juveniles are often temporarily removed from their homes or schools and booked into a local detention facility. Some juveniles are required by courts to stay incarcerated while their court cases are decided, which can keep these juveniles out of their schools for weeks at a time. Previous research has found that juvenile justice involvement was associated with an increased likelihood of dropping out of high school (Cauffman et al., 2021; Sweeten, 2006). Such a disruption in education has long-term implications for the juvenile, such as a greater difficulty in obtaining employment (Bushway, 1998; Elwood & Feldstein, 1982; Sharlein, 2018; Wiesner, Kim, & Capaldi, 2010) and subsequent decreased lifetime earnings when compared to high school graduates (Morgan, 1984). The deleterious effects of justice system involvement are also found for adults in the adult system. Clear (1996) published a paper highlighting the ways in which incarceration directly and

indirectly lead to an increase in criminal behavior. In particular, Clear noted that the speedy replacement of incarcerated offenders by the criminal groups that recruited them, the societal perception shift from prison being a harsh and unforgiving environment to being “not so bad,” and the disruption to family dynamics play a role in the effects of system involvement on crime. Additionally, Western & Petit (2010) argue that incarceration may have a modest deterring effect on crime at best, which is troubling for a prison system that costs \$70 billion annually. Further, they argue that the effects of incarceration on employability and family dynamics converts the prison system from a crime control mechanism into a social stratification mechanism. While a full review of the effects of the adult justice system on crime are beyond the scope of this paper, incarceration is troubling across the lifespan for offenders, for families, and for society. These outcomes are undoubtedly not the intent of the juvenile justice system; however, they are a few of the many potential consequences for juvenile justice intervention. The present study seeks to add to our understanding of the long-term psychosocial, educational, and occupational sequelae of juvenile justice involvement in American youth.

### **Juvenile Justice System Pathways**

There is a wide range of possible outcomes for juveniles who come into contact with law enforcement and the juvenile justice system. According to a 2022 report from the Office of Juvenile Justice and Delinquency Prevention, 46% of delinquency cases in 2019 were handled informally by the courts. Of those informal cases, 15% were referred to probation, 41% were dismissed, which means their charges were dropped, and 44% were referred for some sanction. Of the 54% of delinquency cases that were handled formally by the courts, 53% were adjudicated delinquent, which means that the youth was convicted in juvenile court, and 46% were not adjudicated delinquent. Of the cases that were not adjudicated delinquent, 34% received

probation, 57% were dismissed, and 9% received some other sanction. Of the cases that were adjudicated delinquent, 27% received placement outside the home, 65% received probation, and 8% received some other sanction. In 2019, there were an estimated 36,749 youth placed in residential facilities in the United States (Puzzanchera, Hockenberry, & Sickmund, 2022). A full breakdown of possible pathways and the percentages of youth who traversed them in 2019 can be found below in Figure 1. The present study focuses on youth who were formally petitioned by law enforcement. In other words, the youth must have been formally charged with a crime.



**Figure 1**  
*Juvenile Justice System Pathways*

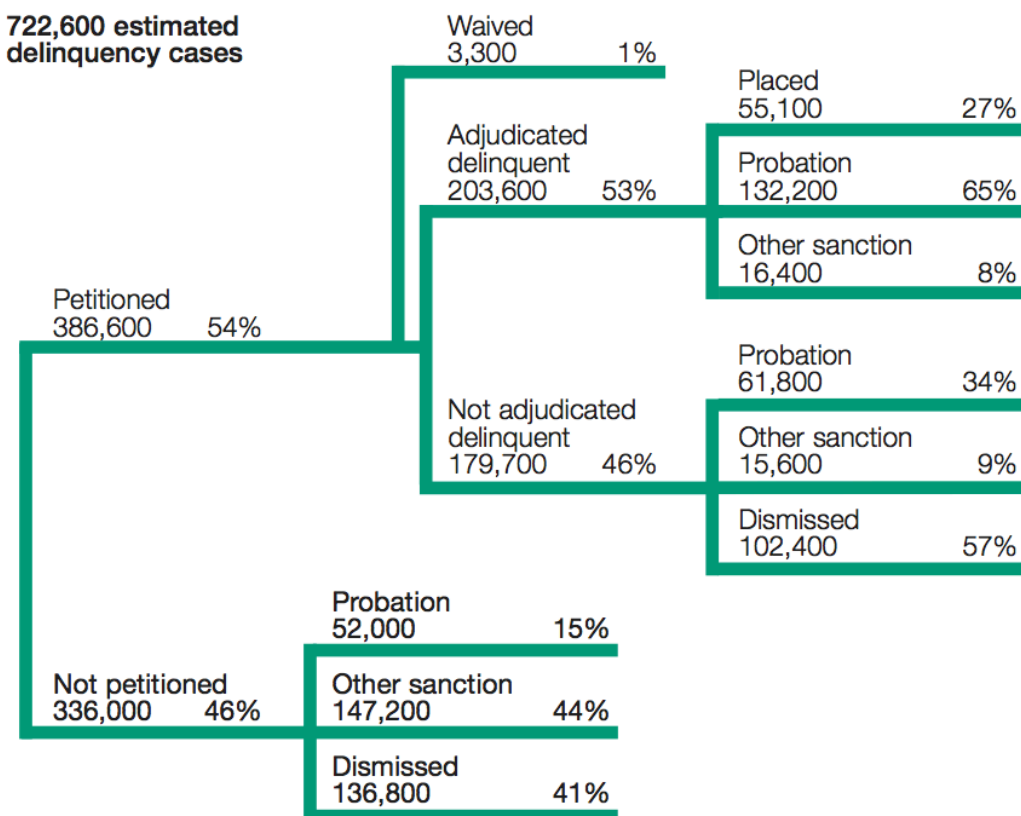


Figure taken from report by Puzzanchera, Hockenberry, & Sickmund (2022)

### Juvenile Justice Youth Profile

The National Center for Juvenile Justice releases annual statistical reports that highlight some of the characteristics of juvenile justice-involved youth in America. According to a report by Hockenberry & Puzzanchera (2020), more than 31 million youth were involved in the juvenile justice system in 2018. Of those cases, 79% involved children between 10 and 15 years old. Of those 31 million youth, there were a total of 744,500 estimated delinquency cases processed in juvenile court in 2018. The majority of processed youth were under 16 years of age (53%), male (73%), and non-White (56%). In 2018, 202,900 cases (26%) were placed in

detention while their case processed. Of detained youth, 35% were White, 40% were Black, 22% were Hispanic, 2% were American Indian, and 1% were Asian.

### **Psychosocial Outcomes of Juvenile Justice Involvement**

Researchers have studied the outcomes of juvenile justice involvement for decades. Several studies have provided evidence of the iatrogenic effects of the juvenile justice system. Some of the negative outcomes associated with official juvenile justice involvement include further involvement in criminal behavior into adulthood and contact with the adult justice system (Bernberg & Krohn, 2003; Gatti et al., 2009; McCord et al., 2001), increased likelihood of dropping out of high school (Cauffman et al., 2021; Sweeten, 2006), and future employment difficulties (Bushway, 1998; Pham et al., 2015; Sharlein, 2018; Unruh et al., 2009; Wiesner, Kim, & Capaldi, 2010).

One of the more notable and ironic outcomes of juvenile justice involvement is the increase in likelihood of recidivism. The juvenile justice System exists at one level to act as an intervention to rehabilitate youth and preclude them from continuing criminal behaviors (Monahan, Steinberg, & Piquero, 2015). However, several researchers have provided evidence that juvenile justice-involved youth are likely to continue to recidivate post intervention. A meta-analysis by Leschied et al., (2008) found that criminal history factors, including prior incarcerations, were significantly related to future adult criminality in juveniles. Gatti, Tremblay, and Vitaro (2009) examined a dataset containing data from 779 boys between the ages of 10 and 17. They found that juvenile justice involvement increased the odds of adult criminal justice system involvement by a factor of 6.98 by age 25. Research by Abram et al. (2009), who examined data from the Northwestern Juvenile Project, which captured data from incarcerated youth in the Cook County Juvenile Temporary Detention Center in Chicago, provided evidence

that juveniles who were detained suffered significant functional impairment in multiple life domains up to three years post incarceration. These functional impairments included substance use, serious criminal behavior, and school expulsion. In other words, one of the core goals of the juvenile justice system is not currently being met. In fact, there is evidence to suggest that official involvement in the juvenile justice system increases the risk of future criminal behaviors and leads to significant functional impairment later in life.

### **Theories of Criminal Behavior**

Some researchers have proposed theories to explain how youth continue on a pathway of criminal behavior. Labeling Theory is one such attempt at explaining this developmental pathway of deviance. Labeling Theory posits that youth continue to engage in criminal behavior via two possible mechanisms. According to Lemert (1951), youth engage in “primary deviance” when they engage in delinquent behavior. Subsequently, youth are sanctioned by society via “labeling” as a result of their deviant behaviors. This leads to a “secondary deviance” where youth internalize the labeling ascribed to them. This transformation of self-concept then leads to further criminal activity. Later research has seen a modified labeling approach that captures external labeling influences on behavior. Link et al. (1989), who conducted face-to-face interviews with members of the Washington Heights community in New York City, provided evidence that stigma, whether perceived or experienced, can lead to changes in behavior. More recently, Liberman, Kirk, & Kim (2014), who examined the effects of arrests on youth by analyzing records from the Project on Human Development in Chicago Neighborhoods database, which contains data from the Chicago Police Department and the Illinois State Police, provided evidence that youth experience primary sanctions via first arrest. These primary sanctions then lead to secondary sanctions in the form of external factors including increased scrutiny from law

enforcement or teachers. These secondary sanctions then lead to increased odds of negative outcomes, including violent offending and rearrest.

Previous research has also shown that youth who have been arrested endorse a greater commitment to deviant peers than non-arrested youth, which is hypothesized to be a direct result of being removed from prosocial peer opportunities following their arrest (Wiley & Esbensen, 2016). Wiley & Esbensen (2016) obtained these results by analyzing secondary data from the Gang Resistance Education and Training Program, which was a collaborative project between law enforcement agencies and school districts. This is consistent with Labeling Theory and has also been the focus of additional research. Other researchers have provided evidence that exposure to deviant peers is a significant risk factor for continued criminal behaviors (Leve & Chamberlain, 2005). Leve & Chamberlain (2005) discovered this by examining a sample of 153 children who were referred to out-of-home placement for problems related to delinquency. Incarceration directly places youth with others who have allegedly committed crimes and qualify as deviant peers. Additionally, many group-based interventions that youth are prescribed by the court directly place youth in contact with a deviant peer group.

Smith & Paternoster (1990) discuss an extension of labeling theory, which posits that juvenile justice officials make decisions about whether to refer youth to juvenile court or to handle the case in an alternative manner. Typically, officials make this decision based upon how low or high risk the juvenile is, with the higher-risk youth being referred for official intervention. Because the higher-risk youth are selected into the system, their propensity to recidivate is explained by their high-risk nature rather than any intervention from the juvenile justice system. However, in accordance with Labeling Theory research above, previous research has shown that

primary deviance can lead to differential treatment from those officials. In that case, recidivism may be less a function of the youth's propensity and more a function of labeling.

In addition to Labeling Theory, Sampson & Laub (1997) discussed a Life-Course perspective of delinquency. Life-Course perspective posits that youth aggregate cumulative disadvantages which continue to snowball throughout life. Examples of these disadvantages are being non-White or being born into poverty. Once the disadvantaged youth receive official intervention from the justice system, the negative outcomes weigh more heavily on them than their non-socially disadvantaged peers. This stress pushes youth further along the pathway towards criminal behaviors at a greater rate than their non-disadvantaged peers.

A potential biological perspective also has something to offer in the discussion about criminal behavior. Researchers have been exploring the biological etiology of criminal behavior for decades. Slutske et al. (1997) examined 2,682 adult twin pairs from Australia, evaluating whether or not there was a genetic component in the development of conduct disorder. They found a 71% point-estimate of heritability for the disorder. Eley, Lichtenstein, & Stevenson (1999) examined two independent twin samples from Sweden and Britain, yielding data from over 1,500 parents of twin pairs. Their results indicated that reported aggression in both males and females was accounted for largely by genetic factors. These findings supporting trait-like predispositions towards aggression and violence have largely been replicated in adoption studies as well. In a large adoption study conducted by Mednick, Gabrielli, & Hutchings (1984), researchers compared the conviction rates of 14,427 adoptees and their biological parents. The researchers found that an adoptee criminal conviction rate of 13.5% for non-criminal biological and adoptive parents increased to 20% when the biological parents had a criminal conviction. It is important for research both into the etiology of and into the processes that facilitate or

preclude criminal behavior to consider the influence of these innate, trait-like predispositions of its participants. Otherwise, it is difficult to draw conclusions about whether or not recidivism and other psychosocial outcomes are a function of intervention failure or of idiosyncratic predispositions.

### **Limitations of Research**

There are several limitations in previous studies investigating the pathways to criminal behavior. One of the central limitations is that there remain few studies that simultaneously engage multiple theoretical perspectives to examine the unique pathways by which delinquency occurs. Another limitation in Labeling Theory research is that previous research has not been able to methodologically parse out the extent to which labeling from others versus a change in internal self-concept is responsible for criminal continuity. Bernberg et al., (2006) found evidence that official labeling creates situations that push youth towards associating with deviant peers which leads to subsequent criminal behavior, however they were unable to clarify whether or not the effects could partially be explained by the limiting of youth opportunities that occurs after official intervention. They propose that future research should include measurement of the labeling process, both perceived and experienced, in order to control for this.

Meanwhile, Smith & Patternoster (1990) have proposed that youth are continuing along a criminal trajectory due to a “selection artifact” from juvenile justice officials, and future research must be able to account for this possibility in order to draw strong causal inferences about the effects of the juvenile justice system. At the time of this study, a paucity of research has directly tested competing theories or evaluated the extent to which multiple theories may be interacting with each other to influence criminal behaviors. For example, it is possible that Life-Course perspective and Labeling Theory exist simultaneously, with youth from disadvantaged

backgrounds being more affected than their non-disadvantaged peers by the iatrogenic effects of the juvenile justice system. These effects could also be parsed out from the deviant peer influences, in which the juvenile justice system places youth in close contact with deviant peers. The relationships formed then lead youth to engage in subsequent criminal behaviors. All of these variables could exist in tandem with selection artifacts from juvenile justice officials. A methodologically rigorous design is needed in order to determine the amount of variance in criminal behavior, if any, is explained by these variables.

Much of the research that does exist captures the experiences of these youth while they are currently incarcerated, which often brings the limitations of socially-desirable responding and lack of insight into what their world will be like when they become adults. The current study sought to ask people who were involved in the juvenile justice system but are now currently adults about their experiences within the juvenile justice system. The adults were not incarcerated, which limited the pressures of socially-desirable responding. Additionally, they have lived through the experiences of finding work and maintaining stable adult relationships. Most importantly, the current study was able to highlight the qualitative experiences of the clientele of the juvenile justice system itself. The present study sought a broad sample of previously system-involved adults, which added external validity to the conclusions of the study. Juvenile justice systems are fragmented by their respective states, and thus including a broad sample will strengthen our understanding of these experiences at a broader level.

### **The Present Study**

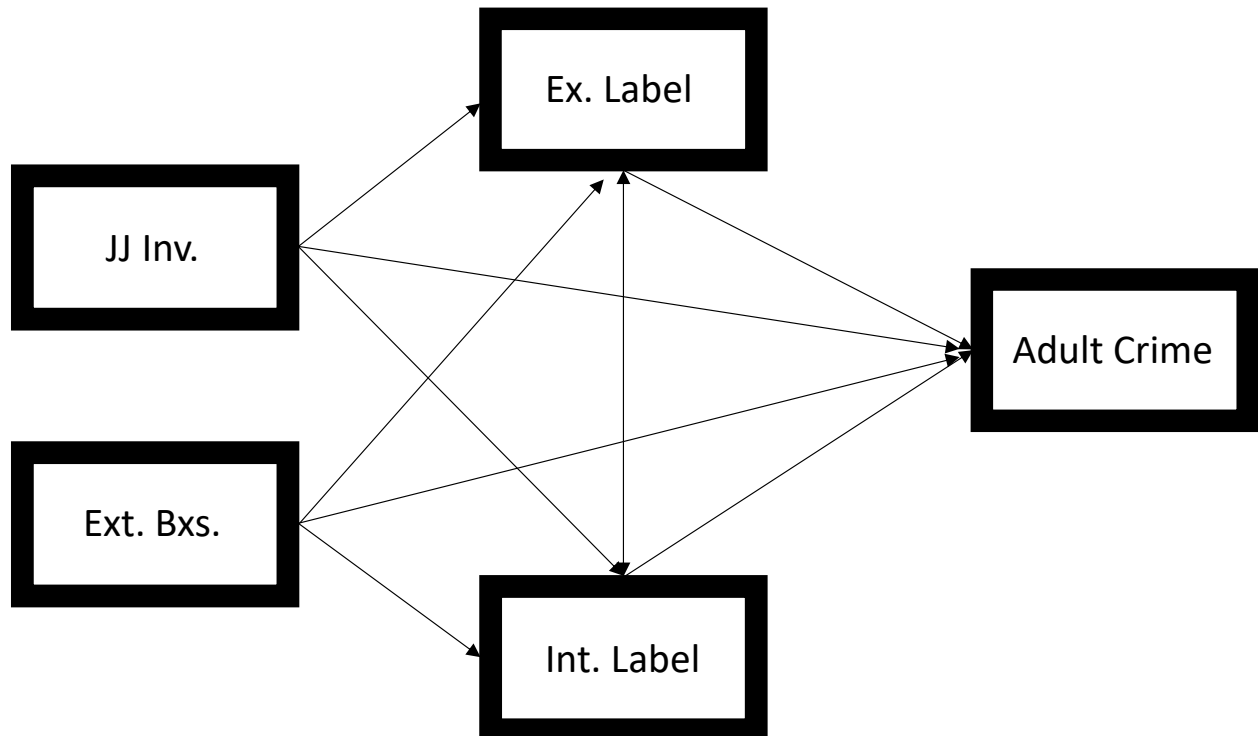
The present study examined how juvenile justice system involvement relates to youth as they transitioned to adulthood on several important distal outcomes. The relationships between juvenile justice involvement and adult recidivism, educational attainment, psychiatric symptoms,

employment, deviant peer relationships, and externalizing behaviors were assessed through a Labeling Theory and a Life-Course lens. The present study also sought to address the limitations of past research by including three groups of participants: 1) juvenile justice-involved adults who engaged in criminal behaviors in their youth, 2) non juvenile justice-involved adults who engaged in criminal behaviors in their youth, and 3) non juvenile justice-involved adults who did not engage in criminal behaviors in their youth. By including these three groups, I could capture important variability in life experiences and distal outcomes. The presence of the externalizing behavior non-juvenile justice involved group allowed for a direct comparison alongside juvenile justice involved youth. This provided the ability to examine the effects of juvenile justice system involvement while controlling for the level of participant externalizing behaviors. Thus, any biological predispositions towards criminal behavior, and subsequent recidivism, was accounted for. Additionally, Social Disadvantage was measured in such a way that allowed for a multigroup moderation analysis between juvenile justice involvement and distal outcomes.

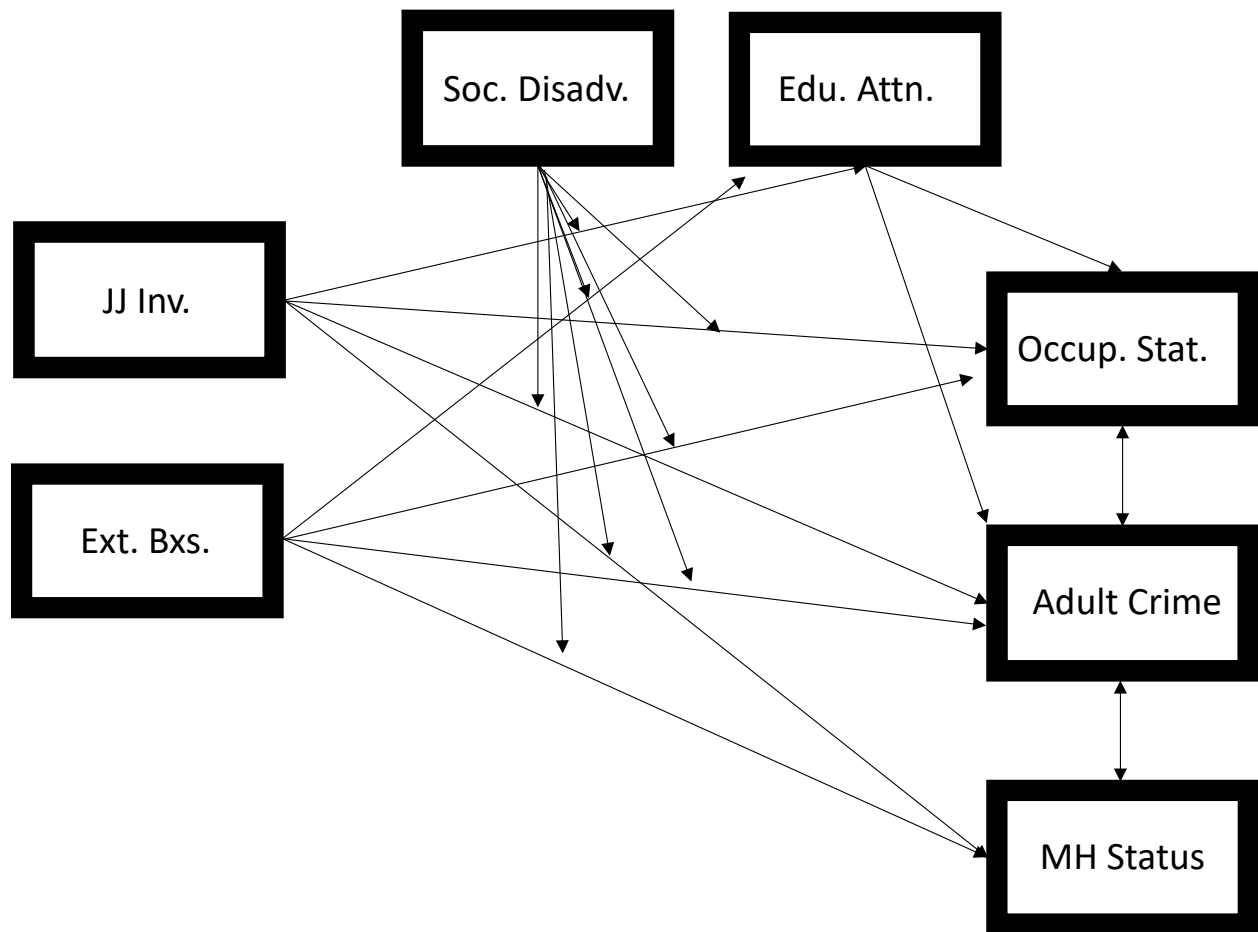
The present study aimed to contribute to the literature by 1) including multiple control groups that allowed for the specific examination of juvenile justice system involvement's effects on distal psychosocial outcomes, 2) providing cross-sectional data that examined outcomes at ten years post-adulthood on average, 3) included multiple hypothesized pathways from juvenile justice involvement to psychosocial outcomes, 4) reducing social desirability of responses by including an anonymous sample, and 5) allowing recruitment from across the United States.. The purpose of the study is to quantitatively explore the relationships between the aforementioned variables of interest and the psychosocial outcomes of adults who were previously involved in the juvenile justice system as children. The variables under investigation include theoretically relevant variables from previous research. Specific pathways informed by criminological



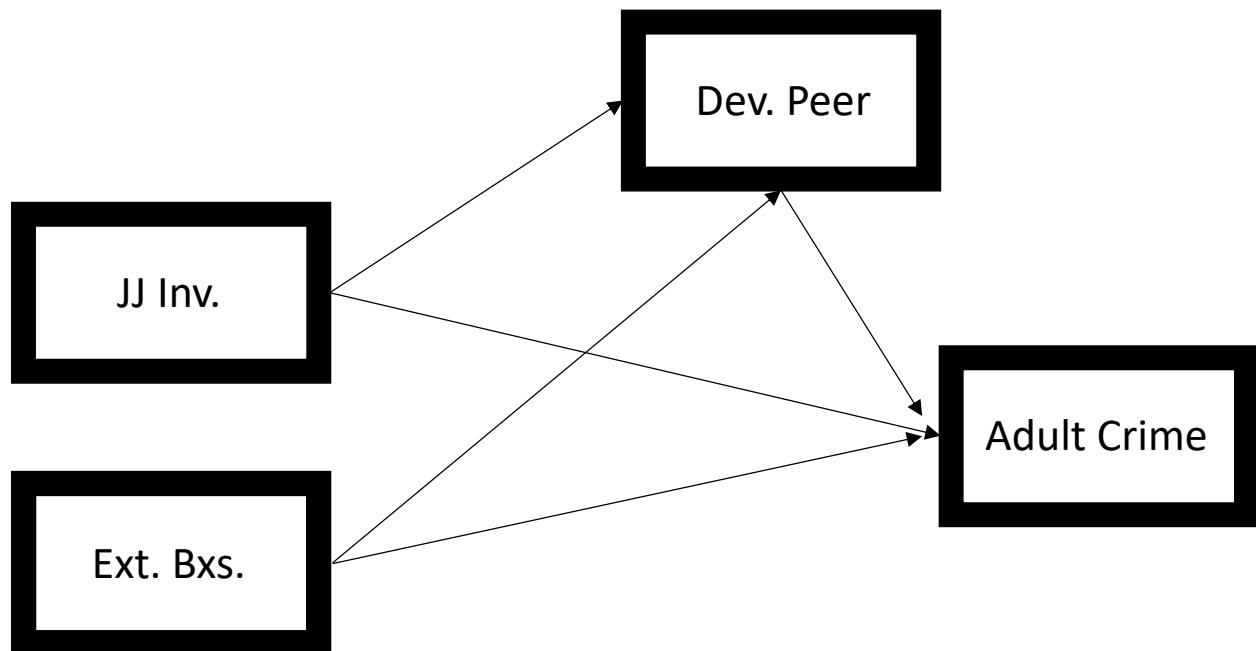
literature were tested. The hypotheses for the current study are: 1) participants who experienced internal and external labeling as a consequence of their juvenile justice involvement will endorse committing crime as an adult more than their non-labeled peers, controlling for externalizing behaviors in youth.



2) The consequences of juvenile justice involvement will lead to a cascade of proximal life disruptions and distal consequences. However, participants who are reportedly from socially disadvantaged backgrounds will report experiencing greater difficulties across all life disruption domains than their non-disadvantaged peers. In other words, social disadvantage will moderate the relations between juvenile justice involvement and distal outcomes.



3) Participants who report juvenile justice involvement will also report that their official intervention exposed them to a deviant peer group. This exposure to a deviant peer group will mediate the relationship between juvenile justice involvement and adult criminal behavior, net of externalizing behaviors in youth.



### Method

#### Participants

There were 267 participants as recommended by the results of a power analysis.

Participant age was limited to adults who were born and currently lived in the United States.

Participants were screened for externalizing behaviors and juvenile justice involvement to ensure adequate recruitment in the three theoretical groups of interest: Externalizing Behavior Juvenile Justice involved (EBJJ), Externalizing Behavior Non-Juvenile Justice involved (EBNJJ), and Non-Externalizing Non-Juvenile Justice involved (NEBNJJ).

#### Procedure

Participants were recruited via online flyer advertisement and asked to click a link in order to sign up for the study. The researcher created a form that requested demographic information, externalizing behavior status as a juvenile, and prior juvenile justice involvement from potential participants. This information was used to 1) sort participants into their respective groups and 2) exclude participants who belong to an experimental group that has reached a

sufficient number of participants. A total of 1,265 prospective participants completed the dissertation eligibility assessment survey. A research assistant examined the assessment dataset for valid participants by ensuring 1) study eligibility criteria were met, 2) the data did not appear suspicious (example: provided a bizarre email address), and 3) that the prospective participant's externalizing group was not filled. Participants who passed eligibility assessment were emailed an invitation link to the full survey. Attention checks and captchas were embedded in the questionnaire to ensure quality of responses. The researcher examined responses to the full dissertation survey during validity checks. Responses were removed for not completing the survey ( $N = 9$ ), for not taking at least five minutes to complete the survey ( $N = 8$ ) and for being face invalid ( $N = 4$ ). Five minutes was selected as the cutoff time because the researcher sent a copy of the full survey to three college-educated volunteers. The five-minute cutoff time was informed by the volunteers' average response time to complete the survey and was determined to be the minimum required time to ensure proper participant engagement. Participants were invited to participate in the order that their assessment survey data was received until a total of 267 was reached. Once the survey was complete, participants were asked to provide a valid email address so that the researcher can provide them with an electronic gift card worth \$5 as compensation for their time. The median time to complete the dissertation survey was 11.17 minutes. Data from the surveys was stored in a secure Qualtrics database and on Box.

## **Materials**

### ***Independent Variables***

***Juvenile delinquency.*** Juvenile delinquency was measured by asking participants "Were you formally charged with a crime prior to your 18<sup>th</sup> birthday?" to which participants could

respond either yes or no. Participants who answered in the affirmative were considered to be juvenile justice involved in the current study.

***Externalizing behavior in youth.*** Juvenile Externalizing and Delinquency was measured with a series of variables taken from the National Longitudinal Study of Adolescent to Adult Health (ADD), which is a publicly available study that captures data from high school children and their families (Harris & Udry, 2021). Previous research has measured delinquency by using ADD variables (Gloyd & Leal, 2019) and the present study's delinquency measure was informed by this work. Ten ADD items that asked about self-reported behaviors such as theft, property damage, and violence towards people were asked. Additionally, two more variables that capture self-reported alcohol and tobacco use were included, for a total of twelve questions. Responses were summed to create a total score. Participants with total scores of four or more were considered to be externalizing for the purpose of the current study. The cut off of four was informed by taking a sample of the ADD study data and calculating the average total score of the externalizing items. A total score of four was above average for the sample, and thus was selected to be the marker of externalizing in the current study. This externalizing scale is used to capture the trait-like dispositions of participants to externalize. The current measure had high internal consistency ( $\alpha = 0.87$ ). Support for the validity of the ADD delinquency items were provided by Pechorro et al. (2019) and Thomas (2015).

### ***Mediators***

***Labeling.*** Internal and External Labeling were measured by adapting labeling measures used by Link et al. (1989). The measure consists of 19 items on a six-point Likert scale, which have been modified to reflect experiences of individuals and how they feel about themselves and how they perceive others to feel about them. Each question was modified to reflect the internal

and external labeling experience of participants. For example, the question “I am not acceptable as a close friend” reflects the experience of internal labeling. Likewise, the question “Most people do not accept me as a close friend” reflects the external labeling experience. Both of these items were adapted from the original devaluation and discrimination scale by Link et al. (1989); the present item was modified from the question “Most people would willingly accept a formal mental patient as a close friend.” The wording of the item was changed to better reflect the internal and external labeling experience while still assessing the extent to which labeling affects how participants and others perceive their suitability as a close friend. The Likert scale consists of the following response options: Strongly Disagree (1) to Strongly Agree (6). Twelve of the items were taken directly from the Link et al. (1989) article and adapted. Seven additional items were added to better capture stigma from self and others. These additional items are starred in the appendix. The internal consistency of the original twelve item measure was acceptable ( $\alpha = 0.76$ ). Validity of the original measure was supported in Link et al. (1989) with a significant inverse relationship between devaluation and discrimination and social support outside of the home and a significant positive relationship with a measure of secrecy. An Internal Labeling scale and an External Labeling scale was created from the original measure, totaling 38 items. Responses were summed to create a total score. Internal consistency reliability estimates were high for Internal Labeling ( $\alpha = 0.95$ ) and External Labeling ( $\alpha = 0.96$ ).

***Deviant peers.*** Deviant peer relationships were assessed using items from the Friends Inventory, a 16-item questionnaire that measures antisocial characteristics of peers (Samek et al., 2016). Participants are asked questions about friend involvement with the police and substance use. Additionally, participants will be asked whether they created friendships through their juvenile justice involvement and whether those friends continued to break the law post

involvement. Example questions of the Friends Inventory include: “My friends get in trouble with police” and “My friends steal things from others”. Measures of internal consistency were high ( $\alpha = 0.94$ ). Validity was supported in Samek et al. (2016) where results showed significant moderate correlations between externalizing behaviors and deviant peer affiliations.

Additionally, deviant peer affiliations had a stronger and differential effect on participant outcomes than did externalizing behaviors which supports discriminant validity.

### ***Moderator***

***Social disadvantage.*** Social disadvantage was assessed by asking participants four questions that were created by the researcher. These questions were formulated with ease of recollection from a child’s perspective in mind in order to best capture level of disadvantage in childhood. The first question was “Growing up, did your family own a van, car, or truck” with response options of No, which is scored as a zero, Yes, one vehicle, which is scored as a one, and Yes, two or more vehicles at a time, which is scored as two. The second question was “Growing up did you have your own bedroom for yourself” with response options of No, which is scored as a zero, and Yes, which is scored as a one. The third question is “Growing up, how many times did you travel away with your family on holiday each year” with response options of Not at all, which is scored as zero, Once, which is scored as one, Twice, which is scored as two, and More than twice which is scored as three. The final question was “Growing up, how many computers did your family own” with response options of None, which is scored as zero, One, which is scored as one, Two, which is scored as two, and More than two, which is scored as three. Measures of internal consistency were dubious ( $\alpha = 0.65$ ). Responses are summed to create a total score. Social disadvantage scores ranged from zero to nine. Scores of zero to four were

considered high social disadvantage while scores of five to nine were considered low social disadvantage.

### ***Distal Outcomes***

***Education, occupation, and income.*** Educational attainment was assessed by asking participants what their highest level of educational attainment is. Occupational status was assessed by asking participants whether they were currently employed. Participants were asked to estimate their current annual income.

***Adult crime.*** Adult crime was assessed by asking participants about their criminal history as an adult. The reported commission of violations of the law (excluding minor traffic offenses) were counted regardless of whether the participant was arrested and/or convicted of the offense. Participants were asked directly whether they have broken the law since their 18<sup>th</sup> birthday. If so, participants were asked to elaborate on the type of behavior they engaged in such as buying or selling drugs, assault, and theft. Participants who report engaging in these behaviors as an adult were coded as 1, and participants who did not were coded as 0.

***Current psychiatric symptoms.*** Psychiatric Symptoms were assessed with the Global Appraisal of Individual Needs – Short Screener (GAIN; Dennis et al., 2006). The GAIN is a 23-item measure that screens for general mental health and substance use disorders including major depressive disorder and bipolar disorder (Stucky et al., 2014.) Further, the GAIN has been used to screen for these disorders in criminal justice settings (Sacks et al., 2007), which made it an ideal measure for the present study. An example question of the GAIN is: “When was the last time you had significant problems with feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?” Response options were: in the past month, 2 to 3 months ago, 4 to 12 months ago, 1+ year ago, and Never. Items were coded on a scale from one to five, with higher



scores representative of more recent psychopathology. Responses are summed to create a total score. Measures of internal consistency were high ( $\alpha = 0.96$ ). Reliability and validity were established by Dennis et al. (2006).

### ***Validity Check***

***Psychopathy.*** Psychopathic attributes were measured using the Levenson Self-Report Psychopathy Scale (Levenson et al., 1995), a 26-item measure that uses a five-point Likert scale. Example questions include: “Success is based on survival of the fittest; I am not concerned about the losers” and “For me, what’s right is whatever I can get away with.” Sixteen items were taken from a primary psychopathology scale, with an original internal reliability of 0.82, and ten items were taken from a secondary psychopathology scale with an original internal reliability of 0.63. Primary and secondary psychopathy scales were significantly correlated with antisocial action at 0.44 and 0.29 respectively. Primary and secondary psychopathy scales were also significantly correlated at 0.40. Construct validity for the total score scale was also supported by Salekin et al. (2014). Participant responses were summed to create a total score. The Psychopathy scale exhibited acceptable internal consistency ( $\alpha = 0.89$ ). Psychopathic attributes of participants were used as a validity check for group membership.

### ***Qualitative Feedback***

Two final open-ended questions gave participants an opportunity to provide any additional input about the survey or topic area.

### ***Analytic Approach***

Hypothesis 1 was analyzed using a Parallel-Mediation Structural Equation Model (PMSEM.) Juvenile justice intervention served as the predictor variable, external labeling and internal labeling served as indicators to a latent labeling factor which acted as a mediator

variable, and recidivism served as the outcome variable. Externalizing behaviors was used as a covariate. This analytic strategy allowed for the examination of the extent to which the labeling that occurs as a consequence of juvenile justice involvement accounts for recidivism from participants while controlling for level of externalizing behaviors.

Hypothesis 2 was analyzed using Multigroup Structural Equation Model (MSEM). Tests of unconstrained models to constrained models were conducted using a chi square difference test. Non-significant chi square difference tests suggest retention of the constrained model, while significant chi square difference tests suggest the constraints degrade model fit and suggest a moderating influence of group.

Hypothesis 3 was analyzed using structural equation modeling and a statistical test of indirect effects. Juvenile justice intervention and externalizing behaviors in youth served as the predictor variables, deviant peer group exposure served as the mediating variable, and adult criminal behavior served as the outcome variable. This analysis allowed for the examination of the extent to which deviant peer relationship exposure as a consequence of juvenile justice involvement is associated with adult criminal behavior, controlling for youth externalizing behavior.

### **Power Analysis**

A power analysis was conducted using G\*Power (Faul et al., 2009.) A small effect size of .20 was chosen because of previous literature identifying a correlation of .20 between social disadvantage and crime (Wikstrom & Treiber, 2016.) The effect size of .20 was converted to an  $f^2$  value of 0.0416 using an online effect size converter available at “escal.site”. The converted effect size value was then inserted into G\*Power along with an alpha probability of .05, a beta probability of .8, and three predictor variables. Three predictor variables were chosen because

three is the number of predictors between an abbreviated moderation model between juvenile justice involvement, social disadvantage, and adult criminal behavior. Results of the power analysis suggested a total of 267 people would be needed.

## **Results**

### **Participants**

Participants were 267 American adults who responded to questions in an online survey. The majority of participants identified as male ( $N = 160$ ) and 106 participants identified as female. There were 49 participants in the externalizing behavior juvenile justice (EBJJ) group, 121 participants in the externalizing behavior non-juvenile justice (EBNJJ) group, and 94 participants in the non-externalizing non-juvenile justice (NENJJ) group. The majority of participants identified as White/Caucasian ( $n = 243$ ). Fifteen participants identified as Black/African American, one participant identified as Hispanic/Latinx, three participants identified as Asian/Pacific Islander, one participant identified as American Indian/Alaskan Native, and four participants identified as more than one race. In terms of educational attainment, 78 participants achieved either some high school or graduated from high school, 147 participants reported completing at least some college or a two-year degree, and 41 participants reported either graduating with a four-year degree or a graduate degree. Demographic information can be found in Table 1.

**Table 1**  
*Participant Demographics*

<b>Group</b>	<b>EBJJ</b>		<b>EBNJJ</b>		<b>NENJJ</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>Gender</b>						
Male	21	42.9	79	65.8	60	63.8
Female	28	57.1	41	34.2	34	36.2
<b>Race/Ethnicity</b>						
White/Caucasian	39	79.6	108	89.3	93	98.9
Black/African American	4	8.2	10	8.3	1	1.0
Hispanic/Latinx	1	2.0	0	0	0	0
Asian/Pacific Islander	3	6.1	0	0	0	0
American Indian/Alaska Native	0	0	1	0.8	0	0
More than one race	2	4.1	2	1.7	0	0
<b>Education</b>						
Some high school	2	4.1	3	2.5	3	3.2
High School Diploma/GED	15	30.6	21	17.5	33	35.1
Some college	20	40.8	66	55.0	28	29.8
Associates Degree	2	4.1	11	9.2	19	20.2
Bachelors Degree	7	14.3	15	12.5	10	10.6
Graduate Degree	3	6.1	4	3.3	1	1.1

*Note: EBJJ = externalizing behavior juvenile justice, EBNJJ = externalizing behavior non juvenile justice, and NENJJ = non-externalizing behavior non juvenile justice.*

## Group Differences

Chi-square analyses were conducted to assess for significant differences in participant demographics between the three externalizing groups. There were significant gender differences in group membership ( $X^2(2) = 8.26, p = .016$ .) There were more men than women in the EBNJJ and the NENJJ groups, however there were more women than men in the EBJJ group. There were significant differences in group membership for White participants and participants of color ( $X^2(2) = 15.32, p < .001$ .) The EBNJJ group had the largest number of participants of color, however all groups consisted of a majority of White participants. Finally, there were significant differences in group membership for educational attainment of participants ( $X^2(4) = 11.42, p =$

.022.) Education was examined for high school or less, some college or Associates degree, and Bachelors degree or more. The EBNJJ group had the largest number of participants with some college or a two-year degree and with a four-year degree or more. The EBJJ group had the fewest participants with a four-year degree or more.

### **Validity Check**

A validity check was performed in order to validate group membership. This check was conducted by comparing mean differences on psychopathy scores between the externalizing behavior groups. Results of the validity check indicated that there were no significant differences between the NENJJ ( $M = 81.1$ ,  $SD = 16.9$ ), the EBNJJ ( $M = 84.8$ ,  $SD = 13.5$ ), or the EBJJ ( $M = 80.6$ ,  $SD = 9.34$ ) externalizing groups on mean psychopathy scores  $F(2, 254) = 2.31$ ,  $p = .102$ . For the purposes of the current study, the current sample did not pass the validity check as participants who were externalizing and juvenile justice involved were similar in psychopathy ratings to participants who were not externalizing and who were never juvenile justice involved.

### **Bivariate Correlations**

A complete list of means, standard deviations, and bivariate correlations are listed in Table 2. Participant psychopathy was positively correlated with internal labeling ( $r = 0.28$ ), external labeling ( $r = 0.28$ ), psychiatric symptoms ( $r = 0.22$ ), deviant peer relationships ( $r = 0.36$ ), adult crime ( $r = 0.17$ ), and negatively correlated with gender ( $r = -0.19$ ). However, this means that being male was related to higher levels of psychopathy. Notably, psychopathy was not significantly related to juvenile justice involvement ( $r = -0.03$ ). Psychiatric symptoms were positively correlated with deviant peer relationships ( $r = 0.80$ ), adult crime ( $r = 0.18$ ), and externalizing behavior ( $r = 0.34$ ). Psychiatric symptoms were negatively correlated with gender

( $r = -0.18$ ), which means that being male was associated with higher levels of psychiatric symptoms. Juvenile justice involvement was significantly related to internal labeling ( $r = 0.14$ ), external labeling ( $r = 0.13$ ), and externalizing behaviors ( $r = 0.45$ ). Notably, juvenile justice involvement was not significantly related to adult crime ( $r = -0.00$ ) or gender ( $r = 0.02$ ). Adult crime was significantly related to externalizing behaviors ( $r = 0.20$ ), but not to gender ( $r = -0.05$ ).

### **Externalizing Behaviors**

Participants reported engaging in an average of 5.31 externalizing behaviors during their youth. The most common externalizing behaviors participants engaged in were drinking beer, wine, or liquor without their caregiver's knowledge ( $n = 197, 72.3\%$ ) followed closely by underage tobacco use ( $n = 193, 73.8\%$ ). The least common externalizing behaviors participants reported engaging in was selling marijuana or other drugs ( $n = 75, 28.1\%$ ) and using or threatening to use a weapon to get something from someone ( $n = 86, 32.2\%$ ). Other externalizing behaviors included getting into a serious physical fight ( $n = 134, 50.2\%$ ), taking part in a fight where one group went against another group ( $n = 127, 47.6\%$ ), hurting someone badly enough to need bandages or care from a doctor or nurse ( $n = 105, 39.3\%$ ), stealing something worth more than ( $n = 113, 42.3\%$ ) or less than ( $n = 103, 38.6\%$ ) fifty dollars, going into a house or a building to steal something ( $n = 95, 35.6\%$ ), taking something from a store without paying for it ( $n = 96, 36\%$ ), and painting graffiti or signs on someone else's property or in a public place ( $n = 97, 36.3\%$ ). Participants who identified as male endorsed significantly more externalizing behaviors than participants who identified as female,  $t(215) = 2.17, p = 0.031$ .

**Table 2***Means, standard deviations, and bivariate correlations for study variables.*

Variable	<i>M or N</i>	<i>SD or %</i>	1	2	3	4	5	6	7	8	9
1. Gender (M/F)	106/160	39.7/59.9									
2. Educational Attainment	1.86	0.66	.00								
3. Juvenile Charge (Y/N)	52/213	19.6/80.4	.02	-.27**							
4. Externalizing Behavior Sum	5.31	3.68	-.13*	-.01	.45**						
5. Adult Crime (Y/N)	38/228	14.3/85.7	-.05	.42**	-.00	.20**					
6. Internalizing Label	68.84	7.50	-.22**	-.11	.14*	.29**	.15*				
7. Externalizing Label	68.75	7.44	-.24**	-.16**	.13*	.29**	.12	.74**			
8. Psychiatric Symptoms	65.57	19.60	-.18**	-.08	.07	.34**	.18**	.43**	.47**		
9. Deviant Peer Affiliations	37.30	9.06	-.27**	-.01	.07	.34**	.25**	.47**	.48**	.80**	
10. Psychopathy	82.97	14.41	-.19**	.05	-.03	.10	.17**	.28**	.28**	.22**	.36**

*Note.* \* indicates  $p < .05$ . \*\* indicates  $p < .01$ .

## Hypothesis 1

The first model (Figure 1) examined whether the relationship between official juvenile justice involvement and committing a crime as an adult was mediated by labeling. The model also controlled for the level of externalizing behavior in youth and participant gender. It was hypothesized that labeling would statistically mediate the relation between system involvement and committing a crime as an adult. There was complete data on all variables for 249 out of 267 participants. Two participants (.07%) were missing data on officially being charged with a crime as a juvenile, five (1.9%) were missing data on internal labeling, six (2.2%) were missing data on external labeling, five (1.9%) were missing data on externalizing behaviors, and one (0.4%) was missing data on gender. There were no univariate outliers; however, there was a single multivariate outlier. Due to the small number of multivariate outliers, no corrections to the data were warranted. To account for missing data, full information maximum likelihood was used in estimating the model. Because internal and external labeling scores were highly correlated with one another ( $r = 0.73$ ), they were combined into a single latent labeling variable.

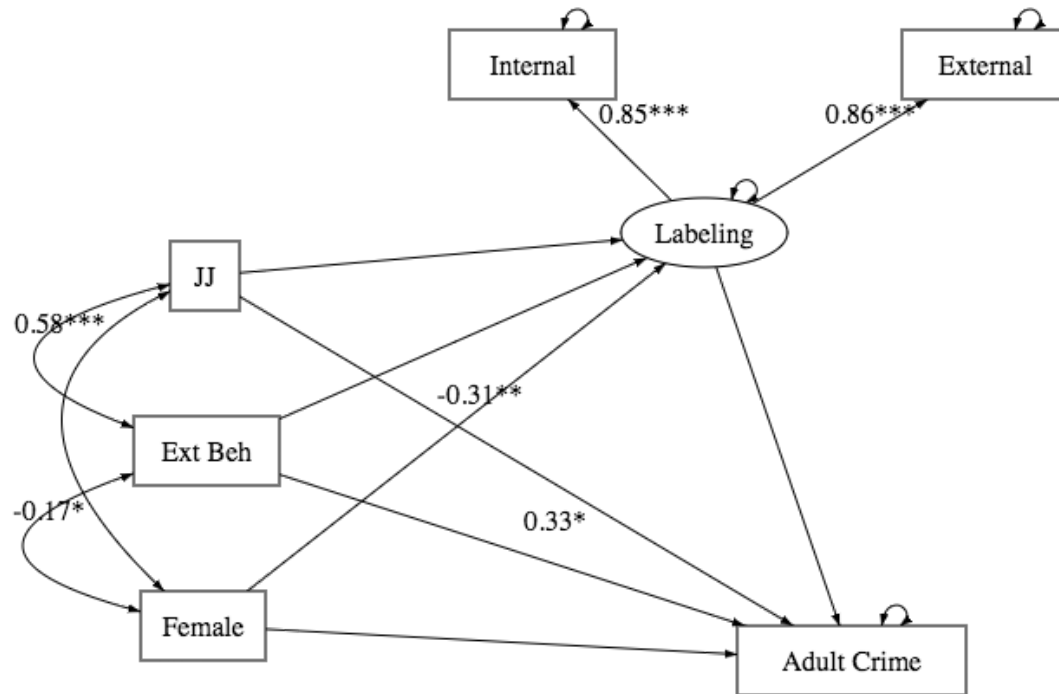
Model fit indices provided support for good model fit,  $\chi^2(3) = 0.11, p = 0.991$ , CFI = 1.00, RMSEA = 0.00, 90% CI = 0.00 – 0.00, SRMR = 0.004. Adult crime was significantly predicted by externalizing behaviors ( $\beta = 0.33, p = 0.030$ ). Adult crime was not significantly predicted by labeling ( $\beta = 0.12, p = 0.066$ ). Being charged with a crime as a juvenile ( $\beta = -0.20, p = 0.319$ ) and gender ( $\beta = -0.06, p = 0.636$ ) were not significantly related to adult crime. Gender significantly predicted labeling ( $\beta = -0.31, p = 0.002$ ) however externalizing behavior ( $\beta = 0.19, p = 0.079$ ) and juvenile charge ( $\beta = 0.14, p = 0.402$ ) did not. The indirect effects did not provide support for mediation of juvenile charge and adult crime through labeling (Indirect  $\beta = 0.02, p =$



0.468) or for mediation of externalizing behaviors and adult crime through labeling (Indirect  $\beta = 0.02, p = 0.154$ ). Thus, Hypothesis 1 was not supported.

**Figure 1**

*Hypothesis 1 Model*



## Hypothesis 2

The second model (Figures 2 and 3) examined whether the relation between official juvenile justice involvement and long-term outcomes (employment status, educational attainment, psychiatric symptoms, and adult crime) were moderated by social disadvantage group. The model included externalizing behaviors in youth as a covariate. A multigroup structural equation model was used, with groups distinguished by level of social disadvantage. It was hypothesized that participants in the high social disadvantage group would experience significantly worse distal outcomes as a consequence of juvenile justice involvement than their

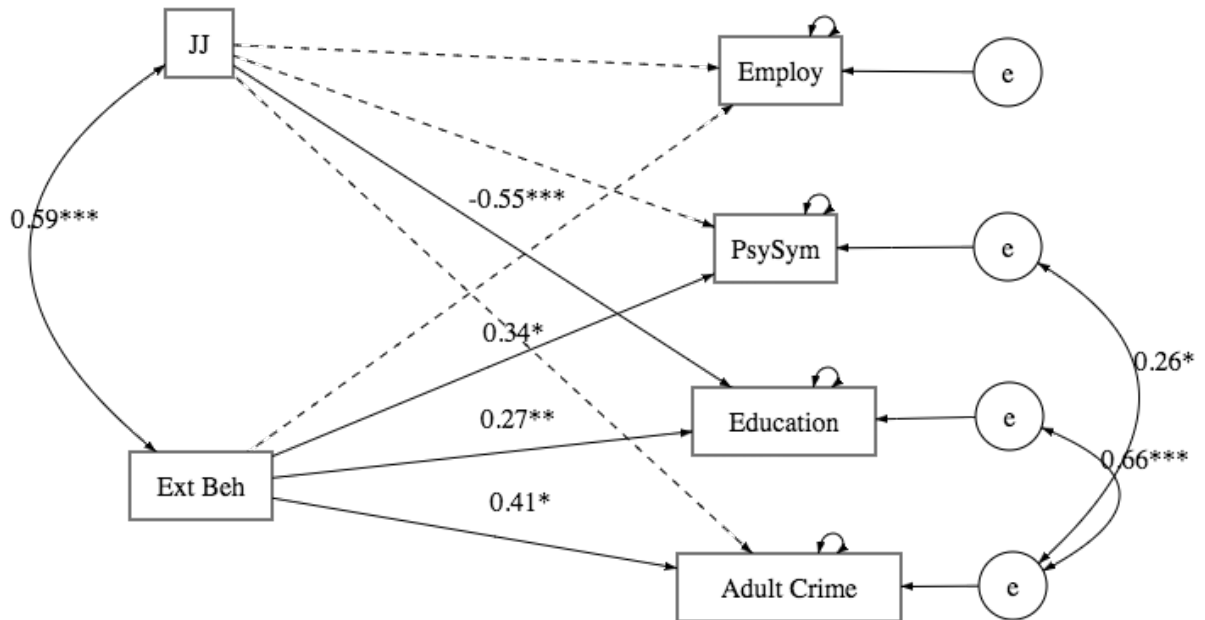
low social disadvantage counterparts. There was a total of 161 participants in the Low Social Disadvantage (LSD) group and 106 participants in the High Social Disadvantage (HSD) group. There were complete data for 153 LSD participants and 95 HSD participants. Two participants (.07%) were missing data on officially being charged with a crime as a juvenile, one participant (0.4%) was missing data for educational attainment, ten participants (3.7%) were missing data for mental health status, five participants (1.9%) were missing data for externalizing behaviors, and one participant (0.4%) was missing data for committing crime as an adult. There was no missing data for employment status or for social disadvantage. There were no univariate outliers; however, there was a single multivariate outlier. Due to the small number of multivariate outliers no corrections to the data were warranted. Again, full information maximum likelihood was used to estimate the model to account for the small amount of missing data.

Model fit indices could not be generated due to model saturation. The results of this analysis should be interpreted with caution. In the unconstrained model for the LSD group, there were no significant associations between juvenile justice involvement ( $\beta = 0.15, p = 0.702$ ) or externalizing behaviors ( $\beta = -0.02, p = 0.945$ ) and employment status. Neither juvenile justice involvement ( $\beta = -0.15, p = 0.595$ ) nor externalizing behaviors ( $\beta = 0.38, p = 0.073$ ) was significantly related to adult crime. Both juvenile justice involvement ( $\beta = -0.59, p = 0.001$ ) and externalizing behaviors ( $\beta = 0.32, p = 0.022$ ) were significantly related to educational attainment, but not in the manner that I predicted. Net of other variables, justice involvement and higher externalizing behaviors in youth were associated with greater educational attainment. Juvenile justice involvement was not significantly related to psychiatric symptoms ( $\beta = -0.14, p = 0.408$ ), but externalizing behaviors in youth were significantly related to greater current psychiatric symptoms ( $\beta = 0.46, p < 0.001$ ).

In the unconstrained model for the HSD group, there were no significant associations between juvenile justice involvement ( $\beta = 0.27, p = 0.382$ ) or externalizing behaviors ( $\beta = 0.05, p = 0.835$ ) and employment status. Neither juvenile justice involvement ( $\beta = -0.26, p = 0.428$ ) nor externalizing behaviors ( $\beta = 0.44, p = 0.075$ ) were significantly related to adult crime. Juvenile justice involvement was significantly related to educational attainment in the opposite direction of what was expected ( $\beta = -0.46, p = 0.045$ ). Externalizing behaviors in youth, however, were not significantly related to educational attainment ( $\beta = 0.18, p = 0.233$ ). Neither juvenile justice involvement ( $\beta = -0.01, p = 0.957$ ) nor externalizing behaviors ( $\beta = 0.22, p = 0.147$ ) were significantly related to current psychiatric symptoms.

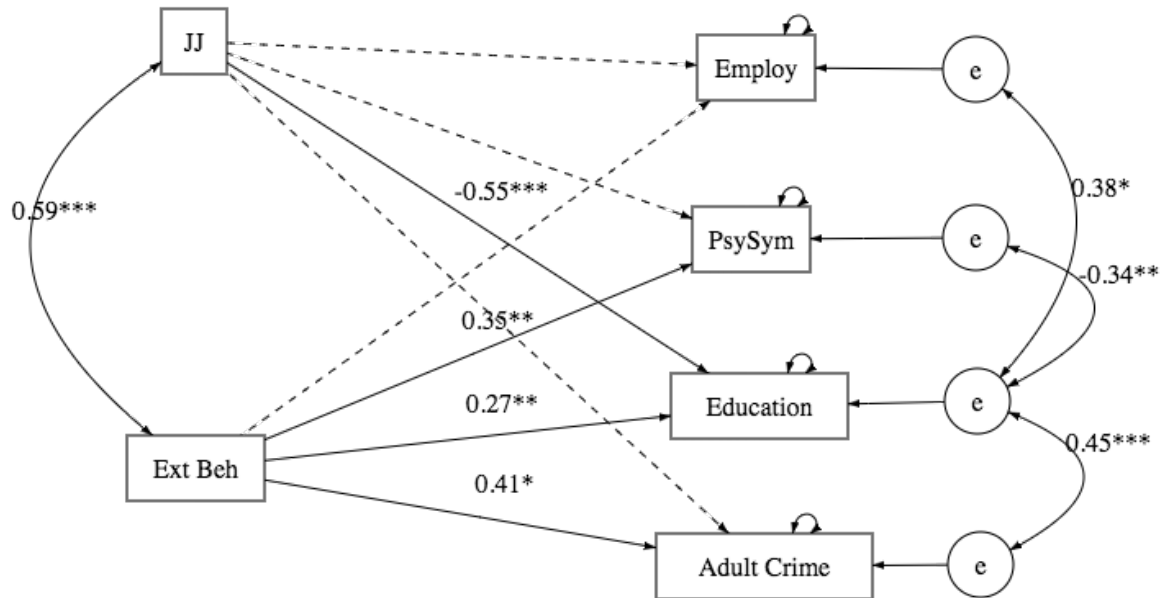
**Figure 2**

*Constrained Low Social Disadvantage Multigroup SEM (non-significant paths indicated by dashed lines)*



**Figure 3**

*High Social Disadvantage Multigroup SEM (non-significant paths indicated by dashed lines)*



Invariance testing was conducted between a freely estimated and a constrained version of the multigroup structural equation model. The freely estimated model did not fit the data significantly better than the constrained model,  $\chi^2_{diff}(8) = 2.41, p = 0.912$ . Thus, hypothesis 2 was not supported. The constrained models for the Low (Figure 2) and High (Figure 3) social disadvantage groups are below. It should be noted that the constrained models returned slightly different values across Low and High groups for covariances between the exogenous variables. This happened because only the regression coefficients between exogenous and endogenous variables in the models were constrained.

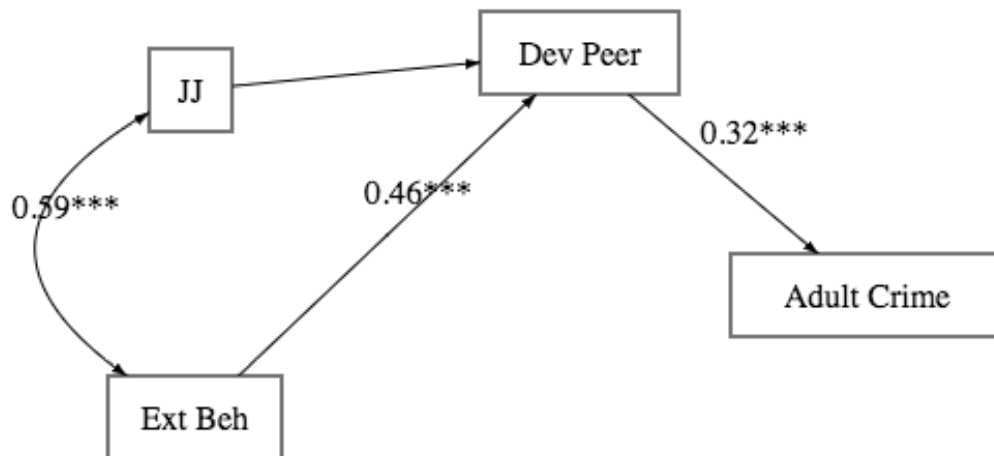
### Hypothesis 3

The third set of structural equation models examined whether deviant peer relationships mediated the relationship between juvenile justice involvement and adult crime, controlling for

participant externalizing behaviors in youth. It was hypothesized that higher endorsement of deviant peer relationships would mediate the relationship between juvenile justice involvement and adult crime. There were complete data for 255 participants. Two participants (0.07%) were missing data on juvenile justice system involvement, five participants (1.9%) were missing data on externalizing behaviors, four participants (1.5%) were missing data for deviant peer relationships, and one participant (0.4%) was missing data for committing a crime as an adult. There were no univariate outliers; however, there was a single multivariate outlier. Due to the small number of multivariate outliers, no corrections to the data were warranted. Full information maximum likelihood was again used to estimate the models.

Two models were fit to the data. The first model included direct paths from juvenile justice involvement and externalizing behavior to adult crime. The second model removed direct paths from juvenile justice involvement and externalizing behavior to adult crime. Both models included direct paths between juvenile justice involvement and externalizing behavior to deviant peers, and from deviant peers to adult crime. A chi-square difference test compared the full model to the reduced (mediation) model. Results indicated that there was no significant difference between the mediation model and a full model,  $X^2_{diff}(2) = 2.57, p = 0.175$ . The mediation model (Figure 4) fit the data well;  $X^2(2) = 2.57, p = 0.277$ , CFI = 0.994, RMSEA = 0.03, 90% CI = 0.0001 – 0.134, SRMR = 0.05. However, the model did not support the third hypothesis because there was no significant direct path between juvenile justice involvement and deviant peer relationships ( $\beta = -0.17, p = 0.239$ ). Deviant peer relationships were significantly related to adult crime ( $\beta = 0.32, p < 0.001$ ). Externalizing behaviors was significantly related to deviant peer relationships ( $\beta = 0.46, p < 0.001$ ).

**Figure 4**  
*Mediation Model*



### Qualitative Analyses

The first questions asked was “Is there anything that you have not had the opportunity to share that you think is important for the researcher to understand?” Out of 267 participants, 85 provided valid responses to the question. Several participants highlighted the importance of the ignorance of youth, especially their knowledge about the law. One participant stated that “Teenagers basically know very little about the law.” Another participant shared that “teens fail to recognize the seriousness of the crime.” A third participant wrote that “the main problem is the ignorance of young people about the law.” A fourth participant noted that a “law education program for teenagers” would be helpful. Another theme that emerged from participants is that the juvenile justice system affects the development of youth who are involved in it. One participant stated that “I think it's important for researchers to understand that the juvenile justice system has a significant impact on the development of children who participate in it”. Another

participant noted that “I think it's important for researchers to understand that children who are involved in the juvenile justice system don't just experience poor mental health outcomes, but also developmental issues”. A third participant shared “I think that one thing that is important for researchers to understand is how the juvenile justice system affects the developmental process of children who participate in it. I think it's important to understand how these systems affect children because it can help us understand why some children are more vulnerable than others, and we can learn from our mistakes”. Some participants reported believing that the juvenile justice system can also be helpful to youth. One participant stated that “I think that it's important for researchers to understand that the juvenile justice system is not just about punishment. The system also provides services and support to youth who are being held in custody.” Another participant disclosed “In my experience, the juvenile justice system is very important for teenagers. It allows them to learn from their mistakes, and it teaches them how to be better people. It also helps them grow into adults who are ready to take on the responsibilities of being an adult. If a teenager does not go through the juvenile justice system, they may not develop into an adult as quickly or as well-adjusted as someone who has gone through the process”.

The second question participants were asked was “Do you have any recommendations for how to improve the juvenile justice system for children today?”. Out of 267 participants, 160 provided valid responses. One central theme that emerged was that the juvenile justice system should provide more services for youth and their families. One participant shared “Implementing effective rehabilitation and diversion programs that provide rehabilitative services and support to juvenile offenders, instead of simply imposing harsher punishment”. Another participant wrote “There are a number of ways to improve the juvenile justice system for children today. One way is to increase funding and resources for youth rehabilitation programs”. A third participant

shared “I think the juvenile justice system could be improved by providing more resources for children, who are often impoverished and forced to live in dangerous situations”. One of the services that participants would like to see offered is more attention paid to mental health. One participant wrote that “The juvenile justice system should pay attention to proper psychological counseling”. Another participant offered “The mental health of juvenile offenders is more important and should be taken seriously”. A third participant wrote “I think that the juvenile justice system could improve by focusing on rehabilitation and not just punishment. I think that they should also take into consideration the mental health of the juvenile and their families. This would allow them to help these juveniles better and make them more likely to be successful in life after they have been released from prison.”

### **Discussion**

The present study sought to provide further clarification about the distal effects of the juvenile justice system on youth as they transition to adulthood. The first hypothesis examined the effects of juvenile justice involvement through the lens of Labeling Theory. It was hypothesized that the relationship between juvenile justice involvement and adult crime would be mediated by the labeling experienced as a result of being charged with a crime. Overall, the results did not provide support for this hypothesis. At the bivariate level, juvenile justice involvement was not significantly related to adult crime but was significantly related to internal and external labeling. However, at the multivariate level juvenile justice involvement was not significantly related to labeling. Furthermore, labeling did not significantly predict adult crime at the multivariate level. However, at the bivariate level internal labeling was related to adult crime. Adult crime was significantly predicted by participant externalizing behaviors in youth at the multivariate level, which is consistent with findings from previous research (Leschied et al.,



2008; Fergusson, Boden, & Horwood, 2014; Ellickson & McGuigan, 2000). These findings demonstrated that, while these relationships between labeling and adult crime were significantly correlated with one another at the bivariate level, those relationships disappeared when externalizing behaviors were added at the multivariate level. The level of participant externalizing behaviors appears to be the primary driver behind participants breaking the law as adults regardless of juvenile justice system involvement or labeling. This finding lends credence to the biological perspective of criminal behavior, where youth who are predisposed towards aggressive and criminal behaviors persist in violating the law (Eley, Lichtenstein & Stevenson, 1999; Mednick, Gabrielli, & Hutchings, 1984; Slutske et al., 1997).

Another interesting set of findings from the first analysis are the relationships between juvenile justice involvement, labeling, externalizing behaviors, and gender. At the bivariate level, being male was significantly correlated with higher externalizing scores and higher labeling scores. Additionally, being male was significantly associated with more severe psychiatric symptoms, higher psychopathy scale scores, and a greater deviant peer relationship scores. Interestingly, being male was not significantly associated with either juvenile justice involvement or adult crime at the bivariate or multivariate level. However, at the multivariate level, being male was significantly associated with perceived labeling. When examined again at the bivariate level, labeling is significantly associated with psychiatric symptoms, deviant peer relationships, psychopathy scores, and externalizing behaviors. These findings suggest that the labeling experience is a predominantly male experience in the current sample and that this experience is associated with a host of troubling outcomes. It is currently unknown what the etiology of the labeling is. However labeling, and the stigma associated with it, does continue to be associated with negative life outcomes which is consistent with findings from Link et al.

(1989). Future research may want to examine the relationships between labeling and these outcome variables alongside gender to better understand the unique trajectory of males.

Notably, juvenile justice involvement had a negative relationship with adult crime. This suggests that individuals with formal juvenile justice system involvement committed fewer self-reported crimes as adults than their non-system involved counterparts, controlling for externalizing behaviors in youth. This is inconsistent with previous findings in the literature (Abram et al., 2009; Benda, Corwyn, & Toombs, 2001; Gatti, Tremblay, & Vitaro, 2009; Lipsey, 1995). One possible reason for this is that youth were successfully deterred from recidivating by their involvement in the juvenile justice system. Another possibility is that youth were given access to needed services during their tenure in the system, such as psychological and psychiatric treatment. This is consistent with the testimony of some of the participants, who believe that the juvenile justice system is helpful to youth. The details of the participants' juvenile justice experiences are largely unknown, therefore it is not possible to determine the services that were received and how much service was provided. Future research should consider the specific juvenile justice experiences of participants in their examination between the juvenile justice system and recidivism.

The second hypothesis examined the potential moderating effects of social disadvantage on the relationship between juvenile justice involvement and distal psychosocial outcomes. The results did not support the second hypothesis that level of social disadvantage would moderate the relationships between juvenile justice involvement and distal psychosocial outcomes. One possible reason for these findings is that the juvenile justice system has a similar effect on youth regardless of their social disadvantage during childhood. Notably, juvenile justice system involvement was not significantly related to adult crime. However, externalizing continued to be

a strong predictor of subsequent adult crime at the multivariate level. This continues to add support to the notion that externalizing behaviors is the primary driver of criminal behavior and other poor life outcomes, regardless of both system involvement and social disadvantage. However, another possible explanation for these findings may be due to the unique participant recruitment strategies employed by the current study and the subsequent sample they yielded. Previous researchers have used recruitment strategies including analysis of datasets containing official law enforcement records and face-to-face interviews. These strategies yielded samples that were comparatively more racially diverse than the current study sample, which was overwhelmingly White. The results may simply indicate that the justice system has these effects for White youth. Previous research also lends credence to the hypothesis that psychosocial outcomes for justice-involved individuals differ by race. For example, Pager (2003) found that White participants with criminal records were viewed more favorably by potential employers than Black participants without criminal records.

One of the other notable findings from this analysis is that juvenile justice involvement was significantly negatively related to future educational outcomes. Previous research has highlighted how juvenile justice involvement disrupts education (Cauffman et al., 2021; Sweeten, 2006). While externalizing behaviors appear to play a significant role in future life difficulties, juvenile justice involvement does appear to have a consistent role in precluding youth from educational advancement. Future research may want to investigate what specifically interfered with youth's educational attainment, what educational services they were offered while in custody, what educational opportunities they participated in while system involved, and whether or not they were able to rejoin their high school. Even if youth were able to rejoin their

high school post adjudication, it is possible that, as a result of being incarcerated for months, that they are now behind grade level.

Another possible reason for these social disadvantage findings is that the measure of social disadvantage used in this study may not adequately capture the construct. Analysis of the social disadvantage scale yielded a Cronbach alpha value of 0.65, which casts some doubt on the internal consistency of the items. A lower alpha value can also result from a small number of items in the scale (Tavakol & Dennick, 2011) and the current social disadvantage scale consisted of four items. Another possibility for these findings is the model saturation of the multigroup SEM. Saturation can lead to difficulty estimating model parameters and a loss of statistical power. Overall, uninterpretable model fit indices and the dubious quality of the main grouping variable suggest that the model used to examine hypothesis 2 should be interpreted with caution. The findings from the second analysis are also inconsistent with the findings from previous literature regarding social disadvantage and negative life outcomes (Bradley & Corwyn, 2002; Letourneau et al., 2011).

The third hypothesis examined the potential mediating effects of deviant peer relationships on the relationship between juvenile justice involvement and adult crime. The results of the analysis did not provide support for mediation. Deviant peer relationships were significantly related to crime, which is consistent with findings from previous literature (Giletta et al., 2021; Leve & Chamberlain, 2005; Wiley & Esbensen 2016). Notably, juvenile justice involvement was not significantly related to deviant peer relationships when accounting for participant externalizing behaviors. This suggests that, rather than the juvenile justice system providing a deviant peer group for adolescents via incarceration or rehabilitative programs, engaging in externalizing behaviors propel individuals towards contact with deviant peers

regardless of their system involvement. Future research should seek to clarify the genesis of these deviant peer relationships, including the externalizing behaviors that commonly lead to contact with deviant peer groups in adolescence.

Findings from Wiley & Esbensen (2016) also suggest that youth who are contacted by police and are arrested experience an increased commitment to deviant peers. The authors hypothesize that this may be the result of the removal of prosocial opportunities that follows justice system involvement. While the juvenile justice system may not be significantly related to deviant peers in the current sample, it may inadvertently be pushing youth towards aligning with a deviant peer group which subsequently contributes to adult crime. Further, the preclusion of prosocial opportunities may condemn youth to have contact exclusively with deviant peers. For example, the present study provided evidence that education is disrupted for justice involved youth. Removal from education access could be one way that justice involved youth are precluded from prosocial peers. Future research should consider the extent to which juvenile justice involved youth both increases commitment towards deviant peers via contact with police and limits the opportunities for youth to engage with prosocial peers.

### **Limitations & Future Directions**

The current study has several notable limitations. Firstly, the study relied on anonymous retrospective self-report of participants. Some of the questions participants were asked were sensitive in nature, such as their past criminal behavior and arrest history. Participants may have been more pressured to respond in socially desirable ways given the sensitive nature of the questionnaire. Future research should continue to consider these pressures, especially as criminal histories become more severe. Secondly, participants were asked to recall information about their childhood. The mean age of participants was 27, which suggests that respondents were tasked

with remembering details about their childhood experiences approximately a decade later on average. It is possible that participants may not be able to recall accurate detailed information after such a long time. Future research could reduce the burden of such lengthy recall by incorporating additional data collection points in their study (example: once per year). A third limitation is that participants were recruited via an online survey. While measures were taken to help ensure data integrity such as the use of captchas, the removal of responses that were completed suspiciously quickly, and the manual spot checking of data by the researcher, it is possible that artificial data made entry into the final dataset. This consideration remains an ongoing concern for researchers using online survey response data in their work. Indeed, the lack of group differences on a measure of psychopathic traits suggests a cautious approach to interpreting the data is in order. On the other hand, perhaps the lack of group differences is because, for many people, some degree of externalizing or law-breaking behavior is normative and most people who are in the juvenile justice system do not go on to show chronic criminal behavior in adulthood. This study's participants may have been reflective of these less severe, potentially more normative groups. Further, previous research has provided evidence that many adolescents who commit crimes as juveniles eventually desist (Sampson & Laub, 2003). Given that adolescents are influenced to offend by a variety of reasons outside of psychopathic tendencies, such as deviant peer relationships, a measure of psychopathy may not be an ideal validity check for this population. Finally, the saturated model from Hypothesis 2 and the dubious Cronbach's alpha value of the social disadvantage scale limit the ability to draw conclusions from the second analysis. Future research may want to incorporate a different scale of disadvantage.

## **Conclusions**

The present study was able to provide several key points. Firstly, the results suggested that it is externalizing behaviors and not juvenile justice involvement that propel youth towards several deleterious life outcomes including justice system involvement and recidivism. These findings lend credence to the biological perspective of criminal behavior, at least in the long term, and they are more robust due to the presence of unique control groups in the study. Additionally, juvenile justice involvement continued to be related to poorer educational attainment in this sample. Researchers, policy makers, and juvenile justice officials should continue to recognize this enduring pattern of educational disruption as a consequence of system involvement and begin developing strategies to minimize this disruption. Safeguarding access to education may also provide opportunities for youth to connect with prosocial peer groups, which may disrupt current deviant peer relationships. Subsequently, the influence of prosocial peers may further reduce the likelihood of recidivism in this vulnerable population.

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## Appendices



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**To:** Cameron Perrine  
**From:** Douglas J AdamsJustin R Chimka, Chair  
IRB Expedited Review  
**Date:** 04/18/2022  
**Action:** **Exemption Granted**  
**Action Date:** 04/18/2022  
**Protocol #:** 2112378377  
**Study Title:** The downstream effects of juvenile justice involvement

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

cc: Ana J Bridges, Investigator

**Recruitment Message**

Hello, my name is Cameron Perrine. I am a graduate student at the University of Arkansas. We are conducting a study to better understand the experiences of people who were involved in the juvenile justice system. The study involves completing a brief online questionnaire that is expected to take approximately 20 minutes. If you complete the survey, you will receive a \$5 electronic gift card that will be sent to your email address. Your participation is completely voluntary. Individual data from the study will be kept confidential and will not be shared with anyone outside of the research team. Please click the following link if you would like to participate.



**Consent Form**

**RESTRICTIONS:** You must have been born between 1984 and 1996 in order to participate.

**DESCRIPTION:** In this study, you will be asked questions about your experiences (or lack thereof) in the juvenile justice system and your experiences as a young adult. You will also be asked for demographic information, questions about your friends, questions about educational attainment and current occupation, and questions about general mental health.

**RISKS AND BENEFITS:** There are no anticipated risks to participating in this study.

**DURATION:** This study is estimated to take approximately one hour.

**PURPOSE:** This study seeks to better understand the experiences of adults who were involved in the juvenile justice system and how their system involvement affects their experiences as a young adult.

**RESEARCHER:**

Cameron M. Perrine, M.A.  
Dep. of Psychological Science  
216 Memorial Hall  
Fayetteville, AR 72701  
cmperrin@uark.edu

**COMPLIANCE OFFICER:**

Ro Windwalker, IRB Coordinator  
Office of Research Compliance  
109 MLKG  
1424 W. Martin Luther King, Jr.  
Fayetteville, AR 72701  
(479)575-2208  
irb@uark.edu

**VOLUNTARY PARTICIPATION:** Your participation in this research is completely voluntary. You are not obligated to participate, and you may leave any of the questions blank or stop participating in the study at any time.

**CONFIDENTIALITY:** All of your responses will be kept confidential to the fullest extent allowed by university policy and the law. Your name or other identifying information will not appear on any of the results or be connected to any of the responses you provide; instead, a unique study identification number will be used.

**RIGHT TO DISCONTINUE:** You are free to refuse to participate in the research and/or to discontinue this study at any time. Your decision to discontinue will bring no negative consequences to you.

**INFORMED CONSENT:** I have read the description, including the purpose of the study, the procedures to be used, the potential risks and benefits, the confidentiality, as well as the option to discontinue participation at any time. I believe I understand what is involved in this study. By selecting “Consent” below, I am indicating that I freely agree to participate in this study.

Data Collection Materials**Questionnaires***Demographics*

- 1) What is your date of birth?
  - a) Mm/dd/yyyy
- 2) What is your age?
  - a) ##
- 3) What is your race?
  - a) White/Caucasian
  - b) Black/African American
  - c) Hispanic/Latino/a/x
  - d) Asian/Pacific Islander
  - e) American Indian/Alaskan Native
  - f) Other
- 4) What is your highest level of education?
  - a) Some high school
  - b) High school diploma or equivalent (e.g., GED)
  - c) Some college
  - d) Associates Degree
  - e) Bachelors Degree
  - f) Graduate Degree (e.g., Masters, Juris Doctorate, Doctoral)
- 5) Are you currently employed?
  - a) Yes

- b) No
- 6) If yes, what is your current occupation?
  - a) Open ended
- 7) What is your gross annual income?
  - a) Open ended

*Juvenile Externalizing and Delinquency Variables*

Between the ages of 10 and 17, did you ever...

- 1) Smoke cigarettes, smoke e-cigarettes, or use chewing tobacco or snuff?
  - a) Yes
  - b) No
- 2) Drink beer, wine, or liquor without your caregiver's permission?
  - a) Yes
  - b) No
- 3) Get into a serious physical fight?
  - a) Yes
  - b) No
- 4) Take part in a fight where a group of your friends was against another group?
  - a) Yes
  - b) No
- 5) Hurt someone badly enough to need bandages or care from a doctor or nurse?
  - a) Yes
  - b) No
- 6) Steal something worth more than \$50?
  - a) Yes
  - b) No
- 7) Steal something worth less than \$50?
  - a) Yes
  - b) No

- 8) Go into a house or building to steal something?
- a) Yes
  - b) No
- 9) Use or threaten to use a weapon to get something from someone?
- a) Yes
  - b) No
- 10) Take something from a store without paying for it?
- a) Yes
  - b) No
- 11) Paint graffiti or signs on someone else's property or in a public place?
- a) Yes
  - b) No
- 12) Sell marijuana or other drugs?
- a) Yes
  - b) No

*Juvenile Justice Involvement*

- 1) Were you arrested by the police **prior to your 18<sup>th</sup> birthday?**
  - a) Yes
  - b) No
- 2) Were you formally charged with a crime **prior to your 18<sup>th</sup> birthday?**
  - a) Yes
  - b) No
- 3) What were you charged with by law enforcement?
  - a) Open ended
  - b) Was this charge a misdemeanor, or a felony?
    - i) Misdemeanor
    - ii) Felony
- 4) Were you detained in a juvenile detention center **prior to your 18<sup>th</sup> birthday?**
  - a) Yes
  - b) No
- 5) If you were detained, how long were you kept in a juvenile detention center?
  - a) Open ended
- 6) Were you offered a juvenile diversion program?
  - a) Yes
  - b) No
- 7) If yes, did you complete your diversion program?
  - a) Yes
  - b) No

- 8) Were you ever adjudicated guilty or delinquent by a juvenile court?
- a) Yes
  - b) No
- 9) If yes, what were you adjudicated guilty/delinquent of?
- a) Open ended
- 10) If adjudicated guilty, what was the sentence of the court?
- a) Open ended
- 11) Did the juvenile justice system ever connect you with services that were helpful?  
(examples: mental health services, drug rehabilitation services, etc.)
- a) Yes
  - b) No
- 12) If yes, what services did you receive through the juvenile justice system?
- a) Open ended
- 13) Did you make any friends while either detained or through involvement in a juvenile justice program (including court-ordered programs?)
- a) Yes
  - b) No
- 14) If yes, were your friends charged with additional crimes in the future?
- a) Yes
  - b) No
- 15) Were you charged with a crime as a juvenile after your first criminal charge as a juvenile?
- a) Yes



b) No

16) Were you charged with a crime as an adult after your first criminal charge as a juvenile?

a) Yes

b) No

*Psychopathic Attributes*

- 1) Success is based on survival of the fittest; I am not concerned about the losers
  - a. 1 (Disagree) to 5 (Agree)
- 2) I find myself in the same kinds of trouble, time after time
  - a. 1 (Disagree) to 5 (Agree)
- 3) For me, what's right is whatever I can get away with
  - a. 1 (Disagree) to 5 (Agree)
- 4) I am often bored
  - a. 1 (Disagree) to 5 (Agree)
- 5) In today's world, I feel justified in doing anything I can get away with to succeed
  - a. 1 (Disagree) to 5 (Agree)
- 6) I find that I am able to pursue one goal for a long time
  - a. 1 (Disagree) to 5 (Agree)
- 7) My main purpose in life is getting as many goodies as I can
  - a. 1 (Disagree) to 5 (Agree)
- 8) I don't plan anything very far in advance
  - a. 1 (Disagree) to 5 (Agree)
- 9) Making a lot of money is my most important goal
  - a. 1 (Disagree) to 5 (Agree)
- 10) I quickly lose interest in tasks I start
  - a. 1 (Disagree) to 5 (Agree)
- 11) I let others worry about higher values; my main concern is with the bottom line

- a. 1 (Disagree) to 5 (Agree)
- 12) Most of my problems are due to the fact that other people just don't understand me
- a. 1 (Disagree) to 5 (Agree)
- 13) People who are stupid enough to get ripped off usually deserve it
- a. 1 (Disagree) to 5 (Agree)
- 14) Before I do anything, I carefully consider the possible consequences
- a. 1 (Disagree) to 5 (Agree)
- 15) Looking out for myself is my top priority
- a. 1 (Disagree) to 5 (Agree)
- 16) I have been in a lot of shouting matches with other people
- a. 1 (Disagree) to 5 (Agree)
- 17) I tell other people what they want to hear so that they will do what I want them to do
- a. 1 (Disagree) to 5 (Agree)
- 18) When I get frustrated, I often "let off steam" by blowing my top
- a. 1 (Disagree) to 5 (Agree)
- 19) I would be upset if my success came at someone else's expense
- a. 1 (Disagree) to 5 (Agree)
- 20) Love is overrated
- a. 1 (Disagree) to 5 (Agree)
- 21) I often admire a really clever scam
- a. 1 (Disagree) to 5 (Agree)
- 22) I make a point of trying not to hurt others in pursuit of my goals
- a. 1 (Disagree) to 5 (Agree)

23) I enjoy manipulating other people's feelings

a. 1 (Disagree) to 5 (Agree)

24) I feel bad if my words or actions cause someone else to feel emotional pain

a. 1 (Disagree) to 5 (Agree)

25) Even if I were trying very hard to sell something, I wouldn't lie about it

a. 1 (Disagree) to 5 (Agree)

26) Cheating is not justified because it is unfair to others

a. 1 (Disagree) to 5 (Agree)

*Adult Crime*

- 1) Since your 18<sup>th</sup> birthday, have you broken the law in any way other than a minor traffic violation?
  - a) Yes
  - b) No
- 2) Since your 18<sup>th</sup> birthday, were you ever arrested by the police?
  - a) Yes
  - b) No
- 3) If yes, what were you charged with by law enforcement (please include whether the charge(s) were misdemeanors or felonies)?
  - a) Open ended
- 4) Since your 18<sup>th</sup> birthday, were you convicted of a crime in an adult court?
  - a) Yes
  - b) No
- 5) If yes, what were you convicted of?
  - a) Open ended.

*Internal Labeling*

Please answer the following questions regarding how you feel about yourself:

- 1) I am not acceptable as a close friend
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 2) I am not as intelligent as the average person
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 3) I am not as trustworthy as the average citizen
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 4) I cannot be a teacher of young children in a public school
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 5) I am a failure (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 6) I should not be hired to take care of children (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 7) I think less of myself as a person (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 8) I should not be hired by most employers even though I am qualified for the job
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 9) Most employers should pass over my application in favor of another applicant (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 10) Most people in my community should treat me the same as anyone else
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 11) Most young people should be reluctant to date me (R)

- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 12) Most people should take my opinion less seriously (R)
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 13) \*I am a bad person
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 14) \*I will mess things up
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 15) \*I can't be counted on
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 16) \*I let people down
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 17) \*I am untrustworthy
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 18) \*I am not lovable
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 19) \*I am ashamed of myself
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)

*External Labeling*

Please answer the following questions regarding how other people feel about you:

- 1) Most people do not accept me as a close friend
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 2) Most people do not think I am as intelligent as the average person
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 3) Most people think that I am not as trustworthy as the average citizen
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 4) Most people think that I cannot be a teacher of young children in a public school
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 5) Most people think that I am a failure (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 6) Most people think that I should not be hired to take care of children (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 7) Most people think less of me as a person (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 8) I am not hired by most employers, even though I am qualified for the job
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 9) Most employers passed over my application in favor of another applicant (R)
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 10) Most people in my community treat me the same as anyone else
  - a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 11) Most young people are reluctant to date me (R)



- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 12) Most people take my opinion less seriously than others' (R)
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 13) \*People think I am a bad person
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 14) \*People think I will mess things up
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 15) \*People think I can't be counted on
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 16) \*People think I will let them down
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 17) \*People think I am untrustworthy
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 18) \*People think I am not lovable
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)
- 19) \*People think I should be ashamed of myself
- a. 1 (Strongly Agree) – 6 (Strongly Disagree)

*Social Disadvantage*

1. Growing up, did your family own a van, car, or truck?  
(0) = No  
(1) = Yes, one vehicle  
(2) = Yes, two or more vehicles at a time
2. Growing up, did you have your own bedroom for yourself?  
(0) = No  
(1) = Yes
3. Growing up, how many times did you travel away on holiday with your family each year?  
(0) = Not at all  
(1) = Once  
(2) = Twice  
(3) = More than twice
4. Growing up, how many computers did your family own?  
(0) = None  
(1) = One  
(2) = Two  
(3) = More than two

*GAIN-SS*

The following questions are about common psychological, behavioral, and personal problems.

These problems are considered significant when you have them for two or more weeks, when they keep coming back, when they keep you from meeting your responsibilities, or when they make you feel like you can't go on. After each of the following questions, please tell us the last time, if ever, you had the problem by answering whether it was in the past month, 2 to 3 months ago, 4 to 12 months ago, 1 or more years ago, or never.

When was the last time you had significant problems with...

- 1) Feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?
  - a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 2) Sleep trouble, such as bad dreams, sleeping restlessly, or falling asleep during the day?
  - a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 3) Feeling very anxious, nervous, tense, scared, panicked, or like something bad was going to happen?

- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 4) Becoming very distressed and upset when something reminded you of the past?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 5) Thinking about ending your life or committing suicide?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 6) Seeing or hearing things that no one else could see or hear or feeling that someone else could read or control your thoughts?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago

e) Never

When was the last time that you did the following things two or more times?

1) Lied or conned to get things you wanted or to avoid having to do something

a) Past month

b) 2 to 3 months ago

c) 4 to 12 months ago

d) +1 year ago

e) Never

2) Had a hard time paying attention at school, work, or home

a) Past month

b) 2 to 3 months ago

c) 4 to 12 months ago

d) +1 year ago

e) Never

3) Had a hard time listening to instructions at school, work, or home

a) Past month

b) 2 to 3 months ago

c) 4 to 12 months ago

d) +1 year ago

e) Never

4) Had a hard time waiting for your turn

a) Past month

- b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 5) Were a bully or threatened other people
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 6) Started physical fights with other people
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 7) Tried to win back your gambling losses by going back another day
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never

When was the last time that...

- 1) You used alcohol or other drugs weekly or more often?
  - a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 2) You spent a lot of time either getting alcohol or other drugs, using alcohol or other drugs, or recovering from the effects of alcohol or other drugs (e.g., feeling sick)?
  - a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 3) You kept using alcohol or other drugs even though it was causing social problems, leading to fights, or getting you into trouble with other people?
  - a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 4) Your use of alcohol or other drugs caused you to give up or reduce your involvement in activities at work, school, home, or social events?

- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 5) You had withdrawal problems from alcohol or other drugs like shaky hands, throwing up, having trouble sitting still or sleeping, or you used any alcohol or other drugs to stop being sick or avoid withdrawal problems?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never

When was the last time that you...

- 1) Had a disagreement in which you pushed, grabbed, or shoved someone?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 2) Took something from a store without paying for it?
- a) Past month



- b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 3) Sold, distributed, or helped to make illegal drugs?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 4) Drove a vehicle while under the influence of alcohol or illegal drugs?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never
- 5) Purposely damaged or destroyed property that did not belong to you?
- a) Past month
  - b) 2 to 3 months ago
  - c) 4 to 12 months ago
  - d) +1 year ago
  - e) Never

*Friends Inventory*

In the following set of questions, we will be asking you what your friends are like. In answering each question, try to think about ALL of your friends, both guys and girls, rather than just one or two particular friends.

- 1) My friends enjoy getting drunk.
  - a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 2) My friends get into fights.
  - a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 3) My friends smoke cigarettes (electronic or regular) or chew tobacco.
  - a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 4) My friends break the rules.
  - a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.

- d) None of my friends are like that.
- 5) My friends use drugs.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 6) My friends can't seem to hold a job.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 7) My friends sometimes carry weapons.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 8) My friends know where to buy drugs.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 9) My friends get into trouble with police.
- a) All of my friends are like that.

- b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 10) My friends like to party.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 11) My friends drink alcohol or beer a lot.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 12) My friends steal things from others.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 13) My friends are tough.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.

- 14) My friends don't have jobs.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 15) My friends sometimes drink and drive.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.
- 16) My friends like to speed when driving.
- a) All of my friends are like that.
  - b) Most of my friends are like that.
  - c) Just a few of my friends are like that.
  - d) None of my friends are like that.

*Final Questions*

- 1) Is there anything that you have not had the opportunity to share that you think is important for the researcher to understand?
  - a. Open ended
- 2) Do you have any recommendations for how to improve the juvenile justice system for children today?
  - a. Open ended
- 3) Did you answer every question in the survey honestly?
  - a. Yes
  - b. No

*Debriefing Form*

The purpose of this study was to gather information to help learn about experiences people may have had growing up, including engaging in behavior that could get them in trouble with the law, and how these experiences affect the transition into early adulthood. This study is especially looking at how the juvenile justice system affects the children who were involved in it as they grow up. Your participation, regardless of the extent of your involvement in the juvenile justice system, is critical in order to better understand its effects. In other words, your participation is very helpful! Thank you very much for participating in the study. Your information will be kept confidential and once all data have been recorded, your responses will be anonymized. If you are interested in accessing a mental health therapist or other services, you can visit <https://www.nimh.nih.gov/health/find-help> and <https://www.cdc.gov/mentalhealth/tools-resources/individuals/index.htm>. Please note that none of the services listed are endorsed by either the University of Arkansas or the principal investigator. Additionally, neither the University of Arkansas nor the principal investigator will cover the costs of accessing any services. If you have any questions or concerns about this study, please contact Cameron Perrine at [cmperrin@uark.edu](mailto:cmperrin@uark.edu). If you have any questions or concerns about the ethics of this study, please contact Ro Windwalker at [irb@uark.edu](mailto:irb@uark.edu).