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# Youth Gang Involvement and Long-Term Offending: An Examination into the Role of Psychopathic Traits

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**Abstract:** Most policies to combat gang criminal behavior are rooted in deterrence and punitive strategies. This is fueled by moral panic, a get tough on crime rhetoric, and a lack of understanding for the psychological factors that may influence this behavior. Further, the extant literature has consistently observed that gang membership is associated with increased criminal behavior. In an effort to promote and shift away from punitive approaches in response to gang delinquency, the current study investigates the role psychopathic traits have in violent and property offending, longitudinally, in a sample of gang-involved youth. The study implemented count mixed effect models to investigate the topic longitudinally in waves 3, 5, 7, 8, 9, 10, and 11, while controlling for other variables with violent and property offending frequency. The current study found that some psychopathic traits are associated with offending behavior, longitudinally, in gang members and youth with a history of gang involvement. The findings suggest that gang intervention strategies should include empirically supported programs for treating psychopathic traits in gang identified youth to reduce involvement in delinquent behavior. Further, practitioners, researchers, and policymakers should collaborate to develop more empirically supported strategies to reduce and prevent gang delinquent behavior from an empathetic lens.

**Keywords:** juvenile psychopathy; disruptive behavior disorders; longitudinal offending; gang membership



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## 1. Introduction

Most strategies implemented and funded for gangs concentrate on suppression tactics (i.e., punitive gang legislation and harsh police enforcement), which are fueled by moral panic and a get tough on crime rhetoric [1,2]. McCorkle and Miethe [3] found that the gang panic facilitated by law enforcement and the media in Las Vegas resulted in the passage of punitive legislation targeted at gangs and increased law enforcement resources. Although suppression tactics have not been proven effective, many continue to implement and support these strategies because of the assumed deterrent effect and the lack of evidence-based intervention programs [2,4]. Wood et al. [5], in a review of various suppression tactics implemented against gangs, found a slight reduction in gang delinquent behavior or no effect on gang delinquent acts. Further, some of these tactics have resulted in the misidentification of community members, and promote the stereotyping of citizens as it relates to gang affiliation [5]. Unfortunately, most gang intervention strategies focus on sociological constructs and do not consider the role of psychological issues in exacerbating gang delinquency, which is also reflected in the empirical literature [2,6,7].

Most empirical investigations examining the relationship between gang involvement and criminal behavior have concentrated on sociological variables to comprehend and explain the relationship, and still fail to comprehend it [8–12]; however, recent investigations have begun to concentrate on psychopathic related factors. Recently, DeLisi et al. [9] found that disruptive behavior disorders (DBDs) rendered the relationship between gang involvement and criminal behavior insignificant, suggesting the gang delinquency relationship is

spurious. In contrast, Wolff et al. [11] found that DBDs were associated with criminal behavior, and DBDs did not make the gang delinquency relationship spurious. Previous research has observed that psychopathic traits were associated with long term offending [13–17]. Research into the relationship between gang delinquency and psychopathic-adjacent psychiatric diagnosis has yielded mixed results and has not been investigated longitudinally. The inconsistent findings and lack of empirical investigation into the relationship between gang delinquency and psychopathic traits may limit the effectiveness of intervention and prevention strategies [8]. For instance, previous work has found gang membership reduced the effectiveness of multi-systemic therapy (MST) for delinquency [18]; however, gang membership is fleeting, loosely structured, and most youth members would be considered peripheral or fringe [2]. Further, Dmitrieva et al. [19] found psychopathic traits were associated with gang embeddedness and status, which could suggest that youth deeply embedded in gangs with psychopathic traits may be more resistant to intervention approaches. However, scant investigation has been conducted on psychopathic traits' role in gang delinquency, which could potentially improve our comprehension of gang delinquency and support the improvement of intervention/prevention strategies on the topic.

### *1.1. Psychopathy and the Relationship to Offending*

Psychopathy is a multifaceted construct comprised of interpersonal, lifestyle, affective, and antisocial characteristics [20,21]. Psychopathy, as a multi-dimensional construct with interconnected features beyond the interpersonal/affective dimensions in youth, has received consistent support in the extant literature [20,22]. The interpersonal/affective dimension of psychopathy is represented by a lack of empathy, low guilt, superficial charm, deceit, and disregard for performance; while the lifestyle/antisocial facet is represented by boredom, sensation seeking, impulsivity, criminal versatility, and serious rule violations [20,23]. Relatedly, most studies have observed that youth who scored extremely high on the interpersonal/affective dimensions are more likely to perpetrate crimes well into adulthood and are likely to mature into gang leaders [19,20]. Conversely, adolescents that score higher in the socially/deviant dimensions were more likely to be involved in short/long-term substance abuse during gang membership, and, in adult samples, were more likely to recidivate [20,24]. To identify youth that may develop into adult psychopaths and develop treatment programs, the classification of psychopathy was extended to children; and the core traits in youth are represented by grandiose–manipulative (GM) (i.e., interpersonal), callous–unemotional (CU traits) (i.e., affective), impulsive–irresponsible (i.e., lifestyle) and conduct disorder (i.e., antisocial behavior) [20,21]. Although extending the classification of psychopathy to youth is a popular approach, critics have identified that the stigmatization associated with psychopathy can result in more negative outcomes in the juvenile justice system [25]. Further, the moderate stability of personality features from childhood into adulthood, coupled with the potential for the classification of normative behavior as psychopathic during this period [21], suggest caution for the downward extension of the construct. Although, scarce research into the treatment of psychopathic traits in youth has shown it to be effective at reducing the internalized and externalized features associated with the construct [26]. The features involved in psychopathy have resulted in several modern conceptualizations that associate the construct with criminal behavior [21].

The extant literature has consistently observed a relationship between psychopathic traits and offending [20,27]. Older studies have found psychopathic traits were associated with more incidents of offending longitudinally [28–30]. Specifically, individuals with elevated psychopathic traits are more likely to recidivate, be versatile, and be prolific in their criminal behavior [20,28,31–34]. In a meta-analysis, Asscher et al. [31] found that youth higher in psychopathic traits were involved in more delinquent behavior and were more likely to recidivate. Although a significant amount of evidence has observed a positive relationship between both constructs, fewer empirical investigations have examined the relationship longitudinally while controlling for common risk factors associated with offending [20].

A recent empirical investigation has begun addressing the lack of longitudinal studies on the relationship between early childhood and adolescent samples [20]. Virtanen et al. [35] found that childhood psychopathic personality was associated with antisocial behavior later in life, while controlling for the influence of ADHD symptoms. Bergstrom and Farrington [36] measured psychopathy as a unitary construct and found it was associated with offending versatility, violent offending, and convictions throughout the life course. Lussier et al. [37] found that three core features of psychopathy (i.e., grandiose–manipulative, impulsive–irresponsible, and antisocial behavior) predicted annual convictions in a sample of adolescents. Colins et al. [38] found that elevated psychopathic traits were not associated with longitudinal offending in a sample of girls. Lee and Kim [39], using the Pathways sample, found that the relationship between psychopathic traits and offending and substance use, longitudinally, was mediated by peer delinquency. Further, Ray [40] found that the CU component increased the likelihood of being in the declining gun-carrying group, while grandiose–manipulative increased the likelihood of being in the late starter gun-carrying group. Finally, Dyck et al. [41], in a sample of adolescents, observed that all three components were significantly associated with a decrease in offending longitudinally. Most empirical investigations have found psychopathic traits are associated with offending in a theoretically expected direction. However, some studies did not observe a significant relationship between the constructs, and others found that some components (e.g., impulsivity, CU traits) were associated with antisocial behavior and offending in unexpected directions. Further, few studies have investigated the relationship longitudinally for group offending and seldom have controlled for other risk factors associated with longitudinal criminal behavior [20,42].

### *1.2. Gang Involvement and Offending*

Consistently, research has found that gang involvement is associated with an increase in criminal offending across sex, and various explanations have been provided to make sense of the relationship [43–47]. One explanation for the relationship is that gang-involved youth become involved in crime due to delinquent peer saturation and are taught and reinforced to perpetrate crime [7,48,49]. Macro-level explanations postulate that socially and economically deprived neighborhoods allow for the proliferation of criminal behavior because of the lack of formal and informal social controls [12,50–52]. Others argue that the unstructured routine activities of gang involvement, group dynamics, culture, norms, salient events, and multi-marginality promote the push and pull factors that support criminal behavior amongst gang members [53–57]. Although most explanations concentrate on sociological and group constructs, recent work has begun taking a sociopsychological approach to comprehending the gang delinquency relationship.

Recently, research has investigated the relationship by examining the role of adverse childhood experiences (ACEs), mental health symptoms, and trauma on the gang delinquency relationship [58]. Chui et al. [6] observed that the moderate ACE's group of gang members perpetrated the most criminal behavior longitudinally. Nydegger et al. [59] found that polytraumatization was associated with more mental health problems, delinquency, and drug distribution in a sample of gang-involved youth. Ross and Arsenault [60] found that trauma was associated with more violence and other delinquent acts. Further, older studies have observed that trauma was associated with the development of mental health symptoms (i.e., PTSD, post-traumatic stress, suicidal ideation) and the prescription of psychotropic medications in gang members, which facilitated more violent behavior [61–64]. A burgeoning amount of empirical investigation has found that sociopsychological constructs (e.g., trauma, ACE's, MHS) are associated with more gang delinquency. This is compounded by the significant overlap between the variables associated with psychopathic traits, antisocial behavior, and gang involvement [65–68]. However, scant empirical investigation has examined psychopathic traits' role in the gang delinquency relationship.

### *1.3. The Current Study*

The current study examines psychopathic traits' influence on the gang offending relationship longitudinally. Related studies examining psychopathy's relationship with gang membership are mixed, and have not examined psychopathy's impact on delinquency amongst gang members [69]. The two studies examining psychopathic traits and gang delinquency have observed a relationship between the constructs; however, the role gang status played has yielded inconsistent results [9,11]. The studies have not examined the relationship in a sample of gang members or youth with a history of gang membership; have not examined the relationship longer than a year; rely on the presence of a related psychiatric diagnosis; and have not controlled for common risk factors associated with long-term offending. Relatedly, adjacent studies have not accounted for other risk factors (e.g., group offending, victimization experiences, delinquent peer influence, moral disengagement) related to offending, and most studies are cross-sectional and retrospective. The current study attempts to address these gaps and contribute to understanding gang delinquency by investigating psychopathic traits as a multifaceted construct of violent and property offending, longitudinally, in a sample of gang-involved youth and youth with a history of gang involvement. Thus, the current study explores the following research questions:

(1) Do CU traits significantly impact violent and property offending frequency over time in a sample of gang-involved youth or youth with a history of gang involvement?
(2) Do impulsive–irresponsible traits significantly impact violent and property offending frequency over time in a sample of gang-involved youth or youth with a history of gang involvement?
(3) Do grandiose–manipulative traits significantly impact violent and property offending frequency over time in a sample of gang-involved youth or youth with a history of gang involvement?

## 2. Method

### *2.1. Data*

The data utilized to investigate the research question is the Pathways to Desistance dataset (a multi-site, longitudinal study of serious adolescent offenders while they mature into adulthood) [70]. Ten agencies sponsored data collection to provide policy-makers and justice officials with empirical information on various issues within juvenile justice. The Pathways to Desistance study was initially organized to investigate social and psychological variables related to desistance amongst serious delinquents. The dataset comprises 700 juvenile offenders from Philadelphia, Pennsylvania, and 654 from Phoenix, Arizona. Adolescents were identified on their adjudication charge, age, and scale of the initial population [71]. Following the signing of the appropriate consents, the preliminary meetings occurred in either the youth's home, an agreed upon location, or the juvenile detention facility. See Mulvey [72] and Schubert et al. [71] for an in-depth discussion about the supervising researchers' methodology and data collection procedures.

For the present study, youth that responded yes to the following two items "Have you ever been a member of a gang?" and "Gang membership six months prior" at the baseline are included in the analysis ($n$ = 315), which is 23% of the total Pathways sample. Participants that responded yes to either of the questions at the baseline were defined as a gang member or youth with a history of gang membership and were extracted from the larger sample. The average age of the gang-involved youth in the sample was 16.02 (1.10), and most of the youth were males (91.1%). Most of the sample was Hispanic (58.4%), followed by Black (22.2%), White (13.7%), and Other (5.7%); along with a mean socioeconomic score of 54.29 (12.24) (see Table 1). Attrition for the entire sample was 13.3% ($n$ = 42).

**Table 1.** Sample Description.

| | % | M | SD | Min | Max |
|---|---|---|---|---|---|
| White | 13.70 | | | | |
| Black | 22.20 | | | | |
| Hispanic | 58.40 | | | | |
| Other | 5.70 | | | | |
| Male | 91.10 | | | | |
| Female | 8.90 | | | | |
| Age | | 16.02 | 1.104 | 14 | 18 |
| SES Status | | 54.29 | 12.24 | 26 | 77 |

Note. All decimals rounded to the nearest hundredth. SES represents for socio-economic status.

### *2.2. Measures*

#### 2.2.1. Dependent Variables

*Violent Offending Frequency.* Violent offending frequency is represented by the sum of aggressive offenses reported across eleven items adapted from the Self-Reported Offending Inventory [34,39,73]. The items inquired about youth aggressive offending in the past six months include: (1) "destroyed/damaged property", (2) "set fire", (3) "forced someone to have sex", (4) "murder", (5) "shot someone", (6) "shot at someone", (7) "took by force with a weapon", (8) took by force without a weapon", (9) beat up someone resulting in serious injury", (10) "participated in a fight", and (11) "beat up someone as part of a gang".

*Property Offending Frequency.* Income offending frequency is represented by the sum of income offenses reported across ten items adapted from the Self-Reported Offending Inventory [34,39,73]. The items inquired about the youth income offending in the past six months and the items include: (1) "broke in to steal", (2) "shoplifted", (3) "bought/received/sold stolen prop", (4) "used check/credit card illegally", (5) "stole care or motorcycle", (6) "sold marijuana", (7) "sold other drugs", (8) "been paid by someone for sex", (9) "took by force with a weapon", (10) "took by force without a weapon".

#### 2.2.2. Predictor Variables

*Psychopathic traits.* Psychopathic traits are measured by the Youth Psychopathic Traits Inventory (YPI) [74], which is a self-report instrument designed to assess psychopathic traits in youth [70]. The measure taps three dimensions of psychopathy: the grandiose–manipulative dimension, the callous–unemotional dimension, and the impulsive–irresponsible dimension. The scale contains 50 items to which participants respond on a 4-point Likert scale ranging from "Does not apply at all" to "Applies very well". Several items in the scale are reverse coded so that higher scores indicate more psychopathic characteristics [70,74,75]. The self-report nature of the YPI does not require trained interviewers to administer the instrument or official criminal files for review, and reduces socially desirable responses due to the neutral or appealing framing of items designed to measure psychopathic traits [74,75]. Further, previous work has found the YPI comparable or superior to other psychopathy assessments (i.e., PCL-YV) [75–77]. Since psychopathy is a multi-dimensional construct, the grandiose–manipulative dimension, callous–unemotional dimension, and impulsive–irresponsible dimension [22] are analyzed separately in the models.

#### 2.2.3. Control Variables

*Exposure to Violence.* Selner-O'Hagan et al.'s [78] Exposure to Violence Inventory (ETV) was used in the sample to investigate the number of violent incidents respondents experienced [70]. The question from the ETV investigates violent incidents youth have both experienced and observed. Some items ask about the youth's exposure to incidents of death (e.g., has anyone close to you tried to kill him/her self, has anyone close to you died, have you ever found a dead body, have you ever tried to kill yourself) [70]. The scale probes about 17 different situations; items to which the participants respond with yes have a series of follow-up questions regarding the incident. The majority of the items, except for rape,

were restricted to the number of times the event occurred. Participants that responded yes to being a victim of rape or sexual assault are asked four additional questions (i.e., has it happened more than once?" "relationship of the perpetrator?" "location of the incident?" and "location if other?") [70]. For the study, the violent victimization subscale and the violence witnessed subscale of the exposure to violence scales are used to represent violent victimization and violence witnessed.

*Future Orientation.* Cauffman and Woolard [79] used items from the Life Orientation Task [80], Time Perspective Scale [81], and the Future Consequences Scale [82] to develop the Future Outlook Inventory (FOI). The FOI uses Likert scale items (e.g., "I will keep working at difficult boring task if I know that will help me get ahead later") ranging from 1 to 4 (1 = Never True to 4 = Always True) and higher scores signify more future consideration and planning by the respondent.

*Perceptions of psychic rewards of crime.* To operationalize the concept, the personal rewards subscale of the Indices of Personal and Social Costs and Rewards was adapted for the sample [70], which is consistent with previous studies [83–85]. The personal rewards subscale includes 7 items with questions like (i.e., "How much of a thrill or rush is it to break into a store or home"), inquiring about the amount of excitement or fun derived from perpetrating delinquent scenarios.

*Moral Disengagement.* Bandura et al.'s [86] Mechanisms of Moral Disengagement tool (MMD) was used to measure a respondent's inclination to invoke moral disengagement strategies. The overall score of this instrument has good internal consistency and internal validity at the baseline and following timepoints (alpha = 0.88) [70]. The MMD scale has 32, three-point Likert scaled items (e.g., "Disagree" to "Agree") with higher scores suggesting more moral detachment. The instrument contains eight dimensions: moral justification (e.g., "It is alright to beat someone who bad mouths your family."), euphemistic language (e.g., "Slapping and shoving someone is just a way of joking."), advantageous comparison (e.g., "It is okay to insult a classmate because beating him/her is worse."), displacement of responsibility (e.g., "Kids cannot be blamed for using bad words when all their friends do it"), diffusion of responsibility (e.g., "A kid in a gang should not be blamed for the trouble the gang causes"), distorting consequences (e.g., "Teasing someone does not really hurt them"), attribution of blame (e.g., "If kids fight and misbehave in school it is their teacher's fault"), and dehumanization (e.g., "Some people deserve to be treated like animals") [70]. Following previous scholars' advice concerning the MMD scale application, the overall score will be used.

*Motivation to Succeed.* The motivation to succeed items are from Eccles et al.'s [87] scale, which contains six questions inquiring about the participants' evaluation of available opportunities in their neighborhood regarding schooling and work (e.g., "In my neighborhood it is easy for a person to get a good paying job", "I will never have as much opportunity to succeed as kids from other neighborhoods"); and two items on adolescent perceptions regarding academic success (e.g., "How far do you think you will go in school," "How far would you like to go in school") [70]. This questionnaire reflects Skinner's theoretical perspective, which suggests that achievement motivation is influenced by an interaction of mean-end beliefs (i.e., that specific causes can produce particular outcomes), agency beliefs (i.e., access to the means to accomplish tasks), and control beliefs (i.e., one's beliefs that they can accomplish goals). Thus, assessing the role of opportunity in future success is essential. A higher score indicates more optimism regarding future success.

*Neighborhood Conditions.* The items from Sampson and Raudenbush's [88] self-report measure were adapted to tap into physical and social disorder in a neighborhood [70]. The scale contains 21 items (e.g., "adults fighting or arguing loudly", "people using needles or syringes to take drugs"), to which participants respond on a four-point Likert scale ranging from "Never" to "Often", with higher scores indicating a greater degree of disorder within the community [70].

*Association with Deviant Peers.* The association with deviant peers is represented by the Peer Delinquency Antisocial behavior subscale from the Rochester Youth Study [23].

The subscale consists of 12 items (e.g., "How many of your friends have sold drugs?" "How many of your friends have suggested you sold drugs?") on a five-point Likert-scale from "None of them to "All of them" with higher scores suggesting more association with delinquent peers [70].

*Peer Delinquency Influence.* Peer delinquency influence is represented by the Peer Antisocial Influence subscale from the Rochester Youth Study [89]. The subscale consists of seven items (e.g., "During the recall period how many of your friends have suggested that you should sell drugs?") on a five-point Likert-scale from "None of them to "All of them" with higher scores suggesting more peer delinquency influence [70].

*Resistant to Peer Influence.* Resistance to peer influence is represented by the Resistance to Peer Influence inventory, which was developed to assess the degree adolescents act autonomously in interactions with their peer group [70]. Participants were presented with two conflicting scenarios (e.g., "Some people go along with their friends just to keep their friends happy" and "Other people refuse to go along with what their friends want to do, even though they know it will make their friends unhappy") and are asked to choose the scenario which most closely reflects their behavior [70]. Finally, the participant is asked to rate the degree to which the statement is accurate (i.e., "sort of true" or "really true"). Ten such sequences are presented to the participant, each exploring a different dimension of potential influence: going along with friends, fitting in with friends, changing their mind, knowingly doing something wrong, hiding one's true opinion, breaking the law, changing the way you usually act, taking risks, saying things do not really believe, and going against the crowd [70].

The overall resistance score was created by assigning each dimension a score from one to four, reflecting the particular combination of answers provided by the subject [70]. For example, choosing "some people go along with their friends just to keep their friends happy" followed by "really true of me" results in a score of one, while choosing "other people refuse to go along with what their friends want to do" followed by "really true of me" results in a score of four, and this is repeated for all ten dimensions [70].

### *2.3. Analytic Strategy*

The research questions proposed in the study were analyzed with latent variable models (i.e., mixed effect models) due to the equivalency to latent growth models and the count nature of the dependent variables [90], and were analyzed in R v.4.2.2. The results of the Kolomogorov–Smirnov test for violent offending frequency ($KS$ = 9.168, $M/SD$ = 39.03 (157.52), $p < 0.001$) and property offending frequency ($KS$ = 14.495, $M/SD$ = 16.52 (32.12), $p < 0.001$), suggest each of the dependent variables are overdispersed, which suggests a negative binomial mixed effects model should be conducted for the dependent variables. The analysis was conducted for waves 3, 5, 7, 8, 9, 10, and 11 of the Pathway's dataset, because each wave was collected annually [70,72]. To reduce issues related to instrumentation, the baseline was not included in the analysis because psychopathy is only measured using the Psychopathy Checklist: Youth Version (PCL-YV). For the neighborhood conditions measure, approximately (27.3–39%) was missing across the various time points within the sample, which resulted in a total of 33% missing for the variable in the total sample. Amongst the remaining independent, control, and dependent variables, approximately 8–10% of the cases were missing at various time points (see Table 2). Waves 1 and 4 were not included, to make the findings more digestible and easier to understand for practitioners and academics interested in understanding and improving intervention approaches for individuals with a history of gang membership and gang offending longitudinally. Further, waves 1 and 4 also contained more missing data points for variables because, instead of annual data, data were only collected at 6-month intervals twice, which also factored into the decision not to include the waves. Missing data were handled with the Expectation Maximization (EM) procedure using the Amelia package in R [91]. Previous work has indicated that the EM procedure is superior to traditional imputation in precision and objectivity, and is appropriate for overdispersed count data [92–94]. The MAR assumptions rely on the

assumption that participants with higher scores on items would have scored significantly higher or lower on relevant items compared to participants without missing scores (i.e., unsystematic missingness), which is impossible to test because the necessary information is missing [95,96]. Further, Gomer and Yuan [97] assert that a mixture of missing data mechanisms is more likely at play in a dataset, even with a pattern of missingness. Secondly, previous work using this data has implemented the EM algorithm for missing data, which inspired the methodological approach of the current study [94,98]. Finally, an Adaptive Gauss–Hermite Quadrature (AGH) model was implemented because recent evidence has shown that using multiple imputations and AGH is robust against MNAR and can produce accurate data estimates [95]. Previous work using the sample found moderate agreement between self-report and official offending, which remained stable longitudinally [99].

*Model Building Process.* The outcome variable for the models were property and violent offending overtime. The unconditional means model simply describes the variation in initial property and violent offending scores. Next in the unconditional growth model includes time (i.e., the different time points in the data) as the only predictor to examine within-individual effects (e.g., Level 1). Next, a model was conducted with time, independent variables, and control variables. The final conditional model included time, independent variables (the grandiose–manipulative dimension, the callous–unemotional dimension, and the impulsive–irresponsible dimension), control variables, and interaction effects to evaluate within- and between-individual effects. Further, the interaction effects were analyzed to confirm if the pattern of change differed over time for the time variant variables. Time was measured ordinally, with the initial assessment deemed 0, and each subsequent year was considered a new timepoint. Considering each variable included in the model was time-varying, an AGH mixed effect model was conducted to deal with issues of autocorrelation. Recently, Nestler [100], in a simulation study, observed that the AGH approach was robust against the influence of autocorrelation in the data and can accurately provide estimates for the least number of persons and time points for a more detailed review [100]. Goodness of fit and model selection was determined by the Akaike information criteria (AIC), and the Bayesian information criterion (BIC) statistic, and −2LnLike, which were ideal for nested models. Finally, an Analysis of Variance (ANOVA) was conducted to determine the most appropriate model, which is reported in Tables 3 and 4.

**Table 2.** Independent and Dependent Variables Descriptives.

| | Wave 1 | | | | | Wave 2 | | | | | Wave 3 | | | | | Wave 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **N/MI** | **Mean** | **S.D.** | **Min** | **Max** | **N/MI** | **Mean** | **S.D.** | **Min** | **Max** | **N/MI** | **Mean** | **S.D.** | **Min** | **Max** | **N/MI** | **Mean** | **S.D.** | **Min** | **Max** |
| Grandiose/Manipulative | 292/23 | 40.24 | 11.23 | 19 | 80 | 290/25 | 40.71 | 10.92 | 20 | 79 | 287/28 | 38.28 | 10.84 | 19 | 77 | 292/23 | 36.72 | 10.59 | 20 | 80 |
| Callous/Unemotional | 292/23 | 34.06 | 6.62 | 18 | 55 | 290/25 | 34.39 | 6.57 | 15 | 58 | 287/28 | 33.40 | 6.52 | 19 | 57 | 292/23 | 32.49 | 7.01 | 16 | 55 |
| Impulsive/Irresponsible | 292/23 | 36.62 | 8.68 | 15 | 60 | 290/25 | 36.99 | 7.75 | 16 | 57 | 287/28 | 34.82 | 8.41 | 15 | 55 | 292/23 | 34.58 | 8.69 | 15 | 56 |
| Violence Witnessed | 292/23 | 1.29 | 1.53 | 0 | 6 | 290/25 | 0.92 | 1.38 | 0 | 7 | 288/27 | 0.84 | 1.35 | 0 | 7 | 294/21 | 1.25 | 1.73 | 0 | 7 |
| Violent Victimization | 292/23 | 0.31 | 0.71 | 0 | 4 | 290/25 | 0.19 | 0.57 | 0 | 3 | 288/27 | 0.13 | 0.45 | 0 | 3 | 294/21 | 0.38 | 0.82 | 0 | 4 |
| Future Orientation | 292/23 | 2.43 | 0.58 | 1 | 4 | 290/25 | 2.54 | 0.51 | 1.38 | 4 | 288/27 | 2.59 | 0.59 | 1 | 4 | 292/23 | 2.57 | 0.55 | 1.38 | 4 |
| Personal Rewards of Crime | 292/23 | 3.06 | 2.51 | 0 | 10 | 290/25 | 2.70 | 2.43 | 0 | 10 | 288/27 | 2.20 | 2.31 | 0 | 10 | 294/21 | 1.99 | 2.29 | 0 | 10 |
| Moral Disengagement | 292/23 | 1.65 | 0.38 | 1 | 2.91 | 290/25 | 1.60 | 0.38 | 1 | 3 | 288/27 | 1.54 | 0.39 | 1 | 2.69 | 294/21 | 1.53 | 0.40 | 1.03 | 3 |
| Motivation to Succeed | 290/25 | 3.24 | 0.65 | 1.50 | 5 | 289/26 | 3.25 | 0.66 | 1 | 5 | 286/29 | 3.30 | 0.63 | 1 | 5 | 294/21 | 3.30 | 0.59 | 1 | 4.83 |
| Neighborhood Conditions | 192/123 | 2.31 | 0.78 | 1 | 4 | 206/109 | 2.37 | 0.79 | 1 | 4 | 201/114 | 2.41 | 0.76 | 1 | 4 | 229/86 | 2.34 | 0.84 | 1 | 4 |
| Delinquent Peers | 286/29 | 2.14 | 0.95 | 1 | 5 | 289/26 | 1.89 | 0.85 | 1 | 5 | 274/41 | 1.69 | 0.79 | 1 | 4.54 | 290/25 | 1.89 | 0.91 | 1 | 5 |
| Delinquent Peer Influence | 290/25 | 1.73 | 0.88 | 1 | 5 | 289/26 | 1.65 | 0.80 | 1 | 5 | 279/36 | 1.46 | 0.67 | 1 | 3.86 | 290/25 | 1.57 | 0.82 | 1 | 5 |
| Resistance to Delinquent Peer Influence | 290/25 | 2.97 | 0.63 | 1.10 | 4 | 290/25 | 3.07 | 0.60 | 1.40 | 4 | 287/28 | 3.21 | 0.55 | 1.60 | 4 | 293/22 | 3.26 | 0.55 | 1.50 | 4 |
| Violent Offending | 292/23 | 7.04 | 23.09 | 0 | 205 | 290/25 | 5.07 | 22.35 | 0 | 246 | 288/27 | 3.05 | 15.40 | 0 | 215 | 291/24 | 5.54 | 23.07 | 0 | 270 |
| Property Offending | 292/23 | 35.68 | 167.02 | 0 | 1607 | 290/25 | 45.66 | 167.22 | 0 | 1049 | 288/27 | 29.09 | 146.87 | 0 | 1990 | 291/24 | 40.82 | 143.79 | 0 | 999 |
| | **Wave 5** | | | | | **Wave 6** | | | | | **Wave 7** | | | | | | | | | |
| Grandiose/Manipulative | 290/25 | 37.32 | 11.37 | 20 | 77 | 285/30 | 35.45 | 10.75 | 20 | 67 | 273/42 | 36.66 | 10.35 | 20 | 76 | | | | | |
| Callous/Unemotional | 290/25 | 32.51 | 7.30 | 15 | 57 | 285/30 | 32.04 | 7.47 | 15 | 57 | 273/42 | 32.66 | 6.89 | 15 | 53 | | | | | |
| Impulsive/Irresponsible | 290/25 | 34.55 | 9.04 | 15 | 60 | 285/30 | 34.47 | 8.88 | 15 | 60 | 273/42 | 34.05 | 8.39 | 15 | 60 | | | | | |
| Violence Witnessed | 290/25 | 0.99 | 1.41 | 0 | 6 | 286/29 | 1.01 | 1.46 | 0 | 6 | 273/42 | 1.11 | 1.59 | 0 | 6 | | | | | |
| Violent Victimization | 290/25 | 0.28 | 0.73 | 0 | 4 | 286/29 | 0.24 | 0.67 | 0 | 4 | 273/42 | 0.26 | 0.69 | 0 | 5 | | | | | |
| Future Orientation | 290/25 | 2.59 | 0.55 | 1 | 2.63 | 285/30 | 2.65 | 0.56 | 1 | 4 | 273/42 | 2.61 | 0.58 | 1 | 4 | | | | | |
| Personal Rewards of Crime | 291/24 | 1.87 | 2.34 | 0 | 10 | 286/29 | 1.75 | 2.26 | 0 | 10 | 274/41 | 1.85 | 2.19 | 0 | 10 | | | | | |
| Moral Disengagement | 290/25 | 1.49 | 0.37 | 1 | 2.63 | 285/30 | 1.46 | 0.39 | 1 | 2.97 | 273/42 | 1.45 | 0.39 | 1 | 3 | | | | | |
| Motivation to Succeed | 292/23 | 3.35 | 0.60 | 1 | 5 | 286/29 | 3.42 | 0.64 | 1 | 5 | 274/41 | 3.30 | 0.54 | 2 | 5 | | | | | |
| Neighborhood Conditions | 229/86 | 2.28 | 0.81 | 1 | 4 | 218/97 | 2.13 | 0.83 | 1 | 3.95 | 197/118 | 2.22 | 0.75 | 1 | 4 | | | | | |
| Delinquent Peers | 288/27 | 1.77 | 0.81 | 1 | 5 | 277/38 | 1.81 | 0.88 | 1 | 5 | 267/48 | 1.70 | 0.81 | 1 | 5 | | | | | |
| Delinquent Peer Influence | 288/27 | 1.54 | 0.74 | 1 | 5 | 277/38 | 1.57 | 0.82 | 1 | 5 | 267/48 | 1.43 | 0.65 | 1 | 5 | | | | | |
| Resistance to Delinquent Peer Influence | 290/25 | 3.33 | 0.56 | 1 | 4 | 285/30 | 3.34 | 0.55 | 1.2 | 4 | 273/42 | 3.36 | 0.53 | 1.60 | 4 | | | | | |
| Violent Offending | 290/25 | 7.85 | 72.57 | 0 | 1190 | 285/30 | 2.68 | 8.56 | 0 | 103 | 273/42 | 6.49 | 49.49 | 0 | 736 | | | | | |
| Property Offending | 290/25 | 44.46 | 169.86 | 0 | 1990 | 285/30 | 37.98 | 161.79 | 0 | 2221 | 273/42 | 38.30 | 144.62 | 0 | 1260 | | | | | |

Note. All decimals rounded to nearest hundredth. MI = missing.

**Table 3.** Mixed effects models for predictors of violent offending longitudinally.

| Predictors | IRR | CI | *p* | IRR | CI | *p* | IRR | CI | *p* |
|---|---|---|---|---|---|---|---|---|---|
| (Intercept) | 1.43 | 1.18–1.74 | **<0.001** | 2.17 | 1.72–2.73 | **<0.001** | 0.02 | 0.01–0.07 | **<0.001** |
| Time | | | | 0.81 | 0.76–0.86 | **<0.001** | 1.50 | 1.09–2.16 | **0.014** |
| Grandiose/Manipulative | | | | | | | 1.00 | 0.99–1.02 | 0.752 |
| Callous/Unemotional | | | | | | | 1.02 | 1.00–1.05 | 0.072 |
| Impulsive/Irresponsible | | | | | | | 1.03 | 1.00–1.05 | **0.024** |
| Violence Witnessed | | | | | | | 1.45 | 1.32–1.59 | **<0.001** |
| Violent Victimization | | | | | | | 1.30 | 1.07–1.57 | **0.008** |
| Future Orientation | | | | | | | 1.11 | 0.87–1.40 | 0.406 |
| Personal Rewards of Crime | | | | | | | 1.08 | 1.03–1.14 | **0.003** |
| Moral Disengagement | | | | | | | 1.13 | 0.80–1.59 | 0.495 |
| Motivation to Succeed | | | | | | | 1.02 | 0.89–1.17 | 0.789 |
| Neighborhood Conditions | | | | | | | 1.02 | 0.88–1.18 | 0.788 |
| Delinquent Peers | | | | | | | 1.45 | 1.17–1.80 | **0.001** |
| Delinquent Peer Influence | | | | | | | 1.02 | 0.81–1.27 | 0.873 |
| Resistance to Delinquent Peer Influence | | | | | | | 1.17 | 0.94–1.45 | 0.156 |
| Time × Grandiose/Manipulative | | | | | | | 1.00 | 0.99–1.00 | 0.754 |
| Time × Callous/Unemotional | | | | | | | 0.99 | 0.99–1.00 | 0.050 |
| Time × Impulsive/Irresponsible | | | | | | | 1.00 | 0.99–1.00 | 0.258 |
| Time × Violence Witnessed | | | | | | | 0.97 | 0.94–1.00 | **0.023** |
| Time × Violent Victimization | | | | | | | 1.05 | 1.00–1.11 | 0.058 |
| Time × Future Orientation | | | | | | | 0.97 | 0.91–1.04 | 0.382 |
| Time × Personal Rewards of Crime | | | | | | | 1.00 | 0.98–1.01 | 0.812 |
| Time × Moral Disengagement | | | | | | | 1.07 | 0.97–1.17 | 0.199 |
| Time × Motivation to Succeed | | | | | | | 1.01 | 0.95–1.08 | 0.790 |
| Time × Neighborhood Conditions | | | | | | | 1.02 | 0.98–1.06 | 0.345 |
| Time × Delinquent Peers | | | | | | | 1.05 | 0.98–1.12 | 0.183 |
| Time × Delinquent Peer Influence | | | | | | | 1.00 | 0.94–1.08 | 0.938 |
| Time × Resistant Peer Delinquent Influence | | | | | | | 0.92 | 0.86–0.99 | **0.018** |
| **Random Effects** | | | | | | | | | |
| Within person ($\sigma^2$) | 1.46 | | | 1.39 | | | 1.15 | | |
| Initial Status ($\tau_{00}$) | 2.38 | | | 1.87 | | | 0.10 | | |
| | | | | | | | 0.66 | | |
| Rate of Change ($\tau_{11}$) | | | | 0.06 | | | 0.04 | | |
| Covariance ($\rho_{01}$) | | | | 0.03 | | | −0.09 | | |
| AIC | 8632.6 | | | 8558.2 | | | 7914.7 | | |
| BIC | 8649.7 | | | 8592.4 | | | 8097.0 | | |
| −2 loglikelihood | −4313.3 | | | −4273.1 | | | −3925.3 | | |
| N | 315 | | | 315 | | | 315 | | |
| | | | | | | | 799 | | |
| Marginal $R^2$/Conditional $R^2$ | 0.000/0.620 | | | 0.041/0.677 | | | 0.381/0.699 | | |

a. Predictors: Grandiose/Manipulative, Callous/Unemotional, Impulsive/Irresponsible, Violence Witnessed, Violent Victimization, Future Orientation, Deviant Beliefs, Moral Disengagement, Motivation to Succeed, Neighborhood Conditions, Delinquent Peers, Delinquent Peer Influence, Resistance to Delinquent Peer Influence. b. Dependent Variable: Violent Offending. c. bold text are significant findings.

**Table 4.** Mixed effects models for predictors of income offending longitudinally.

| Predictors | IRR | CI | *p* | IRR | CI | *p* | IRR | CI | *p* |
|---|---|---|---|---|---|---|---|---|---|
| (Intercept) | 3.07 | 2.16–4.37 | **<0.001** | 39.12 | 3.53–433.66 | **0.003** | 0.07 | 0.00–1.34 | 0.078 |
| Time | | | | 1.00 | 0.51–1.96 | 0.996 | 0.63 | 0.29–1.41 | 0.263 |
| Grandiose/Manipulative | | | | | | | 1.02 | 0.99–1.06 | 0.240 |
| Callous/Unemotional | | | | | | | 0.94 | 0.88–0.99 | **0.025** |
| Impulsive/Irresponsible | | | | | | | 1.08 | 1.02–1.13 | **0.004** |
| Violence Witnessed | | | | | | | 1.65 | 1.32–2.06 | **<0.001** |
| Violent Victimization | | | | | | | 2.12 | 1.32–3.41 | **0.002** |
| Future Orientation | | | | | | | 0.89 | 0.51–1.57 | 0.692 |
| Personal Rewards of Crime | | | | | | | 1.14 | 1.01–1.29 | **0.040** |
| Moral Disengagement | | | | | | | 2.43 | 1.14–5.20 | **0.022** |
| Motivation to Succeed | | | | | | | 0.67 | 0.43–1.06 | 0.086 |
| Neighborhood Conditions | | | | | | | 0.73 | 0.53–1.03 | 0.070 |
| Delinquent Peers | | | | | | | 1.45 | 0.86–2.43 | 0.165 |
| Delinquent Peer Influence | | | | | | | 1.46 | 0.85–2.50 | 0.170 |
| Resistance to Delinquent Peer Influence | | | | | | | 1.20 | 0.74–1.94 | 0.470 |
| Time × Grandiose/Manipulative | | | | | | | 1.00 | 0.99–1.01 | 0.885 |
| Time × Callous/Unemotional | | | | | | | 1.01 | 0.99–1.02 | 0.411 |
| Time × Impulsive/Irresponsible | | | | | | | 0.99 | 0.98–1.00 | 0.227 |
| Time × Violence Witnessed | | | | | | | 0.98 | 0.92–1.04 | 0.467 |
| Time × Violent Victimization | | | | | | | 0.95 | 0.83–1.08 | 0.414 |
| Time × Future Orientation | | | | | | | 1.01 | 0.86–1.18 | 0.916 |
| Time × Personal Rewards of Crime | | | | | | | 0.98 | 0.94–1.01 | 0.216 |
| Time × Moral Disengagement | | | | | | | 0.95 | 0.78–1.17 | 0.650 |
| Time × Motivation to Succeed | | | | | | | 1.03 | 0.91–1.16 | 0.668 |
| Time × Neighborhood Conditions | | | | | | | 1.09 | 0.99–1.19 | 0.071 |
| Time × Delinquent Peers | | | | | | | 1.17 | 1.00–1.36 | **0.043** |
| Time × Delinquent Peer Influence | | | | | | | 1.05 | 0.90–1.23 | 0.537 |
| Time × Resistant Peer Delinquent Influence | | | | | | | 1.00 | 0.87–1.14 | 0.978 |
| **Random Effects** | | | | | | | | | |
| Within person ($\sigma^2$) | 0.28 | | | 6.93 | | | 1.97 | | |
| Initial Status ($\tau_{00}$) | 10.07 | | | 0.00 | | | 0.04 | | |
| | | | | | | | 4.24 | | |
| Rate of Change ($\tau_{11}$) | | | | 0.00 | | | 0.00 | | |
| Covariance ($\rho_{01}$) | | | | −0.99 | | | 1.00 | | |
| AIC | 183,013 | | | 16,073 | | | 10,421 | | |
| BIC | 183,030 | | | 16,107 | | | 10,609 | | |
| −2 loglikelihood | −91,503 | | | −8030 | | | −5177.5 | | |
| N | 315 | | | 315 | | | 315 | | |
| | | | | | | | 799 | | |
| Observations | 2205 | | | 2205 | | | 2205 | | |
| Marginal $R^2$/Conditional $R^2$ | 0.000/0.973 | | | 0.000/0.000 | | | 0.319/0.625 | | |

a. Predictors: Grandiose/Manipulative, Callous/Unemotional, Impulsive/Irresponsible, Violence Witnessed, Violent Victimization, Future Orientation, Deviant Beliefs, Moral Disengagement, Motivation to Succeed, Neighborhood Conditions, Delinquent Peers, Delinquent Peer Influence, Resistance to Delinquent Peer Influence. b. Dependent Variable: Property Offending. c. bold text are significant findings.

## 3. Results

A mixed effects models was conducted to examine the relationship between psychopathic traits, (i.e., the grandiose–manipulative dimension, the callous–unemotional dimension, and the impulsive–irresponsible dimension), victimization witnessed, violent

victimization, future orientation, perceptions of psychic rewards and crime, moral disengagement, motivation to succeed, neighborhood conditions, association with deviant peers, peer delinquency influence, and resistant to peer influence on violent offending frequency over time. Gang-involved youth and youth with a history of gang involvement that perpetrated a higher amount of violent offenses at the start were 50% more likely to perpetrate violent offenses over time ($\gamma_{01}$ = 1.50, $p < 0.05$). Gang-involved youth that scored higher on the impulsive–irresponsible dimension at the start were 3% more likely to perpetrate violent offenses over time ($\gamma_{04}$ = 1.03, $p < 0.05$). Gang-involved youth and youth with a history of gang involvement that witnessed more violent victimization at the start were 45% more likely to perpetrate violent offenses over time ($\gamma_{05}$ = 1.45, $p < 0.001$). Gang-involved youth and youth with a history of gang involvement that experienced more violent victimization at the start were 30% more likely to perpetrate violent offenses over time ($\gamma_{06}$ =1.30, $p < 0.01$). Gang-involved youth and youth with a history of gang involvement with higher perceptions of personal rewards for crime at the start were 8% more likely to perpetrate violent offenses over time ($\gamma_{08}$ = 1.08, $p < 0.01$). Gang-involved youth and youth with a history of gang involvement that associated with more delinquent peers at the start were 45% more likely to perpetrate violent offenses over time ($\gamma_{12}$ = 1.45, $p = 0.001$). Gang-involved youth and youth with a history of gang involvement that witnessed more violent victimization annually had a 3% decrease in violent offending annually ($\gamma_{18}$ = 0.97, $p < 0.05$). Gang-involved youth and youth with a history of gang involvement that were more resistant to delinquent peers annually had an 8% decrease in violent offending annually ($\gamma_{26}$ = 0.92, $p < 0.05$).

A mixed effects model was conducted to examine the relationship between psychopathic traits, (i.e., the grandiose–manipulative dimension, the callous–unemotional dimension, and the impulsive–irresponsible dimension), victimization witnessed, violent victimization, future orientation, deviant beliefs, moral disengagement, motivation to succeed, neighborhood conditions, association with perceptions of psychic rewards and crime, peer delinquency influence, and resistant to peer influence on property offending frequency over time. Gang-involved youth and youth with a history of gang involvement that scored higher on the callous unemotional dimension at the start were 6% less likely to perpetrate property offenses annually over time ($\gamma_{03}$ = 0.94, $p < 0.05$). Gang-involved youth and youth with a history of gang involvement that scored higher on the impulsive–irresponsible dimension at the start were 8% more likely to perpetrate property offenses annually over time ($\gamma_{04}$ = 1.08, $p = 0.01$). Gang-involved youth and youth with a history of gang involvement that witnessed more violent victimization at the start were 65% more likely to perpetrate property offenses annually over time ($\gamma_{05}$ = 1.65, $p < 0.001$). Gang-involved youth and youth with a history of gang involvement that experienced more violent victimization at the start were 112% more likely to perpetrate property offenses annually over time ($\gamma_{06}$ = 2.12, $p < 0.01$). Gang-involved youth and youth with a history of gang involvement with higher perceptions of psychic rewards and crime at the start were 14% more likely to perpetrate property offenses annually over time ($\gamma_{08}$ = 1.14, $p < 0.05$). Gang-involved youth and youth with a history of gang involvement that were more morally disengaged at the start were 143% more likely to perpetrate property offenses annually over time ($\gamma_{09}$ = 2.43, $p < 0.05$). Gang-involved youth and youth with a history of gang involvement that associated with more delinquent peers annually had a 17% increase in property offending annually ($\gamma_{24}$ = 1.17, $p < 0.05$).

## 4. Discussion

The current study's goal was to contribute to understanding gang involvement and psychopathic traits, violent and property offending longitudinally. Before this study, scant empirical investigation had examined the relationship between psychopathic traits, violence, and property offending longitudinally in a sample of gang-involved youth and youth with a history of gang involvement. Most empirical investigations have been cross-sectional and retrospective, and concentrate on comparing non-gang members to gang

members. The current study found that the initial perceptions of psychic rewards and crime, violence witnessed and experienced, and impulsivity irresponsible dimension were associated with more violent and property offenses over time. Previous research has identified that psychopathy, in general, is consistently associated positively associated with offending [20,27,31,33,34,101]. Previous work using the Pathways sample found higher GM scores in young adults and gang leaders [19]; considering this, it is likely low-level gang members are involved in violent and property crime at the behest of leaders or older members. In other words, the direct involvement of individuals high in GM is limited, which can contribute to insignificant findings. Ray [66] found that direct victimization experiences and delinquent peer association were associated with higher scores on the impulsive–irresponsible dimension of psychopathy. Previous work has identified that potential gang members are evaluated on delinquent versatility and potential and their relationship with current gang members, coupled with the fact that youth gang joining is motivated by the desire to prevent vicarious and direct victimization [7,45,102,103]. Thus, in the context of the study's findings, it is probable that subsequent gang involvement increased exposure to intra/inter-gang violence and income crime, and youth higher in the impulsive–irresponsible dimension are more likely to perpetrate these acts because they are more likely to become embedded in the gang subculture, due to their propensity for risk-taking and thrill-seeking [7,56,104,105]. Previous work has found that youth higher in psychopathic traits may perceive crime as more rewarding and have a reward dominant response style [14,26,104,106–108]; in the context of the current findings, it is probable that gang-involved youth and youth with a history of gang involvement that scored high in the impulsive–irresponsible domain, and are more morally disengaged, are less likely to consider the risk of offending and perpetrating violent and property offenses with their peers. Another probable explanation is that gang-involved youth and youth with a history of gang involvement high in psychopathic traits that perceived crime as more rewarding may be more likely to become more embedded in the gang subculture, subsequently adopting more components of the "Street Code", increasing their violent and property offenses [56,105]. Turanovic and Young [109] suggest violent youth are more likely to create social networks with other violent youth; it is probable that gang-involved youth and youth with a history of gang involvement are higher in the impulsive–irresponsible domain, more morally disengaged, and those that perceive crime as rewarding are more likely to cooperate in perpetrating violent and income crime over time.

Although the extant literature regarding CU traits suggests that youth with elevated CU traits identifies a subgroup of youth more likely to display a stable, chronic pattern of offending longitudinally [13–17], the current study found evidence to the contrary. Specifically, elevated CU traits at the start were associated with decreased property offending over time, consistent with studies examining antisocial behavior and recidivism [40–42]. The current findings are consistent with research that identified the impulsive–irresponsible dimension of psychopathy as the most important dimension for predicting future offending and distinguishing a unique subgroup [28,29]. Considering adolescents high in CU traits display higher pre-planning and preparation prior to antisocial acts [110,111], it is likely gang-involved youth and youth with a history of gang involvement with elevated CU traits may be disinterested in perpetrating property offenses that are spontaneous compared to more impulsive gang members [42]. Another probable explanation is that the relationship between CU traits and offending has been observed for severe and violent offenses, which does not apply to the items that make up the income offense scale (e.g., sold drugs, been paid for sex, shoplifting). Finally, although previous studies using the Pathways data have observed a relationship between CU traits and offending, the current study examines gang-involved youth and youth with a history of gang involvement longitudinally, while the previous studies have examined the entire sample or male-only samples.

### *4.1. Desistance from Violent and Property Offending*

Finally, the current study also found that gang-involved youth and youth with a history of gang involvement who witnessed more violence and were more resistant to delinquent peer influences annually were less likely to perpetrate long-term violent crime. Previous work has found that repeated exposure to violence (e.g., loss of friends, loss of family members, and peers) can cause members to become disillusioned and burned out with the gang lifestyle, and these events can serve as push factors toward desistance [112–116], subsequently resulting in reduced violent offending annually. Gang members who reach the contemplation and exploration stages will be more resistant to their delinquent peers and will want to explore alternative lifestyles that do not involve engaging in aggressive behavior throughout their life course [112]. Finally, it is also likely that pull factors (e.g., associating with prosocial peers, encouragement from non-guardians or parents, involvement in prosocial programs) make gang members more resistant to their delinquent associates, eventually leading to gang desistance and reduced involvement with violent offending over time [112–114,116,117].

### *4.2. Treatment and Policy Implications*

The findings suggest adopting intervention strategies that target specific psychopathic traits (i.e., impulsivity/irresponsibility) to reduce long-term violent behavior [21,66]. Although previous research has identified gang membership as a potential barrier for intervention strategies targeted at reducing delinquency [18]; research examining gang desistance suggests developing intervention programs for victimized and traumatized gang members in collaboration with former gang members [112]. The programs should concentrate on post-traumatic growth, encourage developing positive connections with prosocial peers and groups, and mitigate the risk of psychopathic traits through empirically based treatment programs [32,107,112,118–121]. For instance, the Mendota Juvenile Treatment Center (MJTC) is an intervention program that is quick, transparent, and rewards participants for engaging in prosocial behavior while withholding rewards for antisocial behavior [107,118]. This program is designed to take advantage of the reward–dominant response styles associated with adolescents high in psychopathic traits. Caldwell et al. [118] found that 18–22% of the improvement in psychopathic traits and a 5–11% reduction in violent and non-violent reoffending was directly attributed to the MJTC program. Another potentially effective intervention program may be the wrap-around method, which includes developing a personalized plan for the child and using mental health services available within the child's network area [122]. The wrap-around method is a multi-pronged approach for treating disruptive behavior disorders symptoms and delinquency. In the context of the current findings, potentially getting gang-involved youth and youth with a history of gang involvement involved in intervention programs designed to reduce psychopathic traits, delinquency, and encourage reintegration into mainstream society may be effective in preventing future and long-term criminal involvement [112]. These suggestions would be effective treatment interventions in the criminal justice system; however, broader policy practices can also assist with prevention.

Most gang legislation is rooted in specific deterrence and usually implements punitive approaches for combating gangs [2]. For example, a disproportionate amount of funding is shifted toward gang enhancement laws, civil injunctions, and police gang units, while diversion/intervention programs specific to gang involvement are inadequately funded throughout the juvenile justice system [2,123]. The first policy suggestion is the reallocation of funds for combating gang related crime into empirically supported intervention programs designed to reduce, remedy, and prevent gang involvement and psychopathic traits. Secondly, more resources should be allocated to evaluate the effectiveness of the current gang intervention programs and consider restructuring these programs to consider the role of psychopathic traits and develop a comprehensive model for gang desistance. Finally, collaboration should be carried out amongst policymakers, community leaders, gang researchers, social service workers, and criminal justice practitioners to address gang

crime and the influence psychopathic traits have on their behaviors, in order to develop effective policies and interventions [123,124].

### *4.3. Limitations and Future Research*

The current study provides insight into the role psychopathic traits have in influencing criminal behavior longitudinally in a sample of gang-involved youth and youth with a history of gang involvement; however, several weaknesses are apparent in the study. The Pathways sample is comprised of youth involved in serious offenses, which is not representative of most youth involved in the justice system; thus, the findings cannot be generalized to all justice-involved youth who join gangs. The Pathways sample does not allow for the consideration of gang demographics (e.g., mixed-sex, racially diverse) and is not a comprehensive representation of all gangs (e.g., skinheads, bikers, international). It does not follow participants during early childhood, which makes accurately identifying temporal ordering difficult, limiting the scope of the study's findings. Although the self-report nature of gang membership is vulnerable to deceit and memory issues, previous research has verified this as an effective approach for determining gang status [125,126]. Self-report psychopathy measures have been criticized with regard to validity due to the manipulative, deceitful nature of psychopaths; however, the instruments used in the current study have been validated in previous studies [74–76].

Despite the limitations, the study relies on empirically validated measures to operationalize the variables tested. The study carefully considers the contributions of previous studies on similar topics using the Pathways Data [19,39,40,66,117,119,127,128]. The current study uniquely contributes to increasing the understanding between psychopathic traits and criminal behavior longitudinally amongst gang-involved youth and youth with a history of gang involvement. Future research would benefit from considering the psychopathic traits' influence on offending longitudinally in gang samples to better comprehend the factors involved in offending. Previous work has suggested the relationship between gang involvement and antisocial behavior may be spurious when controlling for the influence of disruptive behavior disorders [9]; more research must be conducted in the area to understand the relationship better and develop effective intervention strategies for gang-involved youth. Further, more gang research would benefit from examining the role psychological factors have in gang involvement and related antisocial behavior. Finally, future work would benefit from examining the potential moderating and mediating of psychopathic traits and moral disengagement longitudinally in sexual crimes, considering that we found that both constructs are associated with predatory sexual behavior [129].

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**Informed Consent Statement:** Informed consent was waived because the study relied on secondary data.

**Data Availability Statement:** All data used in this research is publicly available for download on the Inter-university Consortium for Political and Social Research (ICPSR).

**Conflicts of Interest:** The author declares no conflict of interest.

## References

1. McCorkle, R.; Miethe, T.D. *Panic: Social Construction of the Street Gang Problem*; Prentice-Hall: London, UK, 2001.
2. Sanders, B. *Gangs: An Introduction*; Oxford University Press: New York, NY, USA, 2016.
3. McCorkle, R.C.; Miethe, T.D. The Political and Organizational Response to Gangs: An Examination of a "Moral Panic" in Nevada. *Justice Q.* **1998**, *15*, 41–64. [CrossRef]
4. Bjerregaard, B. Legislative Approaches to Addressing Gangs and Gang-Related Crime. In *The Handbook of Gangs*; John Wiley & Sons: Hoboken, NJ, USA, 2015; pp. 345–368. [CrossRef]
5. Wood, J.L.; Alleyne, E.; Beresford, H. Deterring Gangs: Criminal Justice Approaches and Psychological Perspectives. In *Advances in Psychology and Law*; Springer International Publishing: Cham, Switzerland, 2016; pp. 305–336.

6. Chui, W.H.; Khiatani, P.V.; She, M.H.; Chan, B.P. A Latent Profile Analysis of Child Maltreatment among At-Risk Youth Gang Members: Associations with Violent Delinquency, Non-Violent Delinquency, and Gang Organizational Structures. *Child Abus. Negl.* **2023**, *135*, 105989. [CrossRef] [PubMed]
7. Vecchio, J.M.; Carson, D.C. Understanding the Role of Violence and Conflict in the Stages of Gang Membership. *Youth Violence Juv. Justice* **2023**, *21*, 27–43. [CrossRef]
8. Alleyne, E.; Wood, J. Gang Involvement: Psychological and Behavioral Characteristics of Gang Members, Peripheral Youth, and Nongang Youth. *Aggress. Behav.* **2010**, *36*, 423–436. [CrossRef]
9. DeLisi, M.; Drury, A.J.; Elbert, M.J. Do Behavioral Disorders Render Gang Status Spurious? New Insights. *Int. J. Law Psychiatry* **2019**, *62*, 117–124. [CrossRef]
10. Melde, C.; Esbensen, F.-A. The Relative Impact of Gang Status Transitions: Identifying the Mechanisms of Change in Delinquency. *J. Res. Crime. Delinq.* **2014**, *51*, 349–376. [CrossRef]
11. Wolff, K.T.; Baglivio, M.T.; Limoncelli, K.E.; Delisi, M. Pathways to Recidivism: Do Behavioral Disorders Explain the Gang-Recidivism Relationship during Reentry? *Crim. Justice Behav.* **2019**, *47*, 867–885. [CrossRef]
12. Wood, J.; Alleyne, E. Street Gang Theory and Research: Where Are We Now and Where Do We Go from Here? *Aggress. Violent Behav.* **2010**, *15*, 100–111. [CrossRef]
13. Baskin-Sommers, A.R.; Waller, R.; Fish, A.M.; Hyde, L.W. Callous-Unemotional Traits Trajectories Interact with Earlier Conduct Problems and Executive Control to Predict Violence and Substance Use among High Risk Male Adolescents. *J. Abnorm. Child Psychol.* **2015**, *43*, 1529–1541. [CrossRef]
14. Frick, P.J. Extending the Construct of Psychopathy to Youth: Implications for Understanding, Diagnosing, and Treating Antisocial Children and Adolescents. *Can. J. Psychiatry* **2009**, *54*, 803–812. [CrossRef]
15. Frick, P.J.; Viding, E. Antisocial Behavior from a Developmental Psychopathology Perspective. *Dev. Psychopathol.* **2009**, *21*, 1111–1131. [CrossRef]
16. Frick, P.J.; Ray, J.V.; Thornton, L.C.; Kahn, R.E. Can Callous-Unemotional Traits Enhance the Understanding, Diagnosis, and Treatment of Serious Conduct Problems in Children and Adolescents? A Comprehensive Review. *Psychol. Bull.* **2014**, *140*, 1–57. [CrossRef] [PubMed]
17. Frick, P.J.; Robertson, E.L.; Clark, J.E. Callous–Unemotional Traits. In *Developmental Pathways to Disruptive, Impulse-Control and Conduct Disorders*; Elsevier: Amsterdam, The Netherlands, 2018; pp. 139–160.
18. Boxer, P.; Kubik, J.; Ostermann, M.; Veysey, B. Gang Involvement Moderates the Effectiveness of Evidence-Based Intervention for Justice-Involved Youth. *Child. Youth Serv. Rev.* **2015**, *52*, 26–33. [CrossRef]
19. Dmitrieva, J.; Gibson, L.; Steinberg, L.; Piquero, A.; Fagan, J. Predictors and Consequences of Gang Membership: Comparing Gang Members, Gang Leaders, and Non–Gang-affiliated Adjudicated Youth. *J. Res. Adolesc.* **2014**, *24*, 220–234. [CrossRef]
20. Salekin, R.T.; Andershed, H. Psychopathic Personality, and Its Dimensions in the Prediction of Negative Outcomes: Do They Offer Incremental Value above and beyond Common Risk Factors? Introduction to the Special Section. *J. Crim. Justice* **2022**, *80*, 101914. [CrossRef]
21. Skeem, J.L.; Polaschek, D.L.L.; Patrick, C.J.; Lilienfeld, S.O. Psychopathic Personality: Bridging the Gap between Scientific Evidence and Public Policy. *Psychol. Sci. Public Interest* **2011**, *12*, 95–162. [CrossRef] [PubMed]
22. Lilienfeld, S.O. The Multidimensional Nature of Psychopathy: Five Recommendations for Research. *J. Psychopathol. Behav. Assess.* **2018**, *40*, 79–85. [CrossRef]
23. Thomson, N.D.; Bozgunov, K.; Psederska, E.; Vassileva, J. Sex Differences on the Four-facet Model of Psychopathy Predict Physical, Verbal, and Indirect Aggression. *Aggress. Behav.* **2019**, *45*, 265–274. [CrossRef]
24. Joseph, J.J. Unpacking Unexplored Psychological Factors in Alcohol and Substance Use in Gang Members. *Crime. Delinq.* **2023**. [CrossRef]
25. Frick, P.J. Some Critical Considerations in Applying the Construct of Psychopathy to Research and Classification of Childhood Disruptive Behavior Disorders. *Clin. Psychol. Rev.* **2022**, *96*, 102188. [CrossRef]
26. Ribeiro da Silva, D.; Rijo, D.; Salekin, R.T. Psychopathic Traits in Children and Youth: The State-of-the-Art after 30 Years of Research. *Aggress. Violent Behav.* **2020**, *55*, 101454. [CrossRef]
27. DeLisi, M. *Why Psychopathy as Unified Theory of Crime?* Palgrave Macmillan: London, UK, 2016.
28. Corrado, R.R.; Vincent, G.M.; Hart, S.D.; Cohen, I.M. Predictive Validity of the Psychopathy Checklist: Youth Version for General and Violent Recidivism. *Behav. Sci. Law* **2004**, *22*, 5–22. [CrossRef] [PubMed]
29. Gretton, H.M.; Mcbride, M.; Hare, R.D.; O'Shaughnessy, R.; Kumka, G. Psychopathy and Recidivism in Adolescent Sex Offenders. *Crim. Justice Behav.* **2001**, *28*, 427–449. [CrossRef]
30. Gretton, H.M.; Hare, R.D.; Catchpole, R.E.H. Psychopathy and Offending from Adolescence to Adulthood: A 10-Year Follow-Up. *J. Consult. Clin. Psychol.* **2004**, *72*, 636–645. [CrossRef] [PubMed]
31. Asscher, J.J.; van Vugt, E.S.; Stams, G.J.; Deković, M.; Eichelsheim, V.I.; Yousfi, S. The Relationship between Juvenile Psychopathic Traits, Delinquency and (Violent) Recidivism: A Meta-Analysis. *J. Child Psychol. Psychiatry* **2011**, *52*, 1134–1143. [CrossRef] [PubMed]
32. Olver, M.E.; Lewis, K.; Wong, S.C.P. Risk Reduction Treatment of High-Risk Psychopathic Offenders: The Relationship of Psychopathy and Treatment Change to Violent Recidivism. *Personal. Disord.* **2013**, *4*, 160–167. [CrossRef] [PubMed]

33. Olver, M.E.; Stockdale, K.C.; Neumann, C.S.; Hare, R.D.; Mokros, A.; Baskin-Sommers, A.; Brand, E.; Folino, J.; Gacono, C.; Gray, N.S.; et al. Reliability and Validity of the Psychopathy Checklist-Revised in the Assessment of Risk for Institutional Violence: A Cautionary Note on DeMatteo et al. (2020). *Psychol. Public. Policy Law* **2020**, *26*, 490–510. [CrossRef]
34. Walters, G.D. A Multi-Wave Cross-Lagged Regression Analysis of the Youth Psychopathic Traits Inventory and Self-Reported Offending. *J. Crim. Justice* **2015**, *43*, 327–336. [CrossRef]
35. Virtanen, S.; Latvala, A.; Andershed, H.; Lichtenstein, P.; Tuvblad, C.; Colins, O.F.; Suvisaari, J.; Larsson, H.; Lundström, S. Do Psychopathic Personality Traits in Childhood Predict Subsequent Criminality and Psychiatric Outcomes over and above Childhood Behavioral Problems? *J. Crim. Justice* **2022**, *80*, 101761. [CrossRef]
36. Bergstrøm, H.; Farrington, D.P. Psychopathic Personality and Criminal Violence across the Life-Course in a Prospective Longitudinal Study: Does Psychopathic Personality Predict Violence When Controlling for Other Risk Factors? *J. Crim. Justice* **2022**, *80*, 101817. [CrossRef]
37. Lussier, P.; McCuish, E.; Corrado, R. Psychopathy and the Prospective Prediction of Adult Offending through Age 29: Revisiting Unfulfilled Promises of Developmental Criminology. *J. Crim. Justice* **2022**, *80*, 101770. [CrossRef]
38. Colins, O.F.; Van Damme, L.; Andershed, H. Testing the Utility of the Psychopathy Construct for Predicting Criminal Recidivism among Detained Girls. *J. Crim. Justice* **2022**, *80*, 101774. [CrossRef]
39. Lee, Y.; Kim, J. The Converging Effects of Psychopathic Traits and Victimization on Offending: A Partial Test of Agnew's Extension of General Strain Theory. *J. Dev. Life Course Criminol.* **2022**, *8*, 253–274. [CrossRef]
40. Ray, J.V. Psychopathic Traits Predict Patterns of Gun-Carrying among a Sample of Justice-Involved Youth. *J. Crim. Justice* **2022**, *81*, 101917. [CrossRef]
41. Dyck, H.L.; Campbell, M.A.; Schmidt, F.; Wershler, J.L. Youth Psychopathic Traits and Their Impact on Long-Term Criminal Offending Trajectories. *Youth Violence Juv. Justice* **2013**, *11*, 230–248. [CrossRef]
42. Thornton, L.C.; Frick, P.J.; Shulman, E.P.; Ray, J.V.; Steinberg, L.; Cauffman, E. Callous-Unemotional Traits and Adolescents' Role in Group Crime. *Law Hum. Behav.* **2015**, *39*, 368–377. [CrossRef] [PubMed]
43. Melde, C.; Esbensen, F.-A. Gangs and Violence: Disentangling the Impact of Gang Membership on the Level and Nature of Offending. *J. Quant. Criminol.* **2013**, *29*, 143–166. [CrossRef]
44. Peterson, D.; Morgan, K.A. Sex Differences and the Overlap in Youths' Risk Factors for Onset of Violence and Gang Involvement. *J. Crime Justice* **2014**, *37*, 129–154. [CrossRef]
45. Sutton, T.E. The Lives of Female Gang Members: A Review of the Literature. *Aggress. Violent Behav.* **2017**, *37*, 142–152. [CrossRef]
46. Walters, G.D. Gang Influence: Mediating the Gang–Delinquency Relationship with Proactive Criminal Thinking. *Crim. Justice Behav.* **2019**, *46*, 1044–1062. [CrossRef]
47. Weerman, F.M. Are the Correlates and Effects of Gang Membership Sex-Specific? Troublesome Youth Groups and Delinquency among Dutch Girls. In *Youth Gangs in International Perspective*; Springer: New York, NY, USA, 2012; pp. 271–287.
48. Klein, M.W.; Maxson, C.L. *Street Gang Patterns and Policies*; Oxford University Press: London, UK, 2006.
49. Krohn, M.D.; Thornberry, T.P. Longitudinal Perspectives on Adolescent Street Gangs. In *The Long View of Crime: A Synthesis of Longitudinal Research*; Springer: New York, NY, USA, 2008; pp. 128–160.
50. Browning, C.R. Illuminating the Downside of Social Capital. *Am. Behav. Sci.* **2009**, *52*, 1556–1578. [CrossRef]
51. Fox, K.A.; Lane, J.; Akers, R.L. Do Perceptions of Neighborhood Disorganization Predict Crime or Victimization? An Examination of Gang Member versus Non-Gang Member Jail Inmates. *J. Crim. Justice* **2010**, *38*, 720–729. [CrossRef]
52. Pitner, R.O.; Yu, M.; Brown, E. Making Neighborhoods Safer: Examining Predictors of Residents' Concerns about Neighborhood Safety. *J. Environ. Psychol.* **2012**, *32*, 43–49. [CrossRef]
53. Cepeda, A.; Saint Onge, J.M.; Nowotny, K.M.; Valdez, A. Associations between Long-Term Gang Membership and Informal Social Control Processes, Drug Use, and Delinquent Behavior among Mexican American Youth. *Int. J. Offender Ther. Comp. Criminol.* **2016**, *60*, 1532–1548. [CrossRef] [PubMed]
54. Hughes, L.A.; Short, J.F., Jr. Partying, Cruising, and Hanging in the Streets: Gangs, Routine Activities, and Delinquency and Violence in Chicago, 1959–1962. *J. Quant. Criminol.* **2014**, *30*, 415–451. [CrossRef]
55. Quinn, K.; Walsh, J.L.; Dickson-Gomez, J. Multiple Marginality and the Variation in Delinquency and Substance Use among Adolescent Gang Members. *Subst. Use Misuse* **2019**, *54*, 612–627. [CrossRef]
56. Scott, D.; Bennett, S. Endorsing the Street Code: The Impact of Neighborhood Gang Activity on Incarcerated Youth. *J. Youth Stud.* **2022**, *25*, 595–615. [CrossRef]
57. Wu, J.; Hu, X.; Orrick, E.A. The Relationship between Motivations for Joining Gangs and Violent Offending: A Preliminary Test on Self-Determination Theory. *Vict. Offender* **2022**, *17*, 335–349. [CrossRef]
58. Farrell, C.; Zimmerman, G.M. Is Exposure to Violence a Persistent Risk Factor for Offending across the Life Course? Examining the Contemporaneous, Acute, Enduring, and Long-Term Consequences of Exposure to Violence on Property Crime, Violent Offending, and Substance Use. *J. Res. Crime Delinq.* **2018**, *55*, 728–765. [CrossRef]
59. Nydegger, L.A.; Quinn, K.; Walsh, J.L.; Pacella-LaBarbara, M.L.; Dickson-Gomez, J. Polytraumatization, Mental Health, and Delinquency among Adolescent Gang Members. *J. Trauma. Stress.* **2019**, *32*, 890–898. [CrossRef]
60. Ross, L.; Arsenault, S. Problem Analysis in Community Violence Assessment: Revealing Early Childhood Trauma as a Driver of Youth and Gang Violence. *Int. J. Offender Ther. Comp. Criminol.* **2018**, *62*, 2726–2741. [CrossRef]

61. Beresford, H.; Wood, J.L. Patients or Perpetrators? The Effects of Trauma Exposure on Gang Members' Mental Health: A Review of the Literature. *J. Criminol. Res. Policy Pract.* **2016**, *2*, 148–159. [CrossRef]
62. Coid, J.W.; Ullrich, S.; Keers, R.; Bebbington, P.; DeStavola, B.L.; Kallis, C.; Yang, M.; Reiss, D.; Jenkins, R.; Donnelly, P. Gang Membership, Violence, and Psychiatric Morbidity. *Am. J. Psychiatry* **2013**, *170*, 985–993. [CrossRef] [PubMed]
63. Madan, A.; Mrug, S.; Windle, M. Brief Report: Do Delinquency and Community Violence Exposure Explain Internalizing Problems in Early Adolescent Gang Members? *J. Adolesc.* **2011**, *34*, 1093–1096. [CrossRef]
64. Wood, J.; Foy, D.W.; Layne, C.; Pynoos, R.; James, C.B. An Examination of the Relationships between Violence Exposure, Posttraumatic Stress Symptomatology, and Delinquent Activity: An "Ecopathological" Model of Delinquent Behavior among Incarcerated Adolescents. *J. Aggress. Maltreat. Trauma.* **2002**, *6*, 127–147. [CrossRef]
65. Morgado, A.M.; da Vale-Dias, M.L. The Antisocial Phenomenon in Adolescence: What Is Literature Telling Us? *Aggress. Violent Behav.* **2013**, *18*, 436–443. [CrossRef]
66. Ray, J.V. Developmental Patterns of Psychopathic Personality Traits and the Influence of Social Factors among a Sample of Serious Juvenile Offenders. *J. Crim. Justice* **2018**, *58*, 67–77. [CrossRef]
67. Salekin, R.T. Research Review: What Do We Know about Psychopathic Traits in Children? *J. Child Psychol. Psychiatry* **2017**, *58*, 1180–1200. [CrossRef] [PubMed]
68. Sevecke, K.; Franke, S.; Kosson, D.; Krischer, M. Emotional Dysregulation and Trauma Predicting Psychopathy Dimensions in Female and Male Juvenile Offenders. *Child Adolesc. Psychiatry Ment. Health* **2016**, *10*, 43. [CrossRef] [PubMed]
69. Tostlebe, J.J.; Pyrooz, D.C. Are Gang Members Psychopaths? In *Psychopathy and Criminal Behavior*; Elsevier: Amsterdam, The Netherlands, 2022; pp. 311–331.
70. Mulvey, E.P. *Research on Pathways to Desistance [Maricopa County, AZ and Philadelphia County, PA]: Subject Measures, 2000–2010: Version 2*; ICPSR Data Holdings: Ann Arbor, MI, USA, 2012.
71. Schubert, C.A.; Mulvey, E.P.; Steinberg, L.; Cauffman, E.; Losoya, S.H.; Hecker, T.; Chassin, L.; Knight, G.P. Operational Lessons from the Pathways to Desistance Project. *Youth Violence Juv. Justice* **2004**, *2*, 237–255. [CrossRef]
72. Mulvey, E.P. Introduction: Pathways to Desistance Study. *Youth Violence Juv. Justice* **2004**, *2*, 211–212. [CrossRef]
73. Huizinga, D.; Esbensen, F.-A.; Weiher, A.W. Are There Multiple Paths to Delinquency? *J. Crim. Law Criminol.* **1991**, *82*, 83. [CrossRef]
74. Andershed, H.; Kerr, M.; Stattin, H.; Levander, S. Psychopathic traits in non-referred youths: A new assessment tool. In *Psychopaths: Current International Perspectives*; Elsevier: The Hague, The Netherlands, 2002; pp. 131–158.
75. Cauffman, E.; Kimonis, E.R.; Dmitrieva, J.; Monahan, K.C. A Multimethod Assessment of Juvenile Psychopathy: Comparing the Predictive Utility of the PCL:YV, YPI, and Neo Pri. *Psychol. Assess.* **2009**, *21*, 528–542. [CrossRef]
76. Andershed, H.; Hodgins, S.; Tengström, A. Convergent Validity of the Youth Psychopathic Traits Inventory (YPI). *Assessment* **2007**, *14*, 144–154. [CrossRef] [PubMed]
77. Chauhan, P.; Ragbeer, S.N.; Burnette, M.L.; Oudekerk, B.; Reppucci, N.D.; Moretti, M.M. Comparing the Youth Psychopathic Traits Inventory (YPI) and the Psychopathy Checklist–Youth Version (PCL-YV) among Offending Girls. *Assessment* **2012**, *21*, 181–194. [CrossRef] [PubMed]
78. Selner-O'Hagan, M.B.; Kindlon, D.J.; Buka, S.L.; Raudenbush, S.W.; Earls, F.J. Assessing Exposure to Violence in Urban Youth. *J. Child Psychol. Psychiatry* **1998**, *39*, 215–224. [CrossRef] [PubMed]
79. Cauffman, E.; Woolard, J. The Future Outlook Inventory. Instrument Developed for the MacArthur Juvenile Competence Study. *Unpublished Test* **1999**.
80. Scheier, M.F.; Carver, C.S. Optimism, Coping and Health: Assessment and Implications of Generalized Outcome Expectations. *Health Psychol.* **1985**, *4*, 219. [CrossRef] [PubMed]
81. Zimbardo, P.G. *The Stratford Time Perspective Inventory*; Stratford University: Alexandria, VA, USA, 1990.
82. Strathman, A.; Gleicher, F.; Boninger, D.S.; Edwards, C.S. The Consideration of Future Consequences: Weighing Immediate and Distant Outcomes of Behavior. *J. Pers. Soc. Psychol.* **1994**, *66*, 742–752. [CrossRef]
83. Lee, H.; Sullivan, C.J.; Barnes, J.C. Maturity of Judgment and Perceptual Deterrence. *Crim. Justice Behav.* **2018**, *45*, 1762–1781. [CrossRef]
84. Loughran, T.A.; Paternoster, R.; Chalfin, A.; Wilson, T. Can Rational Choice Be Considered a General Theory of Crime? Evidence from Individual-level Panel Data. *Criminology* **2016**, *54*, 86–112. [CrossRef]
85. Loughran, T.A.; Piquero, A.R.; Fagan, J.; Mulvey, E.P. Differential Deterrence: Studying Heterogeneity and Changes in Perceptual Deterrence among Serious Youthful Offenders. *Crime Delinq.* **2012**, *58*, 3–27. [CrossRef]
86. Bandura, A.; Barbaranelli, C.; Caprara, G.V.; Pastorelli, C. Mechanisms of Moral Disengagement in the Exercise of Moral Agency. *J. Personal. Soc. Psychol.* **1996**, *71*, 364–374. [CrossRef]
87. Eccles, J.S.; Wigfield, A.; Schiefele, U. Motivation to Succeed. In *Handbook of Child Psychology: Vol. 3 Social, Emotional, and Personality Development*, 5th ed.; Wiley: Hoboken, NJ, USA, 1998; pp. 1017–1095.
88. Sampson, R.J.; Raudenbush, S.W. Systematic Social Observation of Public Spaces: A New Look at Disorder in Urban Neighborhoods. *Am. J. Sociol.* **1999**, *105*, 603–651. [CrossRef]
89. Thornberry, T.P.; Krohn, M.D.; Lizotte, A.J.; Chard-Wierschem, D. The Role of Juvenile Gangs in Facilitating Delinquent Behavior. *J. Res. Crime Delinq.* **1993**, *30*, 55–87. [CrossRef]

90. Grimm, K.J.; Stegmann, G. Modeling Change Trajectories with Count and Zero-Inflated Outcomes: Challenges and Recommendations. *Addict. Behav.* **2019**, *94*, 4–15. [CrossRef]
91. Honaker, J.; King, G.; Blackwell, M. AmeliaII: A Program for Missing Data. *J. Stat. Softw.* **2011**, *45*, 1–47. [CrossRef]
92. Allison, P.D. *Missing Data*; Sage Publications: Thousand Oaks, CA, USA, 2002.
93. Enders, C.K. Using the Expectation Maximization Algorithm to Estimate Coefficient Alpha for Scales with Item-Level Missing Data. *Psychol. Methods* **2003**, *8*, 322–337. [CrossRef] [PubMed]
94. Walters, G.D. Changes in Criminal Thinking from Midadolescence to Early Adulthood: Does Trajectory Direction Matter? *Law Hum. Behav.* **2022**, *46*, 154–163. [CrossRef]
95. Hammon, A.; Zinn, S. Multiple Imputation of Binary Multilevel Missing Not at Random Data. *J. R. Stat. Soc. Ser. C Appl. Stat.* **2020**, *69*, 547–564. [CrossRef]
96. Walters, G.D. Moral Disengagement as a Mediator of the Co-Offending–Delinquency Relationship in Serious Juvenile Offenders. *Law Hum. Behav.* **2020**, *44*, 437–448. [CrossRef]
97. Gomer, B.; Yuan, K.-H. A Realistic Evaluation of Methods for Handling Missing Data When There Is a Mixture of MCAR, MAR, and MNAR Mechanisms in the Same Dataset. *Multivar. Behav. Res.* **2023**, *58*, 988–1013. [CrossRef]
98. Walters, G.D. Criminal Thinking as a Moderator of the Perceived Certainty–Offending Relationship: Age Variations. *Psychol. Crime Law* **2020**, *26*, 267–286. [CrossRef]
99. Piquero, A.R.; Schubert, C.A.; Brame, R. Comparing Official and Self-Report Records of Offending across Gender and Race/Ethnicity in a Longitudinal Study of Serious Youthful Offenders. *J. Res. Crime Delinq.* **2014**, *51*, 526–556. [CrossRef]
100. Nestler, S. A Mixed-Effects Model in Which the Parameters of the Autocorrelated Error Structure Can Differ between Individuals. *Multivar. Behav. Res.* **2024**, *59*, 98–109. [CrossRef]
101. Pardini, D.A. The Callousness Pathway to Severe Violent Delinquency. *Aggress. Behav.* **2006**, *32*, 590–598. [CrossRef]
102. Densley, J.A.; Joining, G. *Oxford Research Encyclopedia of Criminology and Criminal Justice*; Oxford University Press: Oxford, UK, 2018.
103. Yan, S.; Augustine, B. Parental Monitoring, Exposure to Family Violence, and Delinquency: A Latent Class Analysis on Arizona Youth. *Vict. Offender* **2023**, 1–22. [CrossRef]
104. Felson, M. The street gang strategy. In *Crime and Nature*; Sage Publications: Thousand Oaks, CA, USA, 2006.
105. Wood, J.L.; Kallis, C.; Coid, J.W. Gang Members, Gang Affiliates, and Violent Men: Perpetration of Social Harms, Violence-Related Beliefs, Victim Types, and Locations. *J. Interpers. Violence* **2022**, *37*, NP3703–NP3727. [CrossRef] [PubMed]
106. Byrd, A.L.; Loeber, R.; Pardini, D.A. Antisocial Behavior, Psychopathic Features and Abnormalities in Reward and Punishment Processing in Youth. *Clin. Child Fam. Psychol. Rev.* **2013**, *17*, 125–156. [CrossRef]
107. Caldwell, M.F. Treatment-Related Changes in Behavioral Outcomes of Psychopathy Facets in Adolescent Offenders. *Law Hum. Behav.* **2011**, *35*, 275–287. [CrossRef]
108. Patrick, C.J. (Ed.) *Handbook of Psychopathy*, 2nd ed.; Guilford Press: London, UK, 2019.
109. Turanovic, J.J.; Young, J.T.N. Violent Offending and Victimization in Adolescence: Social Network Mechanisms and Homophily. *Criminology* **2016**, *54*, 487–519. [CrossRef]
110. Kruh, I.P.; Frick, P.J.; Clements, C.B. Historical and Personality Correlates to the Violence Patterns of Juveniles Tried as Adults. *Crim. Justice Behav.* **2005**, *32*, 69–96. [CrossRef]
111. Lawing, K.; Frick, P.J.; Cruise, K.R. Differences in Offending Patterns between Adolescent Sex Offenders High or Low in Callous—Unemotional Traits. *Psychol. Assess.* **2010**, *22*, 298–305. [CrossRef]
112. Berger, R.; Abu-Raiya, H.; Heineberg, Y.; Zimbardo, P. The Process of Desistance among Core Ex-Gang Members. *Am. J. Orthopsychiatry* **2017**, *87*, 487–502. [CrossRef] [PubMed]
113. Carson, D.C.; Peterson, D.; Esbensen, F.-A. Youth Gang Desistance. *Crim. Justice Rev.* **2013**, *38*, 510–534. [CrossRef]
114. Carson, D.C. Examining Racial and Ethnic Variations in Reasons for Leaving a Youth Gang. *J. Dev. Life-Course Criminol.* **2018**, *4*, 449–472. [CrossRef]
115. Moloney, M.; MacKenzie, K.; Hunt, G.; Joe-Laidler, K. The Path and Promise of Fatherhood for Gang Members. *Br. J. Criminol.* **2009**, *49*, 305–325. [CrossRef]
116. Roman, C.G.; Decker, S.H.; Pyrooz, D.C. Leveraging the Pushes and Pulls of Gang Disengagement to Improve Gang Intervention: Findings from Three Multi-Site Studies and a Review of Relevant Gang Programs. *J. Crime Justice* **2017**, *40*, 316–336. [CrossRef]
117. Carson, D.C.; Ray, J.V. Do Psychopathic Traits Distinguish Trajectories of Gang Membership? *Crim. Justice Behav.* **2019**, *46*, 1337–1355. [CrossRef]
118. Caldwell, M.F.; McCormick, D.; Wolfe, J.; Umstead, D. Treatment-Related Changes in Psychopathy Features and Behavior in Adolescent Offenders. *Crim. Justice Behav.* **2012**, *39*, 144–155. [CrossRef]
119. Ray, J.V.; Baker, T.; Caudy, M.S. Revisiting the Generality of Rational Choice Theory: Evidence for General Patterns but Differential Effects across Varying Levels of Psychopathy. *J. Crim. Justice* **2020**, *66*, 101654. [CrossRef]
120. Tedeschi, R.G.; McNally, R.J. Can We Facilitate Posttraumatic Growth in Combat Veterans? *Am. Psychol.* **2011**, *66*, 19–24. [CrossRef] [PubMed]
121. Wong, S.C.P.; Gordon, A.; Gu, D.; Lewis, K.; Olver, M.E. The Effectiveness of Violence Reduction Treatment for Psychopathic Offenders: Empirical Evidence and a Treatment Model. *Int. J. Forensic Ment. Health* **2012**, *11*, 336–349. [CrossRef]

122. Underwood, L.; Washington, A. Mental Illness and Juvenile Offenders. *Int. J. Environ. Res. Public Health* **2016**, *13*, 228. [CrossRef] [PubMed]
123. Joseph, J. Severe Emotional and Behavioral Problems: Barriers for Texas Youth Accessing Mental Health Court Programs. *Contemp. Issues Juv. Justice* **2021**, *11*, 3.
124. Van Hellemont, E.; Densley, J. If Crime Is Not the Problem, Crime Fighting Is No Solution: Policing Gang Violence in the Age of Abolition. *J. Aggress. Confl. Peace Res.* **2021**, *13*, 136–147. [CrossRef]
125. Ang, R.P.; Huan, V.S.; Chan, W.T.; Cheong, S.A.; Leaw, J.N. The Role of Delinquency, Proactive Aggression, Psychopathy and Behavioral School Engagement in Reported Youth Gang Membership. *J. Adolesc.* **2015**, *41*, 148–156. [CrossRef] [PubMed]
126. Webb, V.J.; Katz, C.M.; Decker, S.H. Assessing the Validity of Self-Reports by Gang Members: Results from the Arrestee Drug Abuse Monitoring Program. *Crime Delinq.* **2006**, *52*, 232–252. [CrossRef]
127. Joseph, J.J.; Rembert, D.A. Exploring Psychopathy's Relationship with Youth Gang Membership in Males and Females. *Women Crim. Justice* **2022**, *32*, 537–555. [CrossRef]
128. Joseph, J.J. Exploring Sex Differences between Dimensions of Psychopathy, Executive Functioning and Youth Gang Membership. *Psychol. Crime Law* **2022**, 1–26. [CrossRef]
129. Petruccelli, I.; Barbaranelli, C.; Costantino, V.; Gherardini, A.; Grilli, S.; Craparo, G.; D'Urso, G. Moral Disengagement and Psychopathy: A Study on Offenders in Italian Jails. *Psychiatr. Psychol. Law* **2017**, *24*, 670–681. [CrossRef] [PubMed]