THE MULTIDIMENSIONAL ROLES OF PEERS ON REOFFENDING

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ABSTRACT

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Research in criminology has often treated peers as primarily criminogenic in their influence on offending behaviors. While scholars have posited different explanations for the consistent association between peer delinquency and offending from a variety of epistemological traditions, little work has considered the importance of peer relationships within this process. Based on this gap in the literature, and a call for research to expand on the way peers are conceptualized and measured, the current study focuses on the independent and interdependent effects of peer relationship quality and peer delinquency in explaining offending behaviors. The Pathways to Desistance data are used to address this issue and encompass a longitudinal sample of about 1,300 adjudicated adolescents across 11 waves of data. Drawing from social learning and social control theories, I use a life-course framework to consider the importance of peer relationships following adjudication. Findings from a series of mixed-effects models demonstrate that peer relationship quality is significantly predictive of increased aggressive offending but is not a significantly associated with income-based offending or polysubstance use. Further, while peer relationship quality does mitigate the positive relationship between delinquent peers and income-based offending, there is no significant interaction effect for polysubstance use nor aggressive offending. Overall, findings in the current research highlight that changes in peer relationships following adjudication may function as a key turning point when it comes to self-reported offending behaviors, particularly when examined in tandem with peer delinquency.

Key Words: Peers, Offending, Desistance, Differential Association, Social Learning, Social Control, Relationship Quality

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INTRODUCTION

According to the Bureau of Justice Statistics, more than 700,000 youth aged 17 and younger were arrested in 2018 (Office of Juvenile Justice and Delinquency Prevention [OJJDP] Statistical Briefing Book, 2018), and approximately 43,500 youth were committed and/or detained in 2017 (OJJDP, 2019). Although crime has tended to decrease in the general population over the past few decades, concern about recidivism remains high. For example, 37% of all individuals released from prison in 2012 from 23 different states were rearrested before the end of 2015 (Gelb & Veláquez, 2018). From 2005 to 2010, 68% of formerly incarcerated persons were rearrested within three years and 77% were rearrested within five years following release (Durose et al., 2014). There are no official recidivism records for youth with prior criminal justice contact specifically, but of concern are findings that suggest these at-risk youth have an increased risk of recidivism following release from an institution or adjudication (Snyder & Sickmund, 2006) that likely mirror adult trends. As such, in the past several years, policy makers, researchers, and practitioners have been tasked with finding research-backed ways to improve outcomes among adjudicated youth, thus making this a critical area for further study.

Attempting to isolate the causes of offending and re-offending have been a central focus of criminology for decades. To this end, there has been a focus in criminology on the effects of peers (e.g., Pratt et al., 2010), who are considered by many scholars to be a core "cause" of crime among youth (e.g., Paternoster et al., 2012; Warr, 1998; Warr & Stafford, 1991). Several theories, including differential association (Sutherland, 1947) and social learning theory (Akers, 1998), both referred to more generally as social learning, have been used by scholars to explain the relationship between peers and crime. Social learning suggests social interactions lead to offending through learned observation and shifts in attitudes/behaviors, so it follows that having

peers who engage in delinquency then leads to increases in offending. Peers, then, are indisputably considered a risk factor for both initial offending and recidivism. This understanding of peer influence has impacted how researchers and practitioners approach desistance. For example, according to the risk-needs-responsivity model (Andrews & Bonta, 2006; Andrews et al., 1990; Bonta & Andrews, 2007), having "criminal friends" is a primary risk factor for offending. The suggested intervention based on this model is to stop associating with such peers and instead replace them with "prosocial friends."

However, Sutherland's (1947) conception of differential association theory was not exclusive to negative learned behaviors. Rather, as suggested by social control theory (Hirschi, 1969) both social bonds and perceptions of social support are protective factors that need more attention in the literature on offending and recidivism, as the roles peers play may not be as straightforward as prior work has suggested. While the influence of peers has been a core focus in criminological literature, recent work has suggested that the role of peers may change over the life course as one ages (Sampson & Laub, 1990), thus drawing attention to the need for both anti- and pro-social effects of peers across time to be examined. Sampson and Laub's (1990) life-course theory of crime focuses heavily on turning points, transitions, and trajectories and has also stressed the importance social bonds have on crime and deviance. Both social control and social learning theories, taken together, suggest that peers can be both prosocial and antisocial agents of influence on offending over the life course.

While there has been myriad work in criminology examining the effect of peers on reoffending, prior studies have failed to examine this relationship in the context of aging into adulthood, a time when changes in offending are particularly prominent. Further, despite broad recognition that peers are an influential factor (e.g., Agnew, 1991; Akers, 1998; Brownfield &

Thompson, 1991; Haynie & Osgood, 2005; Heimer, 1997; Sutherland, 1947; Warr & Stafford, 1991; Weerman et al., 2015), few scholars have examined both the prosocial and negative influences of peers (see a discussion of this gap in the research by Mowen & Boman, 2020). While some research has focused on adults (e.g., Mowen & Boman, 2020), no one has explicitly examined the influence of peer relationship quality on reoffending during the transition to adulthood. This study is novel in that it not only considers an understudied potential prosocial effect stemming from peer relationships, but also that the sample examined is exclusively at-risk, adjudicated adolescents. The use of the current dataset – Pathways to Desistance – provides a unique opportunity to answer unexplored research questions regarding the role of peers while also considering experiences unique to at-risk youth aging into adulthood.

Using longitudinal data from Pathways to Desistance (Pathways; Mulvey, 2016), which followed adjudicated adolescents for seven years post-initial survey response between 2000 and 2003, the current study considers multiple theoretical perspectives within a life-course framework to best understand the potentially multifaceted role of peers on reoffending. As noted in Mowen & Boman (2020), very few datasets have nuanced measures of peer and family relationships, one of which is Pathways to Desistance. While prior research has emphasized negative outcomes related to peer influence, I argue that peers can be simultaneously prosocial *and* criminogenic. Rather than consider negative and positive peer influences as being mutually exclusive, the current study seeks to advance the field of criminology by considering these positive and criminogenic aspects of peer relationships in context of each other. More specifically, the current study seeks to explore positive aspects of peers both in comparison to, and within the context of, peer delinquency among respondents who have already been apprehended for offending.

In the following sections, I first overview the life course perspective (Elder, 1998) and life-course theory of crime (Sampson & Laub, 1990). I then outline how peers have been conceptualized across the life-course regarding offending, with specific attention given to social learning and social control theories (Akers, 1998; Hirschi, 1969). Finally, I then consider evidence that peers may also be a protective asset in preventing reoffending by focusing on recent work (e.g., Mowen & Boman, 2020) and try to overcome a lack of more sophisticated measures capturing this dimension in prior work.

LITERATURE REVIEW

Life Course Perspective

Elder's (1985; 1998) conception of the life course has four key principles: historical context, timing of life events, linked lives, and human agency.[1] Most important to Elder's framework of life course theory is that the lives and choices of individuals are interdependent in terms of consequences and influences, and as such are reciprocally connected. While historical context and human agency are outside the scope of the current study, and are important areas for consideration in future research, the notion of linked lives— in terms of the effects peer relationships have on future offending— is a very important and central focus points of the current work, as is the timing of life events. Elder's perspective provides a general lens through which scholars in disciplines such as criminology have been able to consider changes and significant turning points through the life course.

The life course perspective has been frequently applied in the field of criminology since the early 1990s, since Sampson and Laub (1990) used it to develop their own life-course theory of crime.[2] Much research has focused on the relationship between marriage and offending (e.g., Laub et al., 1988; Sampson et al., 2006; Skardhamar, et al., 2015), often referred to as "the marriage effect." The general consensus is that marriage is associated with lower odds of offending and is thus a protective factor in much of the literature, with some nuance as to the implications and rationale (e.g., Bersani and Doherty, 2013; King et al., 2007; Warr, 1998). Other literature has focused heavily on employment as either a deterrent (e.g., Uggen, 2000; Wright & Cullen, 2004) or risk factor (e.g., Wright & Cullen, 2000) for offending, based on

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[1] As noted by Elder (1998), prior research – including his own (see: Elder, 1975)— had given attention to the central premise of life course theory, which is that changes in life course events alter subsequent trajectories.
[2] In reflecting on the Glueck study (Laub & Sampson, 1988)

Sampson and Laub's (1993) claim that employment creates a stake in conformity and is therefore protective. Laub and Sampson (2008) attribute the development of key ideas in "life-course criminology" (e.g., turning points) to Elder's influential work. In fact, Sampson and Laub (1993) were greatly influenced by Elder's perspective and guidance in their own scholarship.

Prior work has invoked the concept of turning points (Sampson & Laub, 1990) in order to better understand the influence that social relationships (e.g., marriage, as in Laub et al. 2006; King et al. 2007, and family, as in Mowen & Boman, 2020) have on offending over time. Scholars have also used turning points in the literature to emphasize the significance of gang membership (Melde & Esbensen, 2011), school discipline (Mowen & Brent, 2016), parenthood (Pyrooz et al., 2017), and educational achievement (Blomberg et al., 2012) among many other pivotal life events, to examine offending trajectories. In the context of the current study, an important turning point involves changes in peer relationships and/or peer offending. Specifically, the shift in peer relationships and peer offending and how these factors relate to reoffending longitudinally is likely a key turning point. With a life-course lens, both peer support and peer offending can both be viewed as important influences on long-term offending outcomes; thus, I argue that these are key turning points in the lives of adjudicated youth. Importantly, the life-course perspective inherently assumes that these experiences can change the trajectories that one is on and thus lead to change (e.g., desistance or continuity, see Laub & Sampson, 2008).

Further, Sampson and Laub (1990; 1993) expressed the importance that adult social bonds have in influencing crime and deviance. According to the life-course theory of crime, social bonds are preventative of offending (Laub & Sampson, 2008). Importantly, relationship quality may be more important than the existence of the relationship itself, based on research

investigating the role of marriage on adult crime (Sampson & Laub, 1990). This argument motivated the current study because the quality of *peer* relationships has been largely ignored in most prior work. Of interest in the current work then, are the influences—both positive and negative—that peers may have on recidivism trajectories of emerging adults who were adjudicated as adolescents. Prior research in life-course criminology has almost exclusively considered the context of family or marriage while neglecting to consider the role of other relationships such as friends or peers. This is an important long-standing gap in the current literature on offending and recidivism.

Peers, Crime, and the Life-Course

Two theoretical perspectives highly complementary to Sampson and Laub's (1990) life-course theory are social learning and social control theories (Akers, 1998; Hirschi, 1969). As a theory of crime, social learning theory explains that individuals learn to become criminal through interactions with others. Quite the opposite, as a theory of control, social control theory explains that crime is a natural human proclivity and that the presence of a strong social bond *prevents* individuals from engaging in crime. Although social learning and control theories are often at odds with one another, each offers keen insight into understanding the theoretical link between crime and peer influences, which I turn to now.

Differential Association/Social Learning Theory

According to differential association theory (Sutherland, 1947), crime is the result of social interactions. As per this framework, offending is a learned behavior in that people are not inherently inclined to perform deviant acts but are instead socialized to perform them. As Warr and Stafford (1991) have suggested, differential association's influence is through shifting attitudes toward crime, such that peers influence offending via their approval or disapproval of it.

However, based on social learning theory (Akers, 1998), this influence is through an observational learning process relating to punishment and reinforcement. Specifically, negative behaviors are learned by observing others enact behaviors, and then reinforced based on the observed positive outcomes (rewards) of those actions. Accordingly, Warr and Stafford (1991) found that having friends who approved of delinquency did not influence adolescents' own behaviors unless their friends were also *engaging* in delinquency. Further, even if their friends did not approve of their own behaviors, delinquent behavior alone was enough to influence peers' behaviors towards crime. In other words: actions were more powerful than attitudes. However, the reported quality of these relationships, which are conceptually linked to Sutherland's (1947) original focus on intensity and priority, were not included as measures—a limitation of much of the research on this topic.

Many scholars have supported the notion that offending is a socially reinforced behavior, supporting the primary tenant of social learning perspectives. According to Heimer (1997), violent delinquency results from learning to define violence as favorable from associating with delinquent peers and other agents. Numerous scholars over the years have concurred that peer involvement in delinquency is a significant predictor of self-reported delinquency (e.g., Agnew, 1991; Brownfield & Thompson, 1991; Haynie & Osgood, 2005; Warr, 2002; Weerman et al., 2015). In addition, research focused on peer networks has demonstrated that having a greater ratio of delinquent friends is associated with more delinquency (Haynie, 2001; Haynie, 2002) and even in virtual interactions peers are influential (Miller & Moris, 2014). Other work has suggested the amount of time spent with peers (Weerman et al., 2015) and the strength of peer relationships (Boman et al., 2012; Brownfield & Thompson, 1991; Costello & Hope, 2016; Kandel & Davies, 1991) are important to consider when examining social learning's influence on

offending. Social learning in general has been used as a theoretical framework extensively in the literature, with much empirical evidence in support of it (see Pratt et al., 2010).

Together, this research highlights the existing work that has been done to establish a link between peers and learned offending, while also stressing the need for further work in this area. As noted previously, prior research has indicated that peer delinquency is an important variable to include in models when attempting to understand an individual's delinquent behaviors (e.g., Warr, 2002 Warr & Stafford, 1991). Clearly peers are influential in inciting criminal behaviors, but that cannot be the entire story. I now turn to social control perspectives on peers.

Social Control Theory

Social control theory (Hirschi, 1969) differs from learning theories in that it suggests crime is a means of fulfilling desires and is therefore innate when not controlled by social bonds. In other words, crime is not so much learned as it is a natural impulse. According to this theory, people are "rational actors" who weigh the costs and benefits of offending. Those with lower stakes in conformity (i.e., weak social bonds; see Toby, 1957) are then more likely to engage in deviance. Hirschi outlined social bonds as being comprised of four main facets including: a) ties to significant others, b) time and investment in conventional activities and goals, c) involvement in conventional activities, and d) accepting and following social rules. The current study is primarily concerned with ties to significant others, in this case peers. Importantly, social control theory (Hirschi, 1969) suggests that the strength of social bonds is more important than the associations in themselves. As such, strong social bonds with peers should be more important than delinquency status according to the main premise of social control theory. This is a key premise guiding the current work.

Much work investigating the role of social bonds has focused on the role of family (often parents) as a protective asset in preventing or reducing delinquency. Scholars have generally concluded that greater attachment to parents is associated with less delinquency (e.g., Costello et al., 2006; Hoeve et al., 2012; Laub & Sampson, 1988). In fact, Costello and Laub (2020: 29) regard this finding as "so robust that it is safe to call it a fact of delinquency." The current study is centered on re-offending among individuals who were adjudicated as youth, and the social control context is peer relationships rather than families. As mentioned in Costello and Laub (2020), Hirschi's (1969) theory of social control does not directly mention or address the effects of criminal justice involvement on societal bonds. However, due to cumulative disadvantage (Sampson & Laub, 2001) one may expect that this system involvement would weaken family relationships, leading to a greater propensity for offending especially without strong social ties to other buffering influences such as peers.

In Hirschi's (1969) own work, stronger social bonds were negatively associated with boys having delinquent friends. Importantly, regardless of how delinquent one's friends were, the relationship between having delinquent friends and engaging in delinquency was moderated by stakes in conformity; such that greater stakes in conformity weakened this base relationship. Hirschi (1969) concluded that weak social bonds therefore act as a self-selection process wherein delinquent youth tend to group together as a consequence of offending, rather than as a cause (as is theorized in social learning theories). More recently, using dyadic data, Boman and Mowen (2018) concluded that non-offenders cluster together more so than those engaging in deviant behaviors which illustrates the influential nature of prosocial peers and the tendency to "flock together" among those similar, which has been noted in other recent work as well (Gallupe et al., 2019).

As has already been addressed in the preceding section, many scholars disagree with the arguments from control theory. However, contemporary scholars still support and use this theory as a framework for understanding the role of peers in offending (e.g., Costello & Hope, 2016; Costello & Vowell, 2006; Costello & Zozula, 2018). Costello and Zozula (2018) used narrative data to conclude that crime is the result of asocial behavior rather than strong ties to others (e.g., delinquent peers). This finding supports Hirschi's (1969) focus on reduced or absent attachments being associated with increased deviance. Related work has also found peer social bonds are more predictive of delinquency than peer delinquency (Costello & Vowell, 2006), which supports the theory's focus on strong bonds and the current study's focus on peer relationship quality.

In the next section, I briefly overview these gaps in the current literature, while highlighting scholarship that supports the current study's aims. In addition, I emphasize the importance of the current project and how this work serves to further our understanding of desistance, peer relationships, and emerging adulthood.

Moving Peers Research Forward

Neglected in much of the work within the frameworks of both social learning and social control theories is the potential influence friendship quality has on preventing offending. While there is minimal work focusing on peers external to general themes of homophily and/or negative outcomes related to deviant peers, there has been some research focused on the positive implications of peer relationships. Recent work has linked better friendship quality with fewer deviant behaviors (Costello & Hope, 2016). While other work has found few/no differences between delinquents and non-delinquents in terms of friendship quality (Giordano et al., 1986), the majority of prior work has found higher levels of friendship quality and/or peer attachment

are associated with *more* deviant behaviors (e.g., Boman et al., 2012; Brownfield & Thompson, 1991; Kandel & Davies, 1991). Higher quality friendships have been associated with increased drug use (Kandel & Davies, 1991) and substance users reported being more likely than non-users to have a greater willingness to confide in peers (Krohn & Thornberry, 1993). These findings may instead suggest that peer relationships are not protective for specific offense types, such as drug use. Importantly, some scholars have noted that the influence of peers lessens as individuals age (Monahan et al., 2009; Stouthamer-Loeber et al., 2004). Therefore, even if multiple studies have suggested that relationship attachment/quality is positively associated with delinquency, this finding may not be replicated in a longitudinal model that spans into emerging adulthood, particularly when peer offending is captured as a separate influence.

Recent work on the possible protective effects of peers has largely focused on populations that differ in many respects from adjudicated adolescents, yet it does give some support to the notion that the association between peers and offending is more complicated than previously assumed For example, in the context of adolescent relationships, some scholars have found that higher levels of peer support are associated with lower levels of bullying and victimization over a one-year period (Kendrick et al., 2012). Hartup (1996) has stressed the importance of friendships developmentally in terms of being a resource for youth. However, differences arise between supportive and conflict-heavy relationships, as has been noted in family literature. Thus, the quality of peer relationships is an important component to consider when examining the effects of peers in order to account more thoroughly for relationship. Simply drawing the conclusion that having relationships with peers is a risk factor, particularly if those peers engage in delinquency, may be missing an important component of those relationships; particularly among youth who have had formal contact with the criminal justice system.

These works and the related body of literature highlight the possibility that peers are not only negative in their influence (e.g., Kendrick et al., 2012; Monahan et al., 2009; Stouthamer-Loeber et al., 2004). From this, we can derive a need for criminology to take note and address this gap in contemporary research on peers. Some scholars recently have argued for greater attention to be given to this oversight. For example, contrary to the general consensus in criminology that families are protective and peers are criminogenic, recent work has demonstrated the opposite. In their work, Mowen and Boman (2018a) find that peer offending is not significantly associated with reincarceration while family conflict is positively associated with reincarceration. Even in recent work that *has* demonstrated a positive link between peer offending and substance use, peer support is nonetheless protective against this association (Mowen & Boman, 2018b). This research suggests that, suggesting that even when peers are criminogenic, peer support is still a protective factor. However, despite having related research questions, these studies failed to examine peer relationship quality in the context of self-reported offending. In addition, these prior studies have focused exclusively on adults and thus, failed to examine the potential bifurcated influence of peers on adolescents as they transition into adulthood. The current study builds on this prior work by considering that having high quality peer relationships may be protective among those who were adjudicated as adolescents even if these peers are engaged in offending.

More recently, Mowen and Boman (2020) have argued that while the field of criminology often views family influences as protective and peer influences as detrimental, the association between these social agents and re-offending may not be so clear-cut. In fact, they stress that such assumptions have negatively impacted policies centered around strengthening family relationships while dissolving peer relationships among prior offenders that are presumed

to be harmful (e.g., risk needs responsivity models). In other words, it is an oversimplification to treat peer influences as wholly positive or negative. In addition, they point out that this nuanced view (i.e., that peers can be both protective and detrimental) is already prevalent in family-oriented work, such that there is an understanding that supportive families can still experience conflict.

Much research on peer influence has almost exclusively focused on peer delinquency while neglecting perceptions of social support and/or relationship quality. Little work has captured the potentially complex and protective relationship between peers and delinquency. Even more so, there is a gap in the literature concerning the relationship between delinquent peers and relationship quality in influencing offending behaviors. In addition, adjudicated youth have been an understudied population particularly concerning any focus on peer relationship quality. Much of the empirical work concerning peers has been reliant on measures of peer delinquency while often neglecting measures of friendship support or quality (see Pratt et al., 2010). As discussed in Mowen and Boman (2020), this tendency has greatly impacted the way criminologists view peers in the context of offending and is a limitation in our understanding of peer relationships overall. Similarly, Costello (2010) argued peers can reduce or prevent delinquency and as thus stressed the need for future research to include measures of both positive and negative peer influence. The question the present research seeks to address is then: Why is it that peer influence and peer delinquency continue to be framed as mutually exclusive when there is a lack of empirical evidence suggesting this is the case? In response, I propose that positive peer influence and peer delinquency should not be conceptualized as being a binary dichotomy since, to my knowledge and based on the preceding literature review, no compelling research has demonstrated nor explicitly investigated such. By including both measures of peer relationship

quality and peer delinquency, I hope to address the need—as stated in Mowen and Boman (2020)—for future research to consider peers as being multifaceted in relation to their influence on offending behaviors.

In addition, it is important to note that no one has specifically examined at-risk youth transitioning into emerging adulthood with specific attention to peer relationships and reoffending. Pathways to Desistance (Mulvey, 2016), which focuses on this critical age group, tracks youth over time as they move into emerging adulthood. This sample is specifically high-risk youth who have been adjudicated as adolescents, making this study have important implications for adolescents and young adults with prior criminal justice contact. Recent work has examined peers within the context of relationship quality (e.g., Boman et al., 2012; Costello & Hope, 2016) and peer support (Kendrick et al., 2012) when it comes to desistance and/or reoffending. Other scholars have questioned the assumption that peers are negative and families are positive in their influences on offending (Costello, 2010; Mowen & Boman, 2018a; Mowen & Boman, 2018b; Mowen & Boman, 2020). However, while these works are a great start, no study to date has used the examined potential prosocial peer effects on reoffending among youth. This study is novel in its examination of at-risk adolescents transitioning into emerging adulthood, and in its inclusion of a prosocial measure of peer relationships.

CURRENT STUDY

The current work addresses gaps in the literature in two major ways. First, scholarship in criminology has failed to consider the critical timeframe of emerging adulthood when it comes to both the antisocial *and* prosocial effects of peer relationships on desistance. In this study I have a unique opportunity to examine re-offending among a sample of at-risk adolescents as they transition into emerging adulthood. This work expands on prior scholarship that has noted the need for research in criminology to consider the multifaceted effects of peer influence (e.g., Costello, 2010; Mowen & Boman, 2020). The first research question is then: is peer relationship quality protective against different types of self-report offending and polysubstance use? Related, a second research question asks if peer relationship quality is protective even when controlling for peer delinquency. Regardless of whether peer relationships are significantly associated with offending measures, the analyses included uncover an important and missing piece of the puzzle regarding the role of peers. Related, to my knowledge no research has examined peer relationship quality and peer offending as an interaction term with self-report offending as an outcome variable in samples of adjudicated youth. The third research question related to this gap in the research asks if peer relationship quality moderates the relationship between peer delinquency and self-report offending and polysubstance use. Therefore, the current work has several notable contributions to the field of criminology; both empirically and theoretically in how we conceptualize and model the effects of peer relationships.

Hypotheses

Consistent with findings in prior research as aforementioned, I expect greater levels of peer delinquency to be associated with greater levels of recidivism [Hypothesis 1]. However, I also anticipate that peer support will be a protective factor against recidivism and therefore

hypothesize that greater levels of peer support will be negatively associated with recidivism [Hypothesis 2]. Towards exploring the interdependent nature of peer delinquency and peer support on offending, I also examine the potential moderating effect of peer support on the link between peer delinquency and offending. I hypothesize that the protective effects of peer support will reduce the antisocial influence of peer delinquency on offending [Hypothesis 3].

METHODS

Data

Pathways to Desistance is a longitudinal dataset from 2000 to 2010, consisting of 1,354 adolescents who were all found guilty of a serious offense. All adolescents included in these data were between the ages of 14 to 18 at the time of first offense and were in either Maricopa County, Arizona or Philadelphia County, Pennsylvania. Participants were followed for seven years after their initial responses to the survey, with all initial responses occurring between 2000 and 2003. Overall, Pathways to Desistance includes 11 waves of data.[3] Descriptives for all variables used in the analysis are presented in Table 1 (see Appendix A).

Measures

Dependent Variables.

Self-Reported Offending. The primary interest of the current project is to understand how peers relate to self-reported reoffending behaviors. In this project, offending is broken down into three main categories: income-based offending, aggressive offending, and polysubstance use. Income-based offending captures the number of times respondents reported engaging in offenses related to income (e.g., "Used checks or credit cards illegally; See Appendix A) in the past year in wave 1 and the past six months in subsequent waves ($M = 48.34$, $SD_{between-individual} = 141.12$), with variation over-time ($SD_{within-individual} = 173.48$). Aggressive offending is a count of the number of offenses (e.g., "Been in a fist fight"; See Appendix B) in the past year and the past six months for subsequent waves ($M = 4.64$, $SD_{between-individual} = 18.36$) with variation over time ($SD_{within-individual} = 27.59$). Both scores were adapted in Pathways from the 24-item Self-Reported

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[3] For waves 1-4, participants were interviewed every six months. For the remaining waves, data was collected annually.

Offending (SRO; Huizinga et al., 1991).[4] Last, a polysubstance use measure (including

marijuana, sedatives, stimulants, cocaine, opiates, ecstasy, hallucinogens, nitrates, inhalants, and

"other"; See Appendix C) was generated by summing dummy-coded measures of each substance

reported at each wave of data (1 = use, 0 = did not use), ($M = 0.77$, $SD_{between\text{-}individual} = .82$) which

also varies across time ($SD_{within\text{-}individual} = .93$). Prescription medication was not included in the

summed scale.

Focal Independent Variables.

　　Quality of Relationships with Peers. The average score from a 10-item adaptation of the

Quality of Relationships Inventory (Pierce, et al., 1994) focuses on the respondents' closest

friends and includes items such as "How much can you count on the people for help with a

problem" and "How much do you depend on these friends?" (1 = not at all, 4 = very much; See

Appendix D). Based on this measure being an average score, respondents reported high levels of

peer relationship quality ($M = 3.33$, $SD_{between\text{-}individual} = .36$) with variance over time ($SD_{within\text{-}individual} = .36$) at each wave. Respondents who indicated that they did not have at least one friend

were not administered this measure. The average friendship quality score for this subsample

overall is 3.30, with a standard deviation of 0.43.

　　Peer Delinquency. Respondents self-reported the number of friends who engage in 12

antisocial behaviors listed (e.g., "How many of your friends have sold drugs"; See Appendix E),

which are a subset of items used in the Rochester Youth Study (Thornberry et al., 1994). As with

the friendship quality measure, peer delinquency scale is also an average score, of the number of

antisocial behaviors in which respondents report their friends engaged in. On average, friends

engaged in 1.80 behaviors ($SD_{between\text{-}individual} = .65$, $SD_{within\text{-}individual} = .36$).

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[4] Worth noting, two items ("took something by force with a weapon" and "took something by force without a weapon") are included as items in both the income-based offending and aggressive-offending measures.

Control Variables.

    Demographics. To protect against spuriousness, I include a series of control variables. In the current sample, respondents were 24.03% White, 39.52% Black, 32.10% Hispanic, and 4.34% were "other." In my sample, 50.04% of respondents were in Philadelphia and 49.96% were in Maricopa county. However, due to multicollinearity with the interview location, I exclude this variable from my forthcoming models.[5] Research has noted differences in juvenile delinquent peer association and subsequent delinquency between girls and boys (e.g., Piquero, Gover, Macdonald, & Piquero, 2005). Therefore, I also control for sex, captured by a dichotomous measure (0 = female [17.47%], 1 = male [82.53%]), as well as age ($M = 15.98$, $SD = 1.14$) from wave 1. As a proxy for SES, I include measures of biological mother's educational attainment ($M = 1.76$, $SD = 1.07$), employment (26.97%), and whether or not respondents report ever having dropped out of school (14.22%). My measure of mother's educational attainment included different levels of achieved education, coded from lowest (0) to highest (5) accordingly: grade school or less (0), some high school (1), high school diploma (2), business/trade school or some college (3), college graduate (4), and graduate or professional school (5). Employment and whether or not respondents report dropping out of school were both dummy variables, coded yes (1) and no (0) respectively. All three of these variables were only available in wave 1 of the data.

    Neighborhood Conditions. In general, scholars have often considered the impact of neighborhoods under the framework of several theories including Shaw and McKay's (1969/1942) social disorganization theory and Bronfenbrenner's (1979) ecological model. Prior research using Pathways has also demonstrated the importance of including measures of

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[5] With the interview location included in the model, the Variance Inflation Factor (VIF) score for Black is 2.42 and the VIF score for location is 2.09. A correlation matrix between these two variables shows a moderate-large correlation of -0.65. Therefore, I exclude interview location from my models, which brings all VIF scores below 2.0.

neighborhoods in analyses (Chung & Steinberg, 2006). More specifically, among other findings, they noted that neighborhood-level characteristics were associated with youths' rates of offending in addition to involvement with delinquent peers. The current study uses a 21-item adapted version of The Neighborhoods Condition Measure (Sampson & Raudenbush, 1999). The scale is divided into two sub-scales: physical disorder (e.g., "cigarettes on the street or in the gutters"; See Appendix F) and social disorder (e.g., "adults fighting or arguing loudly"; See Appendix G). Both measures are averaged scores ranging from 1 to 4. However, because these subscales highly correlate with each other, only the mean of physical disorder is included in the models in order to prevent multicollinearity ($M = 2.33$, $SD_{between-individual} = .65$, $SD_{within-individual} = .51$).[6]

Self-Control. As posited by the General Theory of Crime (Gottfredson & Hirschi, 1990), self-control is regarded as associated with offending at all ages (Pratt, 2015; Pratt & Cullen, 2000). Similar to other work using Pathways data (e.g., Schwartz et al., 2017), average scores from impulse control and suppression of aggression subscales from the Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990) were used as measures of self-control. The 8-item impulse control subscale included items such as "I say the first thing that comes into my mind without thinking enough about it," ($M = 3.22$, $SD_{between-individual} = .77$, $SD_{within-individual} = .59$; See Appendix H). The 7-item suppression of aggression subscale included items such as "People

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[6] With the neighborhood social disorder included in the model, the Variance Inflation Factor (VIF) score for neighborhood social disorder is 4.52 and the VIF score for physical disorder is 4.02. A correlation matrix between these two variables shows a large correlation of 0.86. Therefore, I exclude neighborhood social disorder from my models, which brings all VIF scores below 2.0.

who get me angry better watch out," ($M = 2.98$, $SD_{between\text{-}individual} = .77$, $SD_{within\text{-}individual} = .62$).

Both measures range from 1 to 5.[7]

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[7] The VIF scores for suppression of aggression and impulse control are below 2.0. A correlation-matrix between these two variables does reveal a moderate association of 0.56, but due to lack of concern with multi-collinearity both variables are included in final models.

ANALYTIC STRATEGY

Respondents in the current dataset were inconsistent in their reported information

longitudinally. Meaning, not all respondents provided the same data points for the same years

over the 10-year period of longitudinal data collection. By using a mixed-effects model, I am

able to model changes over time both at the individual respondent level and between respondents

while accounting for gaps in the available data while minimizing lost cases. More specifically,

this statistical model retains data from any respondents with multiple data points for time-variant

measures. Overall, I rely on data from 1,272 respondents in the sample, or about 94 percent of

the original sample. Of the 82 total cases lost, 70 were from participants missing data for the

mothers' education variable. The remaining 12 were lost due to list-wise deletion, in this case

from not having at least two responses for each longitudinal data point.

To investigate my research questions and hypotheses, in Tables 2-4 (see Appendix A) I

present models regressing all three re-offending measures onto key predictors, control variables,

and demographic variables. To test my first hypothesis, that peer delinquency is positively

related to increased offending, Model 1 in each table regresses the offending outcome measure

onto the measure of peer offending in addition to the control variables. In order to test my second

hypothesis, that peer relationship quality is negatively related to offending, Model 2 in each table

regresses offending outcomes onto peer relationship quality in addition to control variables. To

explore these effects in tandem, Model 3 examines both factors of peer relationships. Then in

Model 4, I examine the interaction of peer support and peer delinquency in order to determine if

peer relationship quality weakens the relationship between delinquency and offending. To create

the interaction term, the measures of peer relationship quality and peer delinquency are both

grand-mean centered, multiplied by each other, and included in addition to the other variables in the mixed-effects model.

Prior to examining regression models, I first examine potential multicollinearity among the variables in the final proposed model. According to Allison (1991), as long as the variance inflation factors (VIFs) are below 2.5, they can be retained in the models. In the diagnostic of measures included in subsequent analyses, no VIF exceeded 1.95, therefore multicollinearity does not appear to be a concern in the following models. All models were estimated using Stata v.16.

RESULTS

Results of the mixed-effects regression models for aggressive offending are shown in Table 2. In Model 1, I first examine the influence of peer delinquency, which is positively associated with aggressive offending ($p \leq .001$). Model 2 examines the influence of peer relationship quality, which is also positively associated with aggressive offending ($p \leq .01$). In Model 3, I include both peer delinquency and relationship quality, and find both are significantly associated with aggressive offending ($p \leq .001$). The interaction of peer relationship quality and peer delinquency in Model 4 is not significant. In Model 3, I also find that impulse control and suppression of aggression are protective against reoffending, as is being female and Black. Age is negatively associated with aggressive offending as well.

Turning to income-based offending, the results of the mixed effects models examining peer delinquency, peer relationship quality, and an interaction of peer delinquency and relationship quality, along with all control measures are included in Table 3. In Model 1, I first examine only peer delinquency, which is positively associated with income-based offending ($p \leq .001$). In Model 2, I examine peer relationship quality, which is not significantly associated with income-based offending. In Model 3, I include both peer delinquency and peer relationship quality and find that only peer delinquency was significantly associated with income-based offending ($p \leq .001$). In addition, there is a significant interaction between peer relationship quality and peer delinquency on income-based offending ($p \leq .05$) (Model 4). The direction of this moderation indicates that peer relationship quality weakens the relationship between peer delinquency and aggressive offending. In other words, greater levels of reported friendship quality weakens the positive association between peer delinquency and income-based offending. Impulse control, suppression of aggression, and being female are also significantly protective

against income-based reoffending, while Whites are significantly less likely than Hispanic respondents to engage in income-based reoffending (Model 3). Age is positively related to reoffending while employment is negatively related.

Last, I examine polysubstance use with mixed-effects models including peer relationship quality, peer delinquency, an interaction term, as well as all control measures (Table 4). In Model 1, I focus solely on peer delinquency and find a positive relationship between having delinquent peers and reported polysubstance use ($p \leq .001$). In Model 2, I examine peer relationship quality and find a significant negative relationship between relationship quality and substance use, such that greater levels of friendship quality are associated with less polysubstance use ($p \leq .05$) (Model 2). However, when I include both peer delinquency and peer support in Model 3, peer relationship quality becomes non-significant and only peer delinquency remains significantly related to polysubstance use ($p \leq .001$). The interaction term between peer support and peer delinquency is not significant (Model 4). Both impulse control and suppression of aggression are significantly protective against polysubstance use, as was being non-White (Model 3). In addition, mother's education level is positively associated with polysubstance use.

DISCUSSION

Placed within a life-course framework, the goal of this study was to examine the independent and interdependent effects of peer relationship quality and peer delinquency on self-reported offending using a longitudinal sample of adjudicated adolescents. Specifically, I examined potential protective effects of peers by including a measure of peer relationship quality in addition to investigating if relationship quality moderated the already established relationship between peer delinquency and reoffending. In the following section, I briefly overview key findings and offer some thoughts on potential explanations and theoretical applications. I also discuss limitations of the present work and make some suggestions regarding future directions.

My first hypothesis was that peer delinquency would be positively associated with self-reported reoffending. This finding has been established in prior literature focused on peers and offending (e.g., Paternoster et al., 2012; Warr, 1998; Warr & Stafford, 1991), particularly from the lens of social learning theory (Akers, 1998; Sutherland, 1947). Specifically, peer delinquency has been frequently associated with self-reported delinquency (e.g., Agnew, 1991; Brownfield & Thompson, 1991; Haynie & Osgood, 2005; Warr, 2002; Weerman et al., 2015). Consequently, I expected a positive relationship between peer delinquency and reoffending. For all three types of self-reported offending (aggressive, income-based, and polysubstance use), I found a significant positive relationship between peer delinquency and offending.

Second, I hypothesized that peer relationship quality would be protective against reoffending. Recent scholarship has noted the importance of the amount of time spent with peers (Weerman et al., 2015) and the strength of peer relationships (e.g., Boman et al., 2012; Costello & Hope, 2016). Further, within a social control lens (Hirschi, 1969), social bonds should be important in terms of mitigating deviance. Other work has noted that friendship quality is

associated with fewer deviant behaviors (Costello & Hope, 2016; Costello & Zozula, 2018). However, many of my findings did not support this hypothesis. For aggressive offending, peer relationship quality was associated with more self-report offending. There was no significant association between peer relationship quality and income-based offending. When examining self-reported polysubstance use, I did find a significant and negative association between friendship quality and polysubstance use. However, this effect became non-significant when controlling for peer delinquency. These findings suggest that, at least when considered in tandem with peer delinquency, friendship quality does not seem to be protective against reoffending. While this is contrary to what I expected based on prior work that has found relationship quality to be protective in some cases (Costello & Hope, 2016), this finding does support other work that has found negative outcomes associated with increased peer support and/or friendship quality (Boman et al., 2012; Brownfield & Thompson, 1991; Kandel & Davies, 1991).

Taken together, particularly regarding aggressive offending, these results appear more supportive of learning theory (Akers, 1998; Sutherland, 1947) than social control theory (Hirschi, 1969). Based on social control theory, associations with meaningful others—in this case, friendships—should be more important for preventing delinquency than whether or not peers offend. However, when peer delinquency was included in the model examining polysubstance use, the prosocial effect of peer relationship quality was lost. In addition, peer relationship quality was associated with more aggressive offending. These findings are therefore more supportive of learning theory, which would suggest that delinquency is learned through observing others enact deviant behaviors—suggesting the delinquency status of peers is more impactful than the relationship quality in itself.

Third, I hypothesized that peer relationship quality would weaken the association between peer delinquency and reoffending. As stressed previously, within the framing of social control theory (Hirschi, 1969), peer relationships should be more important in terms of strength (as a tie to significant others) than in terms of whether or not these bonds are to individuals engaging in delinquency. Based on this theoretical framing, I speculated that better relationship quality should be negatively associated with reoffending, regardless of peer delinquency. This hypothesis was also informed by work that has found relationship quality to be protective (Costello & Hope, 2016) as well as Mowen and Boman's (2020) argument for exploring multifaceted peer effects instead of solely looking at peers as a risk factor. Findings showed that peer relationship quality reduced the impact of peer delinquency on income-based offending, which is supportive of my hypothesis. However, contrary to my hypothesis, there was not a significant interaction of peer relationship quality and peer delinquency for aggressive offending nor polysubstance use. Therefore, the present work does demonstrate some support for the notion that peer relationships can be protective, but further work is needed in order to really parse out the circumstances in which this is the case. More specifically, it seems that the protective nature of peer relationships may be limited to certain types of offending and may be best examined as a moderator of other known risk factors (e.g., neighborhood conditions and negative family dynamics).

Given the mixed findings discussed above regarding the moderating influence of peer relationship quality on the link between peer delinquency and offending, the question then is: what makes income-based offending different from aggressive offending and/or polysubstance use? Not finding a protective moderating effect for substance use was not surprising, since prior literature has noted that friendship quality is associated with more substance use (Kandel &

Davies, 1991) and other scholarship has noted that substance use often occurs with peers (e.g., Augustyn & McGloin, 2013). Although, the current work did find that increased friendship quality was associated with decreased polysubstance use as a main effect prior to controlling for peer delinquency. With respect to aggressive-offending, scholarship stemming from learning theory has noted that violent offending is at least partly the result of delinquent peers defining violence as favorable (Heimer, 1997), which also may explain why the association between aggressive offending and delinquent peers was not moderated by peer relationship quality.

These theoretical orientations, however, are less explanatory of the current work's finding regarding income-based offending. Thinking more broadly, one role social support networks play for those with criminal justice contact is instrumental support; something often discussed in the context of families during re-entry (e.g., Mowen & Boman, 2020). It seems plausible that stronger peer relationships may offer increased instrumental support, possibly reducing the need to resort to income-based offending, although this explanation is not supported in my models. Nonetheless, the significant interaction term in Model 4 for income-based offending shows that when peer relationships are higher quality, the relationship between having delinquent peer associations and subsequent income-based offending is weakened.

The current work should call attention to the potentially important, yet understudied, role of peer relationships when it comes to reoffending for at-risk youth aging into adulthood. More broadly, while findings were mixed, the current study fills a gap in the scholarship, which is to examine the potential protective effects of peer relationships on offending. While some findings seemed to suggest that peer relationship quality may be either a risk-factor, or a non-significant factor, there was some nuance where peer relationship quality was protective. More specifically, peer relationship quality was important in both a) moderating the relationship between peer

delinquency and income-based offending and b) being negatively associated with polysubstance use prior to controlling for peer delinquency. In terms of theoretical implications, this work draws attention to the dual nature of peers in certain contexts, while also considering the life stage of emerging adulthood as a critical focus for research. Future scholarship should try to further expand on these and additional theoretical explanations for why, how, and when the influence of peers can be protective as well as harmful. That is, research focused on the role of peers should shift away from a one-dimensional view of peer relationships as a negative influence on offending and instead towards a more nuanced, multi-faceted perspective of how peers can be an important resource for youth and young adults depending on the context.

This work was also influenced by the life course perspective (Elder, 1985; 1998) and Sampson and Laub's (1990) life-course theory of crime. Elder stressed the importance of interdependence among individuals in terms of linked lives, such that relationships are influential throughout the life course. In applying this work to criminology, Sampson and Laub (1990) focused on turning points, transitions, and trajectories. In the current work, changes in peer relationship quality and peer crime were conceptualized as turning points that may influence offending outcomes over time. Through this lens, I argued that both peer relationships and peer offending are important agents of change that can alter the trajectory of prior offending and polysubstance use. Sampson and Laub (1990; 1993) also stressed the importance of adult social bonds, particularly for preventing offending (Laub & Sampson, 2008). Scholarship stemming from this work has frequently focused on marriage and family, while the current work focused exclusively on peer relationships.

This line of research may be especially relevant given contemporary delays of first marriage (Cherlin, 2020; Manning & Brown, 2014) and childbirth (Livingston & Cohn, 2010)—

both of which are considered important markers of adulthood (Arnett, 2000; Settersten & Ray, 2010; Shanahan, 2000). In other words, peer relationships may serve as a meaningful context of influence longer into adulthood among younger cohorts and generations. This warrants further work in both the field of criminology as well as related disciplines more broadly. By adopting a life course lens, different life stages can be viewed as a continuum which all influence each other. In the case of the current work, adjudication during adolescence influenced outcomes during emerging adulthood. By adopting this lens, critical gaps in our current understanding of peer relationships, emerging adulthood, and adjudicated adolescents become more apparent. In addition, Sampson and Laub's (1990) life-course theory of crime provides a more precise theoretical lens to use when considering different aspects of one's life and the effect that different factors have not only cross-sectionally, but over the life course. In the case of the current study, I was able to think about both adjudication during adolescence and changes in peer relationship quality over time as key turning points when examining longitudinal, self-reported offending and polysubstance use outcomes.

This work also brings to the forefront a need for better, more global, and longitudinal measures of both peer crime and peer support. Pathways to Desistance (Mulvey, 2016) afforded a unique opportunity, compared to other available datasets, to consider self-reported relationship quality with peers. However, this measure may not be capturing more global (and equally important) aspects of friendship such as support (both instrumental and emotional). Additionally, qualitative work could also be an important way to uncover these possibly more nuanced measures that may not be best captured with survey data.

Research focused on peer relationships also has contributed to policy discussions. For example, risk-needs-responsivity models (Andrews & Bonta, 2006; Andrews et al., 1990; Bonta

& Andrews, 2007) are based on the notion that having peers who engage in delinquency is a primary risk factor for offending. Based on the research that has already been established in criminology, as previously explained, this is not an unfounded conclusion. To promote desistance, within this model's framing, the recommendation is for individuals to cut off associations with delinquent peers in favor of "prosocial friends." The question, however, is who will those delinquent peers then form friendships with? In other words, how easily would those with delinquent pasts be able to form pro-social, meaningful relationships during this critical time when social bonds—according to social control theory (Hirschi, 1969)—would be most important for promoting desistance? This policy recommendation seems short-sighted given the lack of extensive research examining the protective effects of peers (net of peer delinquency) and the lack of attention to the protective roles that networks with peers of similar delinquency status may have on desistance or other positive outcomes. The gaps in this policy framework, as well as mixed findings in prior research, were key motivations for this study, which sought to address key research questions in order to reduce recidivism for prior offenders. While it is difficult to provide an exact policy recommendation based on the findings contained in current work, I think the results presented do provide some evidence that the currently held academic and policy-oriented perspectives are too narrow and simplistic in scope. At the very least, more work is needed to best assess the importance and risks of peer relationships.

The current work does have some notable limitations. First, while peer relationship quality was an important construct to consider, this measure is missing several dimensions of peer relationships that are important but were unavailable in the dataset used. I was unable to consider the role of other factors in these relationships, such as longevity of relationships, number of friends, and types of support received, all of which were unavailable in the current

dataset. Third, the self-report offending measures may be too broad to uncover more nuanced relationships within narrower categories of offending (e.g., examining specific offenses or examining specific substances used separately). Last, several variables were only available a single time in the data. Most notably, whether or not respondents dropped out of high school and employment were both only captured in wave 1. These are likely not static variables for many respondents, and both may have had variation over time if included in subsequent waves of data.

Despite these constraints, the current study's findings offer important implications for criminological research, theoretical development, and future policy work concerning how to best prevent re-offending among at-risk youth. Although criminological research has often omitted prosocial measures of peers from analyses, it appears that both prosocial and negative aspects of peers are important to consider in research focused on peers and reoffending. As recidivism rates remain high, we should be as concerned as ever with wanting to foster and promote protective factors among at-risk youth, while still trying to identify risk factors that may lead to negative outcomes. However, we should caution against a lack of nuance when examining relationships among emerging adults, particularly among an at-risk population. By offering a different lens through which to consider peers, with attention to both social learning, social control, and life-course perspectives, I encourage future researchers to explore the potentially important role peers have in the lives of emerging adults, especially among those at greater risk of negative life course outcomes.

Overall, the current work calls to attention the important, yet understudied, role of peer relationships in the lives of prior offenders. While results were mixed, some findings still demonstrate significant effects of peer relationships which have been seldom included empirically in prior work as a factor that may decrease offending. I suspect that other factors

related to peer relationship quality, which has may be important to consider as well and should be explored in future work linking peer relationships to desistance. In addition, the current research only examined individuals who were adjudicated for an offense during adolescence, and therefore these results cannot be generalized to the broad population nor to those adjudicated during other stages of the life course (such as adulthood). Despite the need for additional measures and application to more generalized populations, this study underscores the importance of continuing to expand criminology by a) highlighting the salience of peers as a unique social context that affects desistance among adolescents and emerging adults, and b) demonstrating that the "peer effect" on crime is more intricate than simply engaging in behaviors that are similar to offending peers. The role of peers over the life course is not well understood and potentially quite complicated, especially because, as McGloin and Thomas (2019; 258) point out, the transition to adulthood is characterized by simultaneous changes in both the delinquency of the peer group *and* the delinquent tendencies of the individual. In their recent review (McGloin & Thomas, 2019), they point out that there are still many advancements to be made in scholarship examining peers and crime.

REFERENCES

Allison, P. D. (1991). *Logistic regression using the SAS system: Theory and application.* Cary, NC: SAS Institute.

Agnew, R. (1991). A longitudinal test of social control theory and delinquency. *Journal of Research in Crime and Delinquency, 28(2),* 126-156.

Andrews, D. A. & Bonta, J. (2006). The psychology of criminal conducts (4th ed.). Newark, NJ: LexisNexis.

Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior, 17*, 19-52.

Akers, R. L. (1998). *Social learning and social structure: A general theory of crime and deviance.* Northeastern University Press.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55(5),* 469-480.

Augustyn, M. B., & McGloin, J. M. (2013). The risk of informal socializing with peers: Considering gender differences across predatory delinquency and substance use. *Justice Quarterly, 30(1),* 117-143.

Bersani, B. E., & Doherty, E. E. (2013). When the ties that bind unwind: Examining the enduring and situational processes of change behind the marriage effect. *Criminology, 51(2),* 399-433.

Blomberg, T. G., Bales, W. D., & Piquero, A. R. (2012). Is educational achievement a turning point for incarcerated delinquents across race and sex. *Journal of Youth and Adolescence, 41,* 202-216.

Boman, J. H. IV., Krohn, M. D., Gibson, C. L., & Stogner, J. M. (2012). Investigating friendship

quality: An exploration of self-control and social control theories' friendship hypotheses. *Journal of Youth and Adolescence, 41,* 1526-1540.

Boman, J. H. IV., & Mowen, T. J. (2018). Same feathers, different flocks: Breaking down the meaning of 'behavioral homophily' in the etiology of crime. *Journal of Criminal Justice, 54,* 30-40.

Bonta, J. & Andrews, D. A. (2007). Risk-need-responsivity model for offender assessment and rehabilitation. *Public Safety Canada, 1-22.* Retrieved from: https://www.publicsafety. gc.ca/cnt/rsrcs/pblctns/rsk-nd-rspnsvty/index-en.aspx#a4

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Brownfield, D. & Thompson, K. (1991). Attachment to peers and delinquent behavior. *Canadian Journal of Criminology, 33,* 45-60.

Cherlin, A. J. (2020). Degrees of change: An assessment of the deinstitutionalization of marriage thesis. *Journal of Marriage and Family, 82,* 62-80.

Chung, H. L., & Steinberg, L. (2006). Relations between neighborhood factors, parenting behaviors, peer deviance, and delinquency among serious juvenile offenders. *Developmental Psychology, 42(2),* 319-331.

Costello, B. J. (2010). Peer influence toward conformity. *Journal of Crime and Justice, 33(1),* 97-116.

Costello, B. J., Anderson, B. J., & Stein, M. D. (2006). Heavy episodic drinking among adolescents: A test of hypotheses derived from control theory. *Journal of Alcohol & Drug Education, 50(1),* 35-55.

Costello, B. J., & Hope, T. L. (2016). *Peer pressure, peer prevention: The role of friends in*

crime and conformity. New York: Routledge.

Costello, B. J., & Laub, J. H. (2020). Social control theory: The legacy of Travis Hirschi's

    Causes of Delinquency. *Annual Review of Criminology, 3,* 21-41.

Costello, B. J. & Vowell, P. R. (2006). Testing control theory and differential association: A

    reanalysis of the Richmond youth project data. *Criminology, 37(4),* 815-842.

Costello, B. J. & Zozula, C. (2018). Peer influence: Mechanisms and motivations. *Deviant*

    Behavior, 39(1), 94-110.

Dolliver, M. J., Rocker, D. L. (2018). Addressing a divide in the conceptualization of the

    gender-crime relationship: A comparative test of gender and sex using general strain

    theory. *Deviant Behavior, 39(12),* 1552-1565.

Durose, M. R., Cooper, A. D., & Snyder, H. N. (2014). Recidivism of prisoners released in 30

    states in 2005: Patterns from 2005 to 2010. *BJS Special Reports.* Retrieved from:

    https://www.bjs.gov/index.cfm?ty=pbdetail&iid=4986

Elder, G. H., Jr. (1975). Age differentiation and the life course. *Annual Review of Sociology, 1,*

    165-190.

Elder, G. H., Jr. (1985). *Perspectives on the Life Course.* In Glen H. Elder, Jr. (e.d.), Life Course

    Dynamics. Ithaca, N.Y.: Cornell University Press.

Elder, G. H., Jr. (1998). The life course as a developmental theory. *Child Development, 69(1),* 1

    12.

Gallupe, O., McLevey, J., & Brown, S. (2019). Selection and influence: A meta-analysis of the

    association between peer and personal offending. *Journal of Quantitative Criminology,*

    35, 313-335.

Gelb, A. & Velázquez, T. (2018). The changing state of recidivism: Few people going back to

prison. *Pew Research.* Retrieved from: https://www.pewtrusts.org/en/research-and-analysis/articles/2018/08/01/the-changing-state-of-recidivism-fewer-people-going-back-to-prison

Giordano, P. C., Cernkovich, S. A., & Pugh, M. D. (1986). Friendships and delinquency. *American Journal of Sociology, 91,* 1170-1202.

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime.* Stanford, CA: Stanford University Press.

Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67(1),* 1-13.

Haynie, D. (2001). Delinquent peers revisited: Does network structure matter? *American Journal of Sociology, 106(4),* 1013-1057.

Haynie, D. (2002). Friendship networks and delinquency: The relative nature of peer delinquency. *Journal of Quantitative Criminology, 18(2),* 99-134.

Haynie, D. L., & Osgood, D. W. (2005). Reconsidering peers and delinquency: How do peers matter? *Social Forces, 84(2),* 1109-1130.

Heimer, K. (1997). Socioeconomic status, subcultural definitions, and violent delinquency. *Social Forces, 75,* 799-833.

Hirschi, T. (1969). A control theory of delinquency. *Criminology theory: Selected classic readings, 1969,* 289-305.

Hoeve, M., Stams, G. J. J. M., van der Put, C. E., Dubas, J. S., van der Laan, P. H., & Gerris, J. R. M. (2012). A meta-analysis of attachment to parents and delinquency. *Journal of Abnormal Child Psychology, 40(5),* 771-785.

Huizinga, D., Esbensen, F., & Weihar, A. (1991). Are there multiple paths to delinquency?

Journal of Criminal Law and Criminology, 82(1), 83-118.

Kandel, D. B. & Davies, M. (1991). Friendship networks, intimacy and illicit drug use in adulthood: A comparison of two competing theories. *Criminology, 29,* 441-469.

Kendrick, K., Jutengren, G., & Stattin, H. (2012). The protective role of supportive friends against bullying perpetration and victimization. *Journal of Adolescence, 35(4),* 1069-1080.

King, R. D., Massoglia, M., & MacMillan, R. (2007). The context of marriage and crime: Gender, the propensity to marry, and offending in early adulthood. *Criminology, 45(1),* 33-65.

Krohn, M. D. & Thornberry, T. P. (1993). Network theory: A model for understanding drug abuse for African-American and Hispanic youth. In M.R. De La Rosa & J. R. Adrados (Eds.), *Drug abuse among minority youth: Methodological issues and recent research advances* (pp. 102-128). Rockville, MD: National Institute on Drug Abuse.

Kruttschnitt, C. (2013). Gender and crime. *Annual Review of Sociology, 39,* 291-308.

Laub, J. & Sampson, R. J. (1988). Unraveling families and delinquency: A reanalysis of the Glueck's data. *Criminology, 26, 355-380.*

Laub, J. & Sampson, R. J. (2008). Glen Elder's influence on life-course criminology: Serendipity and cross-disciplinary fertilization. *Research in Human Development, 5(4),* 199-215.

Livingston, G. & Cohn, D. (2010). Childlessness up among all women: Down among women with advanced degrees. *Pew Research Center's Social & Demographic Trends Report.* Retrieved from: https://www.pewsocialtrends.org/2010/06/25/ childlessness-up-among-all-women-down-among- women-with-advanced-degrees/

Manning, W. D. & Brown, S. L. (2014). Two decades of stability and change in age at first union

formation. *Journal of Marriage and Family, 76,* 247-260.

McGloin, J. M. & Thomas, K. J. (2019). Peer influence and delinquency. *Annual Review of Criminology, 2,* 241-264.

Melde, C. & Esbensen, F. -A. (2011). Gang membership as a turning point in the life course. *Criminology, 49(2),* 513-552.

Miller, B., & Morris, R. G. (2014). Virtual peer effects in social learning theory. *Crime & Delinquency, 62(12),* 1543-1569.

Monahan, K. C., Steinberg, L., & Cauffman, E. (2009). Affiliation with asocial peers, susceptibility to peer influence, and antisocial behavior during the transition to adulthood. *Developmental Psychology, 45(6),* 1520-1530.

Mowen, T. J. & Boman, J. H. IV. (2018a). Do we have it all wrong? The protective roles of peers and criminogenic risks from family during prison reentry. *Crime & Delinquency, 65,* 681-704.

Mowen, T. J. & Boman, J. H. IV. (2018b). The duality of peer effect: The interplay between peer support and peer criminality on offending and substance use during reentry. *Crime & Delinquency, 64(6)*, 1094-1116.

Mowen, T. J. & Boman, J. H. IV. (2020). (Re)Recognizing the multidimensional roles of family and peers on crime. *Sociology Compass, 14(3),* Online.

Mowen, T. & Brent, J. (2016). School discipline as a turning point: The cumulative effect of suspension on arrest. *Journal of Research in Crime and Delinquency, 53(5),* 628-653.

Mulvey, E. P. (2016). Research on pathways to desistance [Maricopa County, AZ and Philadelphia County, PA]: Subject Measures, 2000-2010. Ann Arbor, MI: Inter-university Consortium for Political and Social Research. Retrieved from:

https://doi.org/10.3886/ICPSR2996.v2

Office of Juvenile Justice and Delinquency Prevention. *Census of Juveniles in Residential Placement* [machine-readable data files]. Washington, DC: U.S. Census Bureau (producer). Retrieved from: ojjdp.gov/ojstatbb/snapshots/DataSnapshot_CJRP2017.pdf

OJJDP Statistical Briefing Book. Estimated number of arrests by offense and age group, 2018. Available: https://www.ojjdp.gov/ojstatbb/crime/ucr.asp?table_in=1. Released October 31, 2019.

Paternoster, R., McGloin, J. M., Nguyen, H., Thomas, K. J. (2012). The causal impact of exposure to deviant peers: An experimental investigation. *Journal of Research in Crime and Delinquency, 50(4),* 476-503.

Pierce, G. P. (1994). *The quality of relationships inventory: Assessing the interpersonal context of social support.* In B. R. Burleson, T. L. Albrecht, & I. G. Sarason (Eds.), Communication of social support: Message, interactions, relationship and community (pp. 247-266). Newbury Park, CA: Sage.

Piquero, N. L., Gover, A. R., MacDonald, J. M., & Piquero, A. R. (2005). The influence of delinquent peers on delinquency: Does gender matter? *Youth & Society, 36(3),* 251-275.

Pratt, T. C. (2015). A self-control/life-course theory of criminal behavior. *European Journal of Criminology, 13(1),* 129-146.

Pratt, T. C., & Cullen, F. T. (2000). Empirical status of Gottfredson and Hirschi's General Theory of Crime: A meta-analysis. *Criminology, 38(3),* 931-964.

Pratt, T. C., Cullen, F. T., Sellers, C. S., Winfree, L. T., Jr., Madensen, T. D., Daigle, L. E., Fearn, N. E., & Gau, J. M. (2010). The empirical status of social learning theory: A meta-analysis. *Justice Quarterly, 27(6),* 765-802.

Pyrooz, D. C., McGloin, J. M., & Decker, S. H. (2017). Parenthood as a turning point in the life course for male and female gang members: A study of within-individual changes in gang membership and criminal behavior. *Criminology, 55(4),* 869-899.

Sampson, R. J. & Laub, J. H. (1990). Crime and deviance over the life course: The salience of adult social bonds. *American Sociological Review, 55(5)*: 609-627.

Sampson, R. J. & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life.* Cambridge MA: Harvard University Press.

Sampson, R. J., & Laub, J. H. (2001). *A life-course theory of cumulative disadvantage and the stability of delinquency*. In A. Piquero, & P. Mazerolle (Eds.), Life-course criminology: Contemporary and classic readings*.* Toronto: Wadsworth.

Sampson, R. J., & Raudenbush, S. (1999). Systemic social observation on public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology, 105(3),* 603 651.

Sampson, R. J., Laub, J. H., & Wimer, C. (2006). Does marriage reduce crime? A counterfactual approach to within-individual causal effects. *Criminology, 44(3),* 465-508.

Schwartz, J. A., Connolly, E. J., & Brauer, J. R. (2017). Head injuries and changes in delinquency from adolescence to emerging adulthood: The importance of self-control as a mediating influence. *Journal of Research in Crime and Delinquency, 54(6),* 869-901.

Settersten, R. A. & Ray, B. (2010). What's going on with young people today? The long and twisted path to adulthood. *The Future of Children, 20,* 19-41.

Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in the life course perspective. *Annual Review of Sociology, 26,* 667-692.

Shaw, C., & McKay, H. (1969). *Juvenile delinquency and urban areas.* Chicago: University of

Chicago Press. (Original work published in 1942).

Skardhamar, T., Savolainen, J., Aase, K. N., & Lyngstad, T. H. (2015). Does marriage reduce crime? *Crime and Justice, 44,* 385-446.

Snyder, H. N. & Sickmund, M. (2006). *Juvenile Offenders and Victims: 2006 National Report.* Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Stouthamer-Loeber, M., Wei, E., Loeber, R., & Masten, A. S. (2004). Desistance from persistent serious delinquency in the transition to adulthood. *Development and Psychopathology, 16(4),* 897-918.

Sutherland, E. H. (1947). *Principles of Criminology*. Philadelphia, PA: Lippincott, 4th ed.

Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Farnworth, M., & Jang, S. J. (1994). Delinquent peers, beliefs, and delinquent behavior: A longitudinal test of interactional theory. *Criminology, 32(1),* 47-83.

Toby, J. (1957). Social disorganization and stake in conformity: Complementary factors in the p predatory behavior of hoodlums. *Criminology & Police Science, 48,* 12-17.

Uggen, C. (2000). Work as a turning point in the life course of criminals: A duration model of age, employment, and recidivism. *American Sociological Review, 65(4),* 529-546.

Warr, M. (1998). Life course transitions and desistance from crime. *Criminology, 36,* 183-216.

Warr, M. (2002). *Companions in crime: The social aspects of criminal conduct.* Cambridge, UK: Cambridge University Press.

Warr, M. & Stafford, M. (1991). The influence of delinquent peers: What they think or what they do? *Criminology, 29(4):* 851-866.

Weerman, F. M., Bernasco, W., Bruinsma, G. J. N., & Pauwels, L. J. R. (2015). When is

spending time with peers related to delinquency? The importance of where, what, and

with whom. *Crime & Delinquency, 61(10),* 1386-1413.

Weinberger, D. A., & Schwartz, G. E. (1990). Distress and restraint as superordinate dimensions

of self-reported adjustment: A typological perspective. *Journal of Personality, 58(2),*

381-417.

Wright, J. P. & Cullen, F. T. (2000). Juvenile occupational delinquency. *Criminology, 38,* 863

896.

Wright, J. P. & Cullen, F. T. (2004). Employment, peers, and life-course transitions. *Justice

Quarterly, 21,* 183-205.

APPENDIX A. TABLES

Table 1. Descriptive Statistics of the Pathways to Desistance Data ($n = 1,272$)

Variable	M	SD$_{BETWEEN}$	SD$_{WITHIN}$	Min.	Max.
Dependent Variables					
Aggressive offending	4.645	18.356	27.589	0	1,190
Income-based offending	48.339	141.118	173.485	0	2,991
Substance use	0.775	0.825	0.925	0	9
Focal Independent Variables					
Peer Relationship Qual.	3.333	0.362	0.360	1	4
Peer Delinquency	1.802	0.650	0.571	1	5
Control Variables					
Neighborhood (physical)	2.327	0.647	0.515	1	4
Impulse control	3.217	0.774	0.594	1	5
Suppression of aggression	2.978	0.775	0.622	1	5
Demographic Variables (Wave 1)					
Male	0.825	0.345	--	0	1
Female	0.174	0.380	--	0	1
White	0.240	0.427	--	0	1
Black	0.395	0.493	--	0	1
Hispanic	0.321	0.472	--	0	1
Other	0.043	0.212	--	0	1
Age	15.978	1.137	--	14	19
Dropout	0.142	0.363	--	0	1
Mother's education	1.755	1.065	--	0	5
Employed	0.270	0.441	--	0	1
Unemployed	0.730	0.444	--	0	1

Notes: n = sample size; M = mean, $SD_{BETWEEN}$ = standard deviation between individuals; SD_{WITHIN} = standard deviation within individuals; Min = minimum value; Max = maximum value

Table 2. Mixed effects model regressing logged self-report aggressive offending on predictors; $n = 1,272$.

Variable	Model 1		Model 2		Model 3		Model 4	
	b	RSE	b	RSE	b	RSE	b	RSE
Focal Independent Variables								
Peer Relationship Qual.	--	--	0.067	0.023**	0.088	0.021***	0.088	0.020***
Peer Delinquency	0.570	0.018***	--	--	0.572	0.018***	0.572	0.018***
Quality x Delinquency	--	--	--	--	--	--	-0.017	0.030
Control Variables								
Neighborhood	0.014	0.015	0.091	0.018***	0.014	0.015	0.014	0.015
Impulse control	-0.087	0.015***	-0.180	0.017***	-0.087	0.015***	-0.087	0.015***
Supp. of aggression	-0.133	0.014***	-0.232	0.016***	-0.136	0.014***	-0.136	0.014***
Demographic Variables								
Male	0.139	0.029***	0.331	0.034***	0.154	0.029***	0.154	0.029***
Black	-0.099	0.038**	-0.096	0.045*	-0.111	0.038**	-0.111	0.038**
Hispanic	0.010	0.041	0.071	0.050	0.002	0.041	0.001	0.041
Other	0.024	0.076	0.136	0.094	0.025	0.076	0.025	0.076
Age	-0.037	0.011***	-0.035	0.015*	-0.037	0.012**	-0.036	0.012**
Dropout	0.005	0.042	0.054	0.054	0.007	0.042	0.006	0.042
Mother's education	0.001	0.014	0.006	0.017	0.002	0.014	0.002	0.014
Employed	-0.022	0.032	-0.040	0.040	-0.024	0.032	-0.025	0.032
Intercept	0.819	0.198***	1.821	0.260***	0.512	0.215*	0.508	0.213*
Model Statistics								
var (_cons)	0.130	0.013	0.227	0.018	0.128	0.013	0.128	0.013
Var (Residual)	0.591	0.021	.688	0.024	0.590	0.021	0.591	0.021
χ^2	1726.96***		784.69***		1740.10***		1743.97***	

Table 3. Mixed effects model regressing logged income-based offending on predictors; $n = 1{,}272$.

Variable	Model 1		Model 2		Model 3		Model 4	
	b	RSE	b	RSE	b	RSE	b	RSE
Focal Independent Variables								
Peer Relationship Qual.	--	--	0.026	0.041	0.062	0.038	0.065	0.037
Peer Delinquency	0.966	0.033***	--	--	0.968	0.033***	0.970	0.033***
Quality *x* Delinquency	--	--	--	--	--	--	-0.109	0.055*
Control Variables								
Neighborhood	0.041	0.028	0.162	0.031***	0.041	0.028	0.040	0.028
Impulse control	-0.117	0.029***	-0.272	0.032***	-0.117	0.029***	-0.117	0.029***
Suppression of aggression	-0.120	0.026***	-0.283	0.030***	-0.122	0.026***	-0.122	0.026***
Demographic Variables								
Male	0.304	0.056***	0.612	0.069***	0.314	0.056***	0.317	0.056***
Black	-0.016	0.074	0.003	0.088	-0.025	0.074	-0.025	0.074
Hispanic	-0.195	0.076**	-0.095	0.091	0.201	0.076**	-0.204	0.076**
Other	-0.084	0.151	0.102	0.183	-0.084	0.150	-0.084	0.151
Age	0.059	0.023**	0.063	0.028*	0.060	0.023**	0.061	0.023**
Dropout	0.155	0.082	0.236	0.099*	0.156	0.082	0.151	0.082
Mother's education	0.002	0.024	0.011	0.029	0.003	0.024	0.003	0.024
Employed	-0.136	0.059*	-0.168	0.071*	-0.137	0.059*	-0.139	0.059*
Intercept	-1.158	0.384**	0.858	0.490	-1.376	0.406***	-1.406	0.403***
Model Statistics								
Var (_cons)	0.513	0.052	0.853	0.070	0.511	0.052	0.509	0.052
Var (Residual)	2.082	0.072	2.345	0.080	2.08	0.072	2.082	0.072
χ^2	1417.79***		531.41***		1416.51***		1427.11***	

Table 4. Mixed effects model regressing logged polysubstance use onto predictors; $n = 1{,}272$.

	Model 1		Model 2		Model 3		Model 4	
Variable	b	RSE	b	RSE	b	RSE	b	RSE
Focal Independent Variables								
Peer Relationship Qual.	--	--	-0.025	0.011*	-0.019	0.010	-0.019	0.010
Peer Delinquency	0.207	0.009***	--	--	0.206	0.009***	0.207	0.009***
Quality *x* Delinquency	--	--	--	--	--	--	-0.021	0.014
Control Variables								
Neighborhood	0.003	0.008	0.029	0.008***	0.003	0.008	0.003	0.008
Impulse control	-0.059	0.008***	-0.092	0.008***	-0.059	0.008***	-0.059	0.008***
Supp. of aggression	-0.033	0.007***	-0.066	0.008***	-0.032	0.007***	-0.032	0.007***
Demographic Variables								
Male	-0.029	0.023	0.031	0.024	-0.032	0.023	-0.032	0.023
Black	-0.174	0.024***	-0.165	0.027***	-0.171	0.024***	-0.171	0.024***
Hispanic	-0.109	0.026***	-0.084	0.029**	-0.107	0.026***	-0.108	0.026***
Other	-0.130	0.053*	-0.092	0.055	-0.130	0.053*	-0.130	0.052*
Age	0.009	0.007	0.010	0.008	0.009	0.007	0.009	0.007
Dropout	0.029	0.024	0.047	0.028	0.029	0.024	0.028	0.024
Mother's education	0.019	0.008*	0.020	0.009*	0.019	0.008*	0.019	0.008*
Employed	-0.003	0.020	-0.009	0.021	-0.003	0.020	-0.003	0.020
Intercept	0.277	0.118*	0.810	0.138***	0.344	0.124**	0.338	0.124**
Model Statistics								
Var (_cons)	0.057	0.004	0.071	0.004	0.057	0.004	0.057	0.004
Var (Residual)	0.145	0.004	0.158	0.004	0.145	0.004	0.145	0.004
χ^2	948.27***		474.41***		955.18***		954.74***	

APPENDIX B. SELF-REPORT INCOME-BASED

OFFENDING How many times in the last N months have you…
1. Entered or broken into a building to steal something?
2. Stolen something from a store?
3. Bought, received, or sold something you knew was stolen?
4. Used checks or credit cards illegally?
5. Stolen a car or motorcycle to keep or sell?
6. Sold marijuana?
7. Sold other illegal drugs (cocaine, crack, heroine)?
8. Been paid by someone for having a sexual relationship with them?
9. Taken something from another person by force, using a weapon?
10. Taken something from another person by force, without a weapon?

APPENDIX C. SELF-REPORT AGGRESSIVE OFFENDING

How many times in the last N months have you…
1. Purposely destroyed or damaged property that did not belong to you?
2. Purposely set fire to a house, building, car, or vacant lot?
3. Forced someone to have sex with you?
4. Killed someone?
5. Shot someone?
6. Shot AT someone where you were the one who pulled the trigger?
7. Taken something from another person by force, using a weapon?
8. Taken something from another person by force, without a weapon?
9. Beaten up or physically attacked someone so badly that they probably needed a doctor?
10. Been in a fight?
11. Beaten up, threatened, or physically attacked someone as part of a gang?

APPENDIX D. SELF-REPORT POLYSUBSTANCE USE.

How many times in the last N months did you use:
1. Marijuana or hashish
2. Sedatives or tranquilizers to get high
3. Stimulants or amphetamines
4. Cocaine (including powder, crack, free base, coca leaves, or paste)
5. Opiates
6. Ecstasy
7. Hallucinogens to get high
8. Inhalants to get high
9. Amyl nitrate, odorizers, or rush to get high
10. Other drugs

APPENDIX E. FRIENDSHIP QUALITY SCALE.

Mean of 10-items (1 = not at all; 2 = a little; 3 = quite a bit; 4 = very much)

1. How much can you count on your friend for help with a problem?
2. How much could you count on your friend to help you if a family member very close to you died?
3. How close do you think you will be to your friend in ten years?
4. How much would you miss your friend if you could not see or talk with him/her for a month?
5. If you wanted to go out and do something some night, how sure are you that your friend would be willing to do something with you?
6. How much do you depend on your friend?
7. How much can you count on your friend to listen to you when you are very angry at someone else?
8. How much can you count on your friend to take your mind off your problems when you feel under stress?
9. How much has your friend tried to stop you from doing something that was wrong or illegal?
10. How much has your friend tried to influence you to do something most people would think is wrong? [Reverse Coded]

APPENDIX F. PEER DELINQUENCY.

(1 = none of them, 2 = very few of them, 3 = some of them, 4 = most of them, 5 = some of them)
1. How many of our friends have purposefully damaged or destroyed property that did not belong to them?
2. How many of your friends have hit or threatened to hit someone?
3. How many of your friends have gotten drunk once in a while?
4. How many of your friends have carried a knife?
5. How many of your friends have carried a gun?
6. How many of your friends have owned a gun?
7. How many of your friends have gotten into a physical fight?
8. How many of your friends have been hurt in a fight?
9. How many of your friends have stolen something worth more than $100?
10. How many of your friends have taken a motor vehicle or stolen a car?
11. How many of your friends have gone into a building or tried to go into a building to steal something?
12. How many of your friends have gotten high on drugs?

APPENDIX G. NEIGHBORHOOD PHYSICAL DISORDER.

How often does each of the following occur in your neighborhood?
(1 = never, 2 = rarely, 3 = sometimes, 4 = often)
1. Cigarettes in the street or in the gutters
2. Garbage in the streets or on the sidewalk
3. Empty beer bottles on the streets or sidewalks
4. Boarded up windows on buildings
5. Graffiti or tags
6. Graffiti painted over
7. Gang graffiti
8. Abandoned cars
9. Empty lots with garbage
10. Condoms on sidewalk
11. Needles or syringes
12. Political messages in graffiti

APPENDIX H. NEIGHBORHOOD SOCIAL DISORDER.

How often does each of the following occur in your neighborhood?
(1 = never, 2 = rarely, 3 = sometimes, 4 = often)
1. Gangs (or other teen groups) hanging out
2. Adults hanging out on the street
3. People drinking beer, wine or liquor
4. People drunk or passed out
5. Adults fighting or arguing loudly
6. Prostitutes on the streets
7. People smoking marijuana
8. People smoking crack
9. People using needles or syringes to take drugs

APPENDIX I. IMPULSE CONTROL.

How well do each of the following statements describe you?
(1 = false, 2 = somewhat false, 3 = not sure, 4 = somewhat true, 5 = true)
1. I'm the kind of person who will try anything once, even if its not that safe
2. I should try harder to control myself when I'm having fun
3. I do things without giving them enough thought
4. I become "wild and crazy" and do things other people may not like
5. When I'm doing something for fun (e.g., partying, acting silly), I tend to get carried away and go too far
6. I like to do new and different things that many people would consider weird or not really safe
7. I say the first thing that comes into my mind without thinking enough about it
8. I stop and think things through before I act