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The Duality of the Peer Effect: The Interplay Between Peer Support and Peer Criminality on Offending and Substance Use During Reentry

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Abstract

Differential association theory and the closely linked differential coercion/social support theory suggest that peers exert both criminogenic and protective influences on individuals. Yet, little is known about how dimensions of peer criminality and peer support affect reentry outcomes independently and interdependently. Using data from the Serious and Violent Offender Reentry Initiative, mixed-effects models demonstrate that peer criminality relates to significantly higher odds of substance use and criminal offending, whereas peer support relates to significantly lower odds of substance use and offending. Interaction terms between peer crime and support suggest the two exert independent, and not interactive, influences on recidivism. Although peer crime exerts a more robust effect, peer support must be understood as a mechanism that drives desistance independently of peer crime.

Keywords

reentry; peer support; peer criminality; differential association; social support

Introduction

At the end of 2015, approximately 2.2 million individuals were incarcerated in the United States (Kaeble & Glaze, 2016), and the vast majority of these individuals will return to society (Travis, 2005). As a result, developing a better understanding of the factors that relate to successful reentry policies and practices remains a top priority among criminologists (Seiter & Kadela, 2003). Reentry research has developed a strong foundation, and it is relatively well understood that factors like family (Bales & Mears, 2008; Eckland-Olson, Supancic, Campbell, & Lenihan, 1983; Martinez, 2008; Shapiro & Schwartz, 2001), employment (Bahr, Harris, Fisher, & Armstrong, 2010; Berg & Huebner, 2011; Petersilia, 2003; Uggen, Wakefield, & Western, 2005), and mental health (Baillargeon, Binswanger, Penn, Williams, & Murray, 2009; Mallik-Kane & Visher, 2008; Spjeldnes, Jung, Maguire, &

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Yamatani, 2012) all play important roles in the reentry process. More recently, a growing body of research has examined how peers can influence reentry outcomes. Although existing research on the role of peers in the reentry process is somewhat limited, or "incomplete" (Martinez & Abrams, 2013, p. 172), findings from studies that do exist on the topic (e.g., Boman & Mowen, 2017; Breese, Ra'el, & Grant, 2000) mirror trends in the broader literature as higher levels of peer criminality relate to higher rates of crime, substance use, and—as a consequence—recidivism. However, and toward the goals of this study, a limited number of studies suggest that peers may not only be negative influences on persons in the reentry process but instead can also provide the much needed support to returning persons (Grieb et al., 2014; Hlavka, Wheelock, & Jones, 2015; Visher & Travis, 2003; Western, Braga, Davis, & Sirois, 2015).

Research applying differential association to examine the influence of criminal peers during reentry finds that association with criminal peers tends to increase odds of recidivism and offending (Boman & Mowen, 2017; Breese et al., 2000). Differential association, however, also suggests that association with noncriminal peers should lead to desistance. In expanding upon this perspective, Colvin, Cullen, and Vander Ven (2002; see also Colvin, 2000) developed a theory of differential coercion and social support. Colvin and colleagues' (2002) theory, which integrates social support into a differential association-type-perspective, represents a valuable theoretical advancement in terms of assessing the relationships between peer criminality, peer support, and substance use during the period of reentry.

In an attempt to expand reentry research on the impact of peers following release from prison, this study uses differential association theory (Sutherland, 1947) and the support element of coercion and social support theory (Colvin et al., 2002) as overlapping frameworks through which to comprehensively explore the possibility that peers may play dual roles during reentry. Using panel data from the Serious and Violent Offender Reentry Initiative (SVORI; Lattimore & Steffey, 2010), we explore not just how peer criminality but also peer support may relate to postrelease crime and substance use.

Differential Association and Social Support Theories in Reentry

In building an integrated and developmentally relevant theoretical framework, Colvin and colleagues (2002) created differential coercion and social support theory. The concept of differential coercion, rooted in Agnew's (1992) general strain theory and Gottfredson and Hirschi's (1990) self-control theory, suggests that coercion techniques are learned through aversive situations within the family. As our study is more focally concerned on the supportive, rather than coercive, roles that peers can play during reentry, the element of coercion is out of the purview of the current effort. Instead, our major focus is on the social support element of Colvin and colleagues' (2002) theory. The support element, which expands on differential association as well as the work of Cullen (1994), provides an explicit focus on the role of social supportive mechanisms in desistance. As an integrated perspective, Colvin and colleagues suggest that peers can provide supportive mechanisms to protect from crime through both expressive, emotionally driven means and instrumental, materially based means. As such, Colvin and colleagues' (2002) theory provides the context to understand how the effect of peer support could protect from crime. Furthermore, work on

the "expressive" element of support has offered credence to the notion that support mechanisms can indeed reduce crime (Unnever et al., 2004), thereby making the social support addition to Sutherland's context both conceptually strong and empirically grounded.

As an expansion of Sutherland's work, the work of Colvin and colleagues (2002; also Colvin, 2000) and Cullen (1994) preserve the diverse flexibility of differential association theory. Colvin et al. (2002) state that the supportive mechanics of friendships can be derived from both "law-abiding sources whose assistance provides conformity, or it may come from illegitimate sources that promote criminal behavior" (p. 25). Bringing Sutherland's theory into this discussion, differential association's modalities of association make it clear that the behavior of friends with whom the respondent shares warm ties should more strongly affect behavior than friends with whom the respondent does not share warm ties. Collectively, differential association (Sutherland, 1947) and coercion and social support (Colvin et al., (2002) theories suggest that peers can be risk factors (via criminal associates), protective factors (via social support), or simultaneously serve in both risk and protective roles during the reentry process.

The implication of this theoretical linkage is that the efforts of Colvin and colleagues (2002) provide reason to expect that social support received from peers should independently protect from crime. Concurrently, a differential coercion and social support approach to differential association leads to the expectation that high levels of support should interact with the offending behavior of peers to reduce the effect of peer criminality on an individual's own offending behavior.

Despite offering insight into the possibility of peers being a source of crime *and* a source of desistance, empirical tests of differential association rarely explore how peers might protect from crime (see Visher & Travis, (2003). And though certainly relevant to the discussion, differential coercion and social support theory has yet to be applied to the context of reentry. Together, the lack of application of these theories appears to be a shortcoming in the research, as recent qualitative work (Grieb et al., 2014; Hlavka et al., 2015; Western et al., 2015) provides ample reason to believe that one group of peers could provide support to persons during the time they are reentering society while another group (or even the same group) may simultaneously exert a criminogenic influence. Thus, instead of merely being harmful, peers may also be supportive entities that help returning persons adjust to life back home.

The Confluence of Peer Support and Peer Criminality During Reentry

Drawing from the research on the role of family within the reentry process briefly will help situate the current body of literature on peers and reentry. Whereas studies demonstrate that family support is related to positive reentry outcomes (e.g., Martinez, 2008), two recent studies show that family conflict is independently related to negative reentry outcomes, including increased substance use (Mowen & Visher, 2015) and diminished mental health outcomes (Wallace et al., 2016). These studies collectively demonstrate that the same group of persons can exert totally opposite direction effects on behavior of those undergoing reentry. We make a very similar argument regarding peers. Drawing from differential

association (Sutherland, 1947) and differential coercion and social support (Colvin et al., 2002) theories, there is reason to expect that while peers can certainly incite crime by providing individuals with negative peer influences and cooffenders (see McGloin & Piquero, 2010), peers can also provide the much needed support by helping recent releasees find their way around a recently gentrified neighborhood, learn how to use public transit, or get a bank account (Grieb et al., 2014).

Research on the role and influence of peers during the reentry process is harmonious with much of the work examining the influence of peer deviance on individual behavior more broadly (see Pratt et al., 2010, for a synopsis). That is, returning individuals who associate with criminal peers, regardless of whether they are new or old associates, tend to experience much higher rates of recidivism than those who do not associate with criminal peers (Visher & Travis, 2003), thereby supporting one of the main hypothesis of differential association. As an example, in a study of 21 returning individuals in the state of Ohio, Breese and colleagues (2000) outline how one respondent started “hanging out” (p. 14) with old friends and soon found himself getting into trouble and making a name for himself. Within the same study, another respondent stated, “I started hanging around old friends. We started drinking. It’s an old story” (p. 16). Other studies demonstrate that returning individuals who associate with peers who sell illicit substances often sell drugs themselves (Abrams, 2007). As such, studies consistently suggest that associating with criminally inclined peers increases the odds of reentry failure and/or worse reentry outcomes such as substance use and criminal offending (see also Visher & Travis, 2011).

Grieb and colleagues’ (2014) interview-based study on persons who provide support to those during reentry explicitly validates the theoretical linkage between differential association and differential coercion and social support theories in the context of reentry. Many of the persons they interviewed were friends of the returning person, and the majority of them were trying their best to be supportive in much the same way that was discussed by Colvin and colleagues (2002). However, these supportive and positive peers were well aware that the temptation of turning back to the street and rejoining deviant peer groups existed for many persons during reentry, and they seemed to be in a proverbial “tug of war” with negative peer influences. Collectively, this insinuates an interactive effect between supportive peer groups and criminal peer groups in regard to how they may influence postrelease behavior.

Western and colleagues’ (2015) recent qualitative work also suggests that Colvin and colleagues’ work pertains to reentry, as they conclude that peer support may be important for reentry outcomes (see also Hlavka et al., 2015). In addition to many persons being picked up from prison by friends, inciting an immediate level of support from friends, respondents were increasingly moving out of their families’ homes and moving in with supportive peers during their first week back in the community. However, the authors also described how a recently released man named Damian struggled to balance his peer relationships: “A week after release, Damian told us that his biggest challenge was staying away from old friends who remained involved in local gangs” (p. 1536). Accordingly, Western and colleagues’ research—much like Grieb and colleagues’ (2014)—points to peer support being a distinct competing mechanism to peer criminality that acts upon persons during reentry.

Finally, in performing a review on qualitative studies that investigate how informal social support systems interplay into reentry among adolescents and those in emerging adulthood, Martinez and Abrams (2013) argue that the influence of criminal peers is neither negative nor positive. Instead, they argue from their review of the literature that social support interplays in complicated ways with peer criminality. In moving, "beyond the dichotomy of 'good,' or supportive relationships, and 'bad,' or unsupportive relationships" (p. 184), the authors argue that young persons during reentry have to walk a stressful line between balancing supportive and nonsupportive roles for deviant peers who live in their neighborhoods. Without explicitly stating it, their results demonstrate exactly what differential association and differential coercion and social support theories are capable of—allowing for supportive roles from persons who also exert criminogenic influences. Their reading of the literature insinuates a multiplicative interaction between peer criminality and peer support so that peers who are criminal influences move in and out of being supportive for young persons undergoing the reentry process. Such an interaction is perfectly in line with both the tenets and capabilities of Sutherland's (1947) theory and Colvin and colleagues' (2002) theory.

Two thematic issues are notable concerning the extant literature on how peer support and peer criminality relate to individual outcomes during reentry. First, this research is almost entirely qualitative in nature and is based primarily on interviews. Whereas quantitative work is certainly necessary, the qualitative work in this arena sets the stage perfectly for work in the peer support and peer criminality genre by painting a rich picture as to why peer support and peer criminality may play independent (Grieb et al., 2014; Western et al., 2015) and possibly interdependent (Martinez & Abrams, 2013) roles on a reentering persons' behavior. Second, the existing research—regardless of whether it is explicitly stated or not—falls under the purview of the versatile differential association (Sutherland, 1947) and social support frameworks (Colvin et al., 2002; Cullen, 1994). Accordingly, we draw upon these constructs to investigate how peer support and peer criminality relate to crime and substance use among returning persons.

Current Study

The goal of this project is to more deeply explore the "peer effect" by examining how both peer criminality and peer support relate to crime and substance use across reentry. Using data from the SVORI, we have three specific research questions. First, how does peer criminality relate to crime and substance use during reentry? Drawing on studies which demonstrate that differential association–based measures of peer crime are significantly related to offending for both the general public (Burgess & Akers, 1966) and those undergoing the reentry process (Breese et al., 2000), we draw from Sutherland (1947) and hypothesize (Hypothesis 1) that higher levels of peer criminality will relate to higher levels of offending and substance use during reentry.

Second, we are interested in understanding how the main effects of peer support relate to crime and substance use after controlling for peer criminality. Even though research typically finds that peers are negative influences (Breese et al., 2000), differential association is a theory that was written with the understanding that peers can be either negative or

positive influences, and social support theory (Colvin et al., 2002; see also Cullen, 1994) explicitly suggests this is the case. Drawing on Colvin's social support expansion of differential association, we expect (Hypothesis 2) that higher levels of peer support will be significantly related to committing less crime and substance use during reentry.

The third research question extends beyond independent effects of peer criminality and peer support to place them into an interactive framework. Drawing on the social support aspect of Colvin and colleagues' (2002) approach to differential association, we anticipate (Hypothesis 3) that higher levels of peer support will reduce the criminogenic effect of peer criminality on crime and substance use for those undergoing the process of reentry.

Data

Data for this project come from the SVORI (see Lattimore & Steffey, 2010). The overall goal of this federally funded program was to examine the role and efficacy of enhanced reentry programming on reentry outcomes and experiences among a sample of 1,697 males across 14 states in the United States. Broadly, this initiative attempted to better understand how correctional resources could be used to improve reentry outcomes such as mental and physical health, employment, and desistance (for an overview, see Lattimore & Visher, 2009). SVORI data were collected between 2004 and 2007 in four phases.

During the first wave, SVORI researchers interviewed respondents about 30 days prior to release. Interviews took place in person, and respondents were asked a series of questions about experiences prior to incarceration and during incarceration. Dimensions encompassing peer relationships, family structure, education and employment history, and various experiences during incarceration—including questions about participation in treatment and prerelease programs—were all captured. Approximately 3 months post release, Wave 2 data were collected from respondents concerning experiences since release. Using a similar questionnaire, respondents reported on their family structure, peer relationships, employment and education experiences, involvement in treatment programs, and substance use and criminal offending. At approximately 9 and 15 months post release, Waves 3 and 4 data were collected, respectively. These waves also used similar survey instruments. In the current study, we draw data from all four waves but concentrate primarily on postrelease waves (Waves 2, 3, and 4) as the primary dependent variables (criminal offending and substance use) were assessed only in these waves.

Dependent Variables

The dependent variables in this study are two separate measures that indirectly tap recidivism: self-reported criminal offending and substance use (see Table 1). To assess *criminal offending,* respondents were asked to respond "yes" or "no" to a series of questions asking if they had committed (a) any violent crime, (b) crimes against another person, (c) a crime involving a weapon, (d) drug possession, (e) drug sales, (f) driving under the influence, or (g) any other crime. To create a variable representing criminal offending recidivism, a binary variable was created indicating whether the respondent responded "yes" to any of these questions. The overall mean for this measure is 0.348, indicating that 34.8% of people answered "yes" to at least one of the questions ($SD = 0.477$). This measure is time

variant as individuals could report committing a crime in one wave but not another, and thus varies between respondents (*SD* = 0.426) and within individuals across time (*SD* = 0.260).

To capture *substance use,* respondents were asked a series of questions about whether or not they had used any of the following substances in a manner not prescribed by a physician: (a) tranquilizers, (b) stimulants, (c) steroids, (d) marijuana, (e) hallucinogens, (f) cocaine, (g) heroin, (h) methamphetamines, (i) inhalants, (j) sedatives, (k) amphetamines, or (l) prescription pain relievers. Like the prior measure of criminal offending, individuals who answered "yes" to any of these questions were coded as 1. The overall mean of this measure is 0.401, suggesting that 40.1% of people indicated a "yes" response (*SD* = 0.490). This measure varies both between individuals (0.434) as well as within individuals across time (0.260).[1]

Independent Variables

The primary independent variables in this study are peer crime and peer support. To capture *peer crime,* respondents were asked a series of questions assessing the proportion of their close friends who (a) were incarcerated, (b) assaulted someone, (c) committed theft, or (d) sold drugs since the prior interview. Possible responses to these questions ranged along a 4-point Likert-type scale (1 = *none,* 2 = *some,* 3 = *most,* 4 = *all*). To create a scale capturing *peer crime*, questions were summed together with higher values indicating the respondent had a greater proportion of criminal peers. This measure has an overall mean of 8.150, a standard deviation of 3.180, and a range of 4 (no criminal peers) to 16 (all criminal peers). This measure varies both between people (*SD* = 2.929) as well as within individuals across time (*SD* = 1.486). The averaged alpha across all waves is .826, indicating a high level of interitem reliability (Cronbach, 1951).

To capture *peer support,* we draw from five items that asked respondents how much they thought they had a friend to (a) provide advice on a place to live, (b) provide help finding a job, (c) provide substance abuse support, (d) provide transportation, and (e) provide financial support. Responses to these questions could fall along a 4-point Likert-type scale (1 = *strongly disagree,* 2 = *disagree,* 3 = *agree,* 4 = *strong agree*). These items were summed to create a scale representing *peer support* with higher values on the scale representing greater levels of peer support. This measure has an overall mean of 14.668, a standard deviation of 3.781, and ranges from 5 (very low levels of peer support) to 20 (very high levels of peer support). This measure also varies between individuals (*SD* = 3.491) as well as within individuals across time (*SD* = 1.865). The averaged alpha across all waves is .929, indicating consistent scaling.

Control Variables

Drawing from prior literature, we control for a number of theoretically important measures that have been found to relate to reentry outcomes. First, prior work has demonstrated that employment relates to recidivism and desistance during reentry (Berg & Huebner, 2011). To

[1]We also created scales by summing the measures so that higher values captured more types of crimes committed and more types of substances used, respectively. Substantive results from these models were identical to the binary approach we report in this article. Results are available upon request.

account for *employment,* we include a binary measure indicating that the respondent was employed (1 = employed, 0 = unemployed). Overall, 66.7% of all respondents indicated they were employed at some point during the study time frame. We allow this measure to vary between individuals (*SD* = 0.416) and within individuals across time (*SD* = 0.232) because individuals could be employed in one wave and not another.

There may also be variations in reentry outcomes by *race* (Piquero, Jennings, Diamond, & Reingle, 2015). To account for this, we include binary variables representing that the respondent is "Black" (50.7% of the sample) or "Other" race (12.1% of the sample), withholding "White" as the contrast group (37.2% of the sample) in the analysis. In addition, age has also been shown to relate to reentry outcomes (e.g., Piquero et al., 2015). To capture *age,* we include a variable capturing the respondents' age at Wave 1. The overall mean is 29.469 years, with a standard deviation of 7.342, and a range from 18 to 69 years.

Given the important role families play in the reentry process (Naser & La Vigne, 2006), family structure and marital status may also relate to substance use and offending post release. To account for *marital status,* we include a binary measure indicating that the respondent was married (not married contrast) at Wave 1. Overall, 10.635% of the respondents indicated they were married at Wave 1.[2] Prior work has also shown that parenthood is associated with variations in offending (Craig, 2014). To account for the influence of *parenthood,* we include a binary measure indicating that the respondent had at least one child at Wave 1. Overall, 64.0% of respondents indicated that they had at least one child at Wave 1.

The *length of incarceration* may be related to experiences during reentry (Travis, 2005). To account for this, we include a variable capturing the individual's total length of incarceration in days. This measure has a mean of 939.9, a standard deviation of 935.5, and ranges from 50 to 9,486 days. Although this sample encompasses serious and violent offenders, to account for some level of offender risk, we include a variable capturing the total number of *prior arrests* the respondent had experienced prior to their most recent term. This measure has a mean of 13.702, a standard deviation of 19.156, and a range of one to 300 prior arrests.

Finally, as the goal of the SVORI program was to understand how enhanced reentry programming related to reentry outcomes, we include a binary measure indicating that the respondent was a *SVORI program participant* (nonparticipant contrast). This variable has a mean of 54.4%, indicating just above half of the respondents in the sample were SVORI program participants.

Missing Data

As with most panel data, missing data are present in the SVORI dataset. Of the total sample size of 1,697, we rely on available data from 1,118 individuals. Subsequent analysis of the SVORI data by the primary investigators showed that missing data patterns occurred at random (Lattimore & Visher, 2009). However, to confirm this and minimize attrition bias in

[2]Individuals could, of course, experience changes in marital status. However, changes in marital status over the 15 month time frame of the study occurred for less than 5% of the sample. Due to minimal variance, we treat this as a time invariant measure.

our analysis, we performed a sensitivity analysis (see Brame & Paternoster, 2003). Results demonstrated no significant patterns in missing data among any measure used in the present study, confirming prior reports (Lattimore & Visher, 2009) and studies using the SVORI data (e.g., Stansfield, Mowen, O'Connor, & Boman, 2017; Wallace et al., 2016).

Analytic Strategy

The longitudinal nature of the data requires a method of analysis that accounts for the lack of independence across time. Stated differently, individuals tend to be like themselves across multiple time points. A mixed-effects model, a type of hierarchical model, introduces a random intercept that allows individuals to vary randomly and thus helps to correct for a lack of independence (Rabe-Hesketh & Skrondal, 2012; Raudenbush & Bryk, 2002). To accomplish this, individuals are nested within time. A mixed-effects model estimates both within-person changes over time alongside between-person differences, thereby capturing both time variant and time invariant components of predictor variables (Rabe-Hesketh & Skrondal, 2012).

Because our outcome measures (crime and substance use) are binary, a hierarchical generalized linear mixed model is used to examine how the independent variables relate to substance use and offending. We first produce a model with peer crime (Model 1), and then introduce peer support (Model 2) to examine the independent effects of each measure on our outcomes. Finally, as our goal is to assess the interdependent nature of peer crime and peer support on each outcome, an interaction term was created by grand mean centering each measure and then multiplying them together (see Hoffman & Gavin, 1998). This interaction term is included in Model 3.

Prior to examining the results, it is important to highlight that one of the assumptions of the mixed-effects model is called the assumption of equality (Rabe-Hesketh & Skrondal, 2012). This assumption asserts that the estimates of the within-person and between-person components are approximately equal in magnitude (Rabe-Hesketh & Skrondal, 2012). To examine this, we used a Hausman test and compared the coefficients for each model. The criminal offending model yielded nonsignificant results, indicating that the within- and between-individual effects were approximately equal in magnitude, thereby meeting the assumption of equality. The Hausman test for the substance use model was statistically significant ($p < .05$), however, indicating a violation in the assumption of equality. An examination of this issue yielded significant differences in the levels of effects for employment only. Following the recommendations of Rabe-Hesketh and Skrondal (2012), each level of effect (within- and between-person) was included in the model as separate coefficients. Results demonstrated a significant between-individual effect, but not a significant within-individual effect. This suggests that individuals who are employed, compared with those who are not employed, reported significantly lower odds of substance use. Due to the lack of a within-person effect, we include only the time-invariant, between-individual measure of employment in our models.[3]

[3]We estimated the models with both levels of effects for employment included. Results were substantively the same as the models we present. For parsimony, we dropped the within-individual component of employment from the tables as it failed to reach significance in any model.

Results

Results from a series of hierarchical generalized linear models assessing criminal offending post release are shown in Table 2. Although significance testing was conducted with coefficients and standard errors, we also include the odds ratio for ease of interpretation (see University of California, Los Angeles [UCLA] Statistical Consulting Group, 2017). Model 1 demonstrates that peer crime has a significant and positive effect on criminal offending. Each one unit increase on the peer crime scale corresponds to a 31.2% increase in the logged odds of criminal offending. Individuals with a higher proportion of criminal peers report higher odds of criminal offending than those with a lower proportion of criminal peers, and this effect persists across time such that increases in the proportion of criminal peers correspond to increases in offending.

Turning to the control variables, employment relates to a 38.8% reduction in the logged odds of criminal offending. Black respondents, compared with White respondents, report 30.4% lower odds of criminal offending, though no significant difference exists between other race and White respondents. Results further reveal that age is negatively associated with odds of criminal offending. With each 1 year increase in age, there is a 3.9% reduction in the odds of criminal offending. No difference is observed between those who are married and those who are not married in their odds of offending, nor is there a significant relationship between having a child and odds of offending. Results do show that the length of incarceration exerts a negative effect on odds of criminal offending such that each 1 day increase in incarceration length is associated with a 0.1% decrease in the logged odds of criminal offending. In addition, the number of prior arrests are significantly associated with increased odds of criminal offending (each increase in prior arrest corresponds to a 2.0% increase in the logged odds of criminal offending). Finally, SVORI program participants, compared with non-SVORI program participants, report a 30.1% lower odds of criminal offending.

Model 2 of Table 2 stages in a measure of peer support into the model. This measure is significant, and each one unit increase in peer support corresponds to a 4.6% decrease in the logged odds of criminal offending. At the same time, the measure of peer crime remains significant so that a one unit increase in the peer crime scale is associated with a 30.9% increase in the odds of criminal offending. Substantive results for the control variables remain identical to the prior model.

To examine the joint influence of peer support and peer crime on criminal offending, an interaction term is introduced into the third model. This interaction term fails to reach significance, suggesting that peer crime and peer support exert independent, but not interdependent, influences on postrelease criminal offending.

Results from a series of hierarchical generalized linear models examining substance use post release are displayed in Table 3. Model 1 shows that peer criminality is significantly related to substance use. With each unit increase in the criminal peers scale, respondents report a 26.8% increase in the logged odds of substance use. Like the prior analysis, individuals who are employed report a 35.2% reduction in the odds of substance use compared with those who are not employed. Likewise, length of incarceration is associated with decreased odds

of criminal offending, and SVORI program participants compared with non-SVORI program participants also report lower odds of substance use. Again, each prior arrest corresponds with a 2.2% increase in the logged odds of reported substance use. Unlike the prior analysis, we observe no differences in odds of substance use by race or age, although marital status and the presence of children again fail to significantly relate to substance use.

Model 2 introduces the measure of peer support. Consistent with models examining criminal offending, results show that peer support is significantly related to a decreased odds of postrelease substance use. Specifically, a one unit increase in the peer support scale corresponds to a 5.8% decrease in the logged odds of substance use. At the same time, the influence of criminal peers on the odds of substance use remains highly significant and positive after controlling for peer support, as an increase in the proportion of criminal peers relates to a 26.5% increase in the logged odds of substance use. The substantive effects of the control variables remain the same as the first model.

Finally, Model 3 introduces the interaction term capturing the joint influences of criminal peers and peer support on substance use. Like the prior analysis examining criminal offending, this interaction term fails to reach significance. This null result suggests that peer support and peer criminality influence substance use independently. Again, the substantive results of the control variables remain identical to the prior models. We now turn to a discussion of how these results fit into the larger scope of research on peers during reentry.

Discussion

The goal of this research project was to examine the role of peer crime and peer support on recidivism during the reentry process. Using the SVORI data, a series of hierarchical generalized linear models demonstrated that peer crime and peer support both relate to criminal offending and substance use across three waves of data. In support of Hypothesis 1, and in line with differential association theory (Sutherland, 1947), results revealed that levels of peer crime significantly related to increased odds of recidivism. In support of Hypothesis 2, and concurrent with differential coercion and social support theory (Colvin et al., 2002), results showed that peer support related to significantly lower odds of recidivism. However, in contrast to our expectations for Hypothesis 3, an interaction term between peer support and peer crime yielded null results, suggesting that dimensions of peer support and criminality exert independent effects on criminal offending and substance use. Overall, these results extend existing research through multiple avenues.

In support of prior work (e.g., Breese et al., 2000; Grieb et al., 2014; Visher & Travis, 2003; 2011), we find that peers “matter” for returning individuals’ reentry outcomes. This finding supports much of what differential association would suggest—peers can influence individuals in both positive and negative ways. Supporting prior literature applying differential association to peers within the context of reentry (Boman & Mowen, 2017), results demonstrate that peer criminality significantly related to increased odds of substance use and offending due to association with criminally inclined peers (Sutherland, 1947). Moreover, drawing from coercion and social support theory, we find support for the notion that social support from peers protect from crime. As Colvin et al. (2002) suggest, the

influence of peer support on positive reentry outcomes is likely due to the strong bonds formed due to mutual trust between the individual and the supportive peer. Yet, at the same time, Colvin's extension of differential association is not supported as peer support and peer crime do not interact in their effects on recidivism. This null finding is important in at least two ways.

First, Grieb and colleagues (2014) suggest in their qualitative study of returning men and women that peers who support returning individuals are likely different individuals than peers who exert criminogenic influences. Although there are alternative explanations and we are limited by our data in confirming this, the null findings for the interactions could be interpreted as supporting the findings of Grieb et al. (2014). As such, the first potential explanation for the lack of an interaction between peer support and peer crime is that the friends who are engaging in criminal offending are entirely separate from the friends who are providing the much needed social support to the returning individual.

A second explanation, however, could be that criminal and supportive influences are stemming from the same peer(s). Drawing from Colvin, Cullen, and Vander Ven's (2002) take on differential association, it may be that the peers who induce crime in one context are providing support within (an)other context(s). In this way, the very same peers who are influencing crime may also be providing support, but these dimensions are occurring in distinct contexts. For example, perhaps the same friend who aids in finding employment may also be the peer who encourages substance use. In this manner, the lack of a significant interaction could be because mechanisms of support and crime affect the returning individual within different settings *even though they come from the same peer.* This interpretation is bolstered by the findings of Martinez and Abrams (2013), who suggest that the complex role peers play in the reentry process must be understood within a larger context because peers can jointly provide mechanisms of support while also providing criminogenic influences.

Although results from this analysis are relatively straightforward, the same cannot be said for policy implications stemming from these results. We agree with Martinez and Abrams (2013) in that "[t]he implications of … mechanisms of informal [peer] social support for practice and policy are complex" (p. 185). Within the context of their review, Martinez and Abrams (2013) suggest that if it is the same peer who is providing both supportive and criminal influences, the policy recommendation that contact with criminal peers should be avoided is not a sufficient response. From this standpoint, cutting off contact with the criminal peer would also remove the much needed influence of social support.

With this important caveat, however, one fruitful policy implication could be that reentry programming should more directly address the interplay between supportive and criminal peers by recognizing that these sources can simultaneously exert independent effects. The problem with this recommendation, of course, is that this study is—to the best of our knowledge—the first quantitative study on this topic which uses panel data. Via the mindset that replication is key to developing firm policy implications (e.g., McNeeley & Warner, 2015), we are left to use a colloquialism, "between a rock and a hard place" in terms of what should be recommended. This point is reinforced by our inability to determine whether or

not the same friends are actually playing both supportive and criminogenic roles concurrently. Regardless, we can certainly say that both peer support and peer criminality appear important to illegal behavior during reentry. Going one step further, however, the findings do serve to highlight the utility of pursuing programs that aim to help returning persons identify people who could be supportive. With a focus on building life skills and relationship skills, classes designed to help returning persons develop, bolster, and maintain healthy relationships may be empirically justified to the extent to which they build supportive relationships.

Despite the contributions of this project, there are notable limitations. First, there is ample reason to believe that the method through which peer criminality is captured in this study may not tap actual peer criminality. Research on perceptual measures of peer behavior demonstrate that peoples' perceptions tend to contain elements of the peer's crime and the respondent's crime (e.g., Boman & Ward, 2014). We cannot determine the degree to which the respondent's own behavior has tainted his perception of his peer's behavior in the current data, making it impossible to say whether or not the coefficients and odds ratios in the current analysis may have been inflated by ego-based recall errors. In a similar vein, the measure of peer support was perceptual and could have suffered from similar errors in persons' perceptions. Furthermore, Heidemann, Cederbaum, and Martinez's (2014) study demonstrates that perceptions of the identity of "who" peers are during reentry can be skewed, as persons occasionally consider authority-type figures (i.e., probation and parole officers, correctional agency staff) as peers when reporting via survey methodologies.

In addition, there are limitations to the SVORI data. First, the data encompass only serious and violent offenders. Despite being relatively similar in terms of demographics to the broader incarcerated population in the United States (Carson & Anderson, 2016), findings from this study may not be generalizable to the broader incarcerated population in terms of offense history or risk. Second, our study is limited by only comprising men. This is important because prior research suggests that the influence of social support mechanisms may operate differently for females and males (see Grieb et al. [2014] and also Heidemann et al. [2014] for a study on females and social support). Accordingly, future research should explore the interplay between peer support and peer criminality for returning women and men in a grouped sample. Third, the measure of peer criminality in this data only asks about the proportion of one's friends who are criminally inclined. There are many different ways to capture peer deviance, meaning the strength of this construct should be reexplored in future research using different measures. In addition, the SVORI data do not include a measure of frequency of substance use or criminal offending. There are likely important variations in frequency of use which could provide a more nuanced understanding of the impact of peers on substance use and criminal offending.

Findings from this study provide further context and understanding to which several studies allude; much like family (e.g., Mowen & Visher, 2015), peers can play both beneficial and detrimental roles on crime and substance use during the reentry process. Furthermore, this study validates the versatility and benefit of using a social support–type approach to differential association in studying the bifurcated role of peer influence on persons in the reentry process. In short, Sutherland's (1947) and Colvin and colleagues' (2002) theories are

both supported as individuals undergoing the reentry process seem to experience positive and negative peer influences concurrently and in a longitudinal fashion over time. Taking everything into consideration, results from this study suggest that peers play an intricate, complicated, but important role for persons when returning home. However, one finding must be kept in perspective: Peer criminality appears to be more harmful for returning persons when compared with benefits of peer support.

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Table 1.

Sample Characteristics (N = 1,118).

Variable label	*M*	*SD*	Range
Dependent variables			
Substance use (1 = yes)	0.401	0.490	0, 1
Criminal offending (1 = yes)	0.348	0.477	0, 1
Independent variables			
Peer crime	8.150	3.180	4-16
Peer support	14.668	3.781	5-20
Control variables			
Employment (1 = yes)	0.667	0.471	0, 1
Race			
White	0.372	0.483	0, 1
Black	0.507	0.500	0, 1
Other race	0.121	0.326	0, 1
Age	29.469	7.342	18-69
Married (1 = yes)	10.635	0.308	0, 1
Have children (1 = yes)	0.640	0.480	0, 1
Length of incarceration	939.9	935.5	50-9,486
Prior arrests	13.702	19.156	1-300
SVORI (1 = yes)	0.544	0.498	0, 1

Note. SVORI = Serious and Violent Offender Reentry Initiative.

Table 2.

Hierarchical Generalized Linear Model Assessing Criminal Offending Post Release (N = 1,118).

	Model 1			Model 2			Model 3		
	Coefficient	**OR**	***SE***	**Coefficient**	**OR**	***SE***	**Coefficient**	**OR**	***SE***
Independent variables									
Peer crime	0.271	1.312	0.025***	0.269	1.309	0.025***	0.269	1.309	0.026***
Peer support	—	—	—	−0.047	0.954	0.018*	−0.047	0.954	0.019*
Peer Crime × Support	—	—	—	—	—	—	0.001	1.001	0.005
Control variables									
Employment	−0.492	0.612	0.147***	−0.465	0.628	0.148***	−0.465	0.628	0.148***
Race									
Black	−0.696	0.498	0.173***	−0.715	0.489	0.174***	−0.715	0.489	0.174***
Other race	−0.272	0.762	0.252	−0.244	0.783	0.252	−0.245	0.783	0.253
Age	−0.040	0.961	0.012***	−0.040	0.960	0.012***	−0.040	0.960	0.012***
Married	−0.111	0.895	0.267	−0.142	0.868	0.268	−0.142	0.868	0.268
Have children	−0.327	0.721	0.169	−0.329	0.719	0.169	−0.329	0.719	0.169
Length of incarceration	−0.001	0.999	0.001***	−0.001	0.999	0.001***	−0.001	0.999	0.001***
Prior arrests	0.020	1.020	0.005***	0.019	1.019	0.005***	0.019	1.019	0.005***
SVORI	−0.372	0.689	0.156*	−0.368	0.692	0.157*	−0.368	0.692	0.157*
Constant	−0.819	—	0.445	−0.105	—	0.530	−0.107	—	0.532
Model statistics									
Rho	0.416	—	0.048	0.417	—	0.048	0.417	—	0.048
χ^2	190.78***			192.54***			192.56***		

Note. SVORI = Serious and Violent Offender Reentry Initiative; OR = odds ratio.

*$p \leq .05$.

**$p \leq .01$.

***$p \leq .001$.

Table 3.

Hierarchical Generalized Linear Model Assessing Substance Use Post Release (N = 1,118).

	Model 1			Model 2			Model 3		
	Coefficient	**OR**	***SE***	**Coefficient**	**OR**	***SE***	**Coefficient**	**OR**	***SE***
Independent variables									
Peer crime	0.237	1.268	0.025***	0.235	1.265	0.025***	0.234	1.263	0.026***
Peer support	—	—	—	−0.060	0.942	0.019**	−0.060	0.942	0.019**
Peer Crime × Support	—	—	—	—	—	—	−0.001	0.999	0.005
Control variables									
Employment	−0.434	0.648	0.150**	−0.401	0.670	0.150**	−0.400	0.670	0.150**
Race									
Black	−0.277	0.758	0.181	−0.299	0.741	0.181	−0.299	0.741	0.181
Other race	−0.405	0.667	0.272	−0.372	0.689	0.272	−0.369	0.692	0.272
Age	−0.014	0.986	0.012	−0.014	0.986	0.012	−0.014	0.986	0.012
Married	−0.384	0.681	0.278	−0.426	0.653	0.278	−0.425	0.654	0.278
Have children	−0.261	0.771	0.179	−0.262	0.770	0.179	−0.261	0.771	0.179
Length of incarceration	−0.001	0.999	0.001***	−0.001	0.999	0.001***	−0.001	0.999	0.001***
Prior arrests	0.022	1.022	0.005***	0.021	1.021	0.005***	0.021	1.022	0.005***
SVORI	−0.448	0.639	0.165*	−0.441	0.643	0.165*	−0.441	0.643	0.165*
Constant	−1.131	—	0.464	−0.245	—	0.543	−0.227	—	0.547
Model statistics									
Rho	0.483	—	0.043	0.480	—	0.043	0.480	—	0.043
χ^2	155.30***			160.36***			160.45***		

Note. SVORI = Serious and Violent Offender Reentry Initiative; OR = odds ratio.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.