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Connectedness to the criminal community and the community at large predicts 1-year post-release outcomes among felony offenders

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Abstract

Connectedness to one's community relates to positive psychological and behavioral outcomes. But what implications do connectedness to *distinct* communities—the criminal community and the community at large—have for inmates about to be released from jail? This study (N = 383) prospectively examined connectedness to the criminal community and community at large prior to release from jail, and functioning at one-year post-release. Connectedness to the community at large positively predicted community adjustment whereas connectedness to the criminal community positively predicted recidivism. Targeting both types of community connectedness may enhance interventions intended to undermine recidivism and increase positive outcomes for inmates.

Keywords

community connectedness; inmates; recidivism; community functioning; social identity

Release from jail marks a key transition in the life of the inmate. On the one hand, the days, months, and years ahead represent the promise of a fresh start, the possibility of rehabilitation. On the other hand, it also marks the threat of tremendous psychological, relational, and economic challenge, as one seeks to re-integrate into the community while avoiding re-incarceration (Langan & Levin, 2002). Practitioners and scholars alike have long-sought to explain who thrives and who continues to commit crimes after release from jail, noting that a predictive window on the matter could show the way to possible interventions aimed at improving individual, familial, and community well-being. The current paper examines community connectedness as one such explanatory variable. Does the extent to which incarcerated offenders, on the brink of release from jail, feel connected to two distinct communities—the criminal community and the community at large—predict both desirable and undesirable outcomes a year later?

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Why is Social Connectedness Important?

Our social connections are significant and integral features of the self (Tajfel, 1981; Turner & Oakes, 1989) that “influence the type of people we are, the things we do, the attitudes and values we hold, and the way we perceive and react to people around us” (Hogg, 2003, p. 462). Social connectedness is a broad construct that captures a sense of “interpersonal closeness to the social world in toto” (Lee, Draper, & Lee, 2001, p. 310).

Existing data suggest that social connectedness is related to desirable emotional and behavioral outcomes. Studies of non-correctional, community samples have shown that social connectedness concurrently predicts lower trait anxiety, above and beyond resiliency factors such as perceived social support and collective self-esteem (Lee & Robbins, 2000). College students with higher social connectedness perceive less stress in their daily lives (Lee, Keough, & Sexton, 2002). Similarly, social connectedness has inverse correlations with dysfunctional interpersonal behaviors (e.g., being domineering and stand-offish). In addition, people who have a strong psychological sense of community report higher subjective well-being (Davidson & Cotter, 1991), reduced loneliness (Pretty, Conroy, Dugay, Fowler, & Williams, 1996), and desirable behavioral outcomes such as registering to vote and participating in neighborhood events (Brodsky, O'Campo, & Aronson, 1999). Furthermore, West (2003) found that willingness to assist the homeless community was predicted by how close potential volunteers felt to homeless people. In terms of substance use, adolescents who are connected to their school communities report using drugs and alcohol less frequently and are less psychologically distressed than their disconnected peers (e.g., Resnick et al., 1997; Sale, Sambrano, Springer, & Turner, 2003). Social connectedness, therefore, seems to be positive in general.

But why is social connectedness related to psychological and behavioral outcomes? Of particular relevance may be that membership in a social group forms the basis of our social identity, the part of an individual's self-concept that derives from “the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of his group membership” (Tajfel, 1972, p. 292). Two perspectives stemming from Social Identity Theory – self-categorization theory and the self-expansion model – provide relevant insight into the process by which social connectedness promotes differential functioning.

Self-categorization theory proposes that self-definition occurs at multiple levels (e.g., personal, group, human; see Spears, 2011, or Turner & Reynolds, 2011, for an overview; Turner, 1982; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). The more individuals define themselves as members of a specific group or category, the more they accept group norms (A. G. Livingston, Haslam, Postmes, & Jetten, 2011) and view themselves as possessing stereotypic attributes of the group, leading to depersonalization – a cognitive redefinition of the self – and adoption of stereotypic group behaviors (e.g., Turner, 1984). Particularly when a specific self-categorization is salient to the individual in a given situation, individuals act and think as group members, relying on the ingroup as a guide for their own thoughts and behaviors (e.g., Terry & Hogg, 1996).

Similarly, the social identity process of including others in the self, a principle fundamental to the self-expansion model asserts that humans are motivated to increase their efficacy in the world, and that, to do so, they take on the resources, perspectives, and identities of others by including these others in the self (see Aron, Lewandowski, Mashek, & Aron, 2013, for a theoretical overview). Historically, work on inclusion of others in the self focused on close relationships. Individuals who include a partner in the self demonstrate diminished differences in self- versus other-processing at both the cognitive (Aron, Aron, Tudor, & Nelson, 1991; Mashek, Aron, & Boncimino, 2003), physical, and physiological levels (Cheng et al., 2010). As with self-categorization theory, self-expansion theory highlights how incorporation of others into one's identity impacts how individuals perceive and interact in the social world.

What is Community Connectedness?

We explicitly built upon self-categorization and self-expansion theories in our work on the inclusion of community in the self. We argued that, just as one can identify with and take on the resources, identities, and perspectives of a specific close other, one can also identify with and take on these things for a less well-defined entity like the community (Mashek, Cannaday, & Tangney, 2007). Our approach was not entirely novel; other researchers have examined this notion with racial ingroups (Tropp & Wright, 2001), families (Uleman, Rhee, Bardoliwalla, Semin, & Toyama, 2000), sports teams (Blanchard, Perreault, & Vallerand, 1999), and even the natural environment (Schultz, 2000).

At least among college students, the inclusion of community in self, or community connectedness, is significantly positively correlated with indices of helping the community (r = .29 - .36) and with dimensions of psychological sense of community, a key related construct from the community psychology literature (i.e., *ties and friendship* (.39), *support* (.28), *belonging* (.27), and *conscious identification* (.45)) (Mashek et al., 2007). This latter dimension, conscious identification, is the closest conceptually and empirically to community connectedness. In addition, data from a sample of incarcerated offenders echoes this pattern of results: community connectedness correlated positively with self-reported kindness and generosity (.19; Mashek et al., 2007).

Community connectedness, then, is an individual-level social identity construct defined as the inclusion of a community in the self. This conceptual definition, influenced by self-categorization theory (Turner, 1982; Turner et al., 1987), falls directly from the self-expansion model (Aron & Aron, 1986); as we will see later, the operational definition does as well (Aron, Aron, & Smollan, 1992).

Does Type of Community Matter?

In short, stronger connections to the community appear to be more beneficial than weaker ones, both in terms of the individual's psychological well-being and the individual's interaction with his or her community. But what if the community espouses criminogenic values? If an individual is connected to the criminal community will he or she show higher levels of antisocial behavior and be less likely to engage in positive community activities? Or is connectedness to any type of community protective (Hirschi, 1969)?

Interestingly, connectedness to the criminal community is orthogonal to connectedness to the community at large among incarcerated offenders ($r = -.01$; Mashek, Stuewig, Furukawa, & Tangney, 2006). This orthoganality is conceptually critical because it opens the door for us to consider independent effects of different types of connectedness. That is, rather than thinking about connectedness to the community at large and connectedness to the criminal community as two ends of the same continuum, it might be fruitful to think about how these different kinds of connections influence practically and clinically significant outcomes including recidivism (defined as re-arrest) and rehabilitation.

In accordance with the self-expansion model (Aron et al., 2013) and self-categorization theory (Turner, 1982; Turner et al., 1987), individuals who are highly connected to the criminal community may adopt the attitudes, beliefs, and values of the criminal community (e.g., criminogenic cognitions), as well as engage in antisocial behaviors (e.g., recidivism) modeled by other members of the criminal community. The theory of Criminal Social Identity similarly suggests that having a criminal identity, which develops from a series of psychological processes including associations with criminal peers, leads individuals to engage in criminal behavior (Boduszek & Hyland, 2011). Consistent with this notion, inmates who are highly connected to the criminal community tend to have higher levels of criminogenic cognitions, such as notions of entitlement and failure to accept responsibility (Mashek et al., 2006); these features in turn predict recidivism (e.g., Walters, 2009; Caudy et al., 2015). The direct relation between connectedness to the criminal community and recidivism, however, has yet to be examined. Given that recidivism is a uniquely criminal behavior and an accepted group norm of the criminal community, including the criminal community in the self and incorporating it as part of one's social identity may predict engagement in criminal behavior. Connectedness to the community at large is expected to negatively predict recidivism, given that this behavior is not pervasive among nor accepted by members of this community.

Substance use is another behavior highly prevalent among members of the criminal community. Inmates have strikingly high levels of substance dependence, with about 45% of Federal and 53% of State prisoners (Mumola & Karberg, 2006) and 68% of jail inmates (Karberg & James, 2005) meeting the diagnostic criteria for substance abuse or dependence. In addition, use of illegal drugs is, by definition, law-breaking behavior. As such, including the criminal community in the self may lead to engagement in substance misuse post-release. The implications of including the community at large in the self for subsequent substance use are less clear, as attitudes towards and actual use of alcohol and to some extent marijuana are currently mixed.

In contrast to outcomes such as recidivism and substance use, three competing theories predict different results when thinking about the relationship between connectedness and mental health. From one perspective, feeling connected to either the community at large or the criminal community may predict lower mental health symptoms. According to Baumeister and Leary (1995), the need to belong is a powerful, extremely motivating, fundamental need that drives people to form, maintain, and prevent the dissolution of, social bonds under most conditions. Based on the broader social connectedness literature demonstrating positive relations with psychological outcomes (e.g., Uchino, Cacioppo, &

Kiecolt-Glaser, 1996) and fulfillment of the need to belong (Baumeister & Leary, 1995) through community connectedness, it stands to reason that connectedness to either the community at large or the criminal community (or both) would relate to positive mental health outcomes. Based on the same logic, if individuals experience low levels of connectedness to both communities, they may experience high levels of mental health symptoms. In a cross sectional study using the same sample of jail inmates as the current study, however, individuals who were highly connected to both the community at large and the criminal community shortly upon incarceration experienced the highest levels of psychological distress (e.g., lower self-esteem, higher depression, more drug problems; Mashek et al., 2006). It is also possible that those who are highly connected to both communities may experience more mental health symptoms as a result of including two communities in the self that hold often conflicting beliefs and values. It is possible that forms of connectedness to the two types of communities interact in important ways.

Alternatively, since criminal offenders are a stigmatized group (Moore, Stuewig, & Tangney, 2013) that is, in general, viewed negatively by the public (e.g., Hirschfield & Piquero, 2010; MacLin & Hererra, 2006), integrating the criminal community into one's self may by extension lead to internalized stigma, or the acceptance of negative stereotypes about criminals in to the self (Moore et al., 2013). Internalized stigma is consistently linked to poor psychological functioning (J. D. Livingston & Boyd, 2010), so it is possible that connectedness to the criminal community will be associated with more mental health symptoms in the year post-release, particularly as offenders reenter the community at large.

In accordance with the self-expansion model (Aron & Aron, 1986) and the notion that individuals take on the perspectives, behaviors, and resources of those they include in the self, it is likely that individuals who are more connected to the community at large would exhibit more adaptive community functioning. Behaviors such as paying child support and owning a home, elements of community functioning, are valued by members of the community at large. If individuals are more connected to the community at large, they would likely adopt the perspective that these are valued behaviors as well and be motivated to engage in them. In contrast, members of the criminal community may not value these same aspects of community functioning. For some aspects of community functioning such as how individuals financially support themselves, members of the criminal community may be more likely to condone what is considered in the current study to be maladaptive, such as engagement in illegal activities. As such, connectedness to the criminal community is expected to predict lower levels of community functioning.

Present Study

The present study evaluated the degree to which jail inmates' connectedness to the criminal community and the community at large (assessed just prior to release) predicted psychological and behavioral outcomes during their first year in the community. This investigation extends existing self-categorization literature, which has largely focused on ingroup vs. outgroup identification (e.g., Tropp & Wright, 2001; Schubert & Otten, 2002), by examining connectedness to two seemingly opposing communities which one can simultaneously identify with, and the degree to which connectedness to these communities

differentially predicts post-release outcomes. Whereas most research in criminology focuses solely on recidivism, the current study considers a broad array of socially and economically relevant outcomes. Specifically, in addition to re-arrest, the current study assessed undetected offenses, substance dependence, symptoms of mental illness, and positive aspects of community functioning, including employment, in the first year post-release.

We expected pre-release connectedness to the criminal community to positively predict post-release recidivism (Hypothesis 1) and pre-release connectedness to the community at large to negatively predict post-release recidivism (Hypothesis 2). Regarding substance use, we expected pre-release connectedness to the criminal community to positively predict post-release substance misuse (Hypothesis 3), but had no clear hypothesis regarding pre-release connectedness to the community at large. Competing hypotheses were tested for mental health symptoms, where pre-release connectedness to the criminal community could either negatively or positively predict symptoms (Hypothesis 4 and 5) and pre-release connectedness to the community at large was expected to negatively predict post-release mental health symptoms (Hypothesis 6). In addition, an interaction effect is possible whereby individuals who are high in connectedness to both communities may experience high levels of mental health symptoms (Hypothesis 7). Finally, pre-release connectedness to the criminal community was expected to negatively predict post-release community adjustment (Hypothesis 8) and pre-release connectedness to the community at large was expected to positively predict post-release community adjustment (Hypothesis 9).

Method

Participants and Procedure

Participants were 383 pre- and post-trial inmates held on felony charges in a county jail, located in a suburb of Washington DC, who participated in a larger longitudinal study (Tangney, Mashek, & Stuewig, 2007).[1] The primary goal of this prospective study of jail inmates was to examine the implications of moral emotions and cognitions for post-release recidivism, substance abuse relapse, and HIV risk behavior (e.g., Caudy et al., 2015; Martinez, Stuewig, & Tangney, 2014; Tangney, Stuewig, & Martinez, 2014; Tangney, Stuewig, Mashek, & Hastings, 2011). At the time of enrollment, participants were on average 33.17 years old (*SD* = 10.09, *range* 18 to 69), male (69.5%), had completed 11.84 years of education (*SD* = 2.10, *range* 5 to 18), and were diverse in terms of race and ethnicity (45.0% African American, 35.1% Caucasian, 7.6% Hispanic, 3.4% Asian, 5.2% “Mixed,” and 3.7% “Other”). Participants were recruited for baseline assessment between 2002 and 2007 - shortly after being assigned to the jail's medium and maximum security “general population” (Time 1). Because a key interest of the parent project was the effectiveness of short-term interventions with relatively serious offenders, selection criteria

[1]Data and associated documentation will be made available to researchers under a data-sharing agreement that provides for: (1) release of individually prepared datasets containing the subset of variables required to answer the requester's clearly defined research question(s); (2) a commitment to using the data only for research purposes and not to attempt to identify any individual participant; (3) a commitment to securing the data using appropriate computer technology housed in a secure laboratory facility; and (4) a commitment to destroying or returning the data after analyses are completed. Because of the exceptionally sensitive nature of the data, detailed criminal history and re-arrest information provided by the FBI and self-reports of undetected criminal behavior will not be shared. Data requests will be accepted beginning 12 months after publication of the primary findings of the parent project from which these data were drawn.

were developed to identify incoming inmates likely to serve at least four months (i.e., long enough to complete the 4-6 session baseline assessment and to have the opportunity to request and engage in at least some jail programs and services). In conjunction with jail staff we worked to identify individuals who would fit this profile in that they were either sentenced to 4 months or more or arrested and held on at least one felony charge other than a probation violation, with no bond or greater than $7,000 bond.

Participants were arrested for a broad range of felony offenses. Participants in the current sample were incarcerated for approximately five and a half months (SD = 3.73 months) at the county jail, with an additional 85 participants serving additional time at other facilities (M = 18 months, SD = 19.25 months). Participants were re-interviewed prior to release (Time 2) and approximately one year following release (Time 3). Consolidated Standards of Reporting Trials (CONSORT) diagrams for this sample can be seen in Figures 1 and 2. Figure 1 shows attrition from Time 1 to Time 2. Figure 2 shows attrition from Time 1 to Time 3 and the composition of the analysis sample. Participants received honoraria of $15-18 at baseline (Time 1), $25 at pre-release (Time 2), and $50 at the one-year follow-up (Time 3). All procedures were approved by the George Mason University Institutional Review Board.[2]

Measures

Baseline measures (Time 1)—Participants self-reported demographic characteristics (e.g., age, gender, race), as described in the Participants section above.

Pre-release measures (Time 2)—The following measures were administered prior to release from jail or prison. Time 2 assessments were conducted in the privacy of professional visiting rooms (e.g., used by attorneys) or secure classrooms.

Community connectedness: Connectedness to the criminal community and connectedness to the community at large were measured using the Inclusion of Community in Self (ICS) scale (Mashek et al., 2007). For each dimension of community connectedness, a single-item pictorial measure consisting of six pairs of overlapping circles was presented. Each pair of same–sized circles overlaps slightly more than the preceding pair (see Figure 3). Participants were told that the circle on the left of the pair represents themselves, while the circle on the right represents the target (i.e., community at large, criminal community). Participants were asked to circle the picture that best describes their relationship with the target community. Participants were told that the community at large refers to “all the people in your town, city, or county; people in general; people who live on the outside and who do not commit crimes.” The criminal community was defined as “people who commit crimes whether they are in jail, prison, or living on the outside.” Our definitions were intentionally vague to allow participants to utilize their own interpretation of the labels “community at large” and

[2]During the informed consent procedure at each assessment, participants provided researchers with permission to access criminal records. Participants were informed that their responses would in no way impact their sentence or be released to the justice system. In order to receive official records of arrest from the Federal Bureau of Investigations (FBI), an Information Transfer Agreement was signed by the FBI, the County Sheriff's Office, and the University.

"criminal community." Any error introduced by this approach should make statistical effects more difficult to detect.

The construct validity of the community at large item of the ICS has been demonstrated in college samples (Mashek et al., 2007), with the expected moderate correlations with relevant facets of psychological sense of community as assessed by Obst, Smith, and Zinkiewicz (2002). There was inadequate variance on the criminal connectedness item in the college sample, thus precluding validity analysis of that item. The connectedness to the community at large item demonstrated discriminant validity based on minimal correlations with agreeableness ($r = .09$; Saucier, 1994) and impression management ($r = -.02$; Paulhus, 1988), as well as acceptable test-retest reliability over a two-week period ($r = .78$; $n = 50$) (Mashek et al., 2007). In a sample of 297 male inmates drawn from the same study as the current sample, the connectedness to the community at large item, assessed at the outset of incarceration, correlated positively with helping behaviors ($r = .19$) and negatively with antisocial behavior ($r = -.20$). The connectedness to the criminal community item related positively to criminogenic beliefs (across subscales average $r = .18$) and negatively to character strengths (across subscales average $r = -.14$) (Mashek et al., 2006).

Post-release measures (Time 3)—The following measures were administered one year after release from jail or prison. Time 3 assessments were conducted by phone or, for those reincarcerated, in person.

Recidivism: Recidivism was assessed using both self-report and official records. Participants reported whether they had been arrested for any of 16 different types of crime (i.e., theft, robbery, assault, murder, domestic violence, weapons offenses, major driving offenses, prostitution, drug offenses, sex offenses, fraud, kidnapping, arson, resisting arrests, miscellaneous, and other). To assess undetected offenses, participants then reported whether they had committed, but not been caught for, any of the same 16 different types of crime. Official National Crime Information Center (NCIC) criminal records of arrests in the first year post-release were also collected; 119 charge codes found on official records were categorized into the 16 types of crimes used for the self-report variables. To capture criminal versatility in these three sources, three variables were created to reflect the number of types of crimes (i.e., 0-16) that people were arrested for (i.e., official arrests and self-reported arrests) and reported committing (i.e., self-reported offenses). Versatility -- the number of different types of crimes -- was employed rather than the frequency of arrest/offense because the latter is confounded by the type of crime (e.g., illegal substance use vs. violent offenses).[3] Technical violations were not included in any of the versatility variables because they represent infractions such as missed appointments, failed drug tests, etc.

[3]A versatility index (also known as a variety scale) was chosen because these exhibit higher reliability than frequency scales, have a higher correlation with official reports of delinquency than other measures formed from self-reports (Hindelang et al., 1979, 1981) and have more predictive validity than frequency and weighted frequency scales (Farrington, 1973). Although this does ignore frequency of offending and treat all forms of offending as equal, it has comparably fewer methodological issues than other common scales of offending. Frequency is problematic because the less serious crimes tend to be committed more frequently, so they are given more weight in the index. Severity ratings are problematic because there is no clear way to scale the severity of crimes. For example, as Robert Merton (1961) wrote, "Is one homicide to be equated with 10 petty thefts? 100? 1,000?"

Mental health symptoms: A shortened version of the Personality Assessment Inventory (PAI; Morey, 1991) was used to assess depression (DEP), anxiety (ANX), stress (STR), and borderline personality disorder (BPD) symptoms at one-year post-release. Item responses ranged from 1 = *false, not at all true* to 4 = v*ery true*. Example items include: Nothing seems to give me much pleasure (DEP); I'm often so worried and nervous that I can barely stand it (ANX); My life is very unpredictable (STR); My mood can shift quite suddenly (BPD). The PAI uses T-scores (standardized scores with a mean of 50 and a standard deviation of 10) based on a normative sample; the alphas for each scale were .85 for depression (24 items), .89 for anxiety (24 items), .74 for stress (8 items), and .88 for borderline features (24 items).

Substance dependence: The Texas Christian University: Correctional Residential Treatment Form, Initial Assessment was used to assess symptoms of dependency on alcohol, marijuana, cocaine, and opiates during the first year post-release (TCU-CRTF; Simpson & Knight, 1998). For each substance, participants rated the frequency with which they experienced symptoms of substance dependence in the domains specified by the DSM-IV-TR (American Psychiatric Association, 2000). For example, for the domain of tolerance, participants answered the question "How often did you find that your usual number of drinks had much less effect on you or that you had to drink more in order to get the effect you wanted?"). Item responses ranged from 0 = *never* to 4 = *7 or more times*. For domains with multiple items (e.g., different withdrawal symptoms), responses were averaged and a total score was computed by taking the mean across the seven domains (six in the case of marijuana because withdrawal is not considered part of the criteria). Each scale had acceptable reliability (alcohol, 7 items, $\alpha = .93$; marijuana, 6 items, $\alpha = .88$; opiates, 7 items, $\alpha = .97$; cocaine, 7 items, $\alpha = .98$). Given the similarities between cocaine and opiates (illegal, highly addictive) and the low rate of opiate use in our sample, opiates and cocaine were combined into a category of "hard drugs." Frequency of dependence symptoms related to cocaine/opiate use was defined as the higher of the two ratings for either cocaine or opiates.

Employment: To determine the number of hours participants were employed during the first year post-release, participants were asked whether they were unemployed, or had odd jobs, part-time employment, or full-time employment in the first year following their release from jail. Follow-up questions assessed how long they were employed during that year. Of the participants who reported their employment status ($n = 302$), the majority (67.5%) had full-time employment during the year after release. A continuous variable (*total hours employed*) was created to represent the amount of employment in the first year post-release. Based on the typical workweek for an average individual living in the United States, the response "yes, held full-time jobs (35 hours or more per week)" was coded as 40 hours. The response "yes, held part-time jobs (35 hours or less per week)" was coded as 20 hours. The response "*yes, did odd jobs (occasional or irregular work)"* was coded as 5 hours.[4] The number of

[4]These values were selected based on the typical number of hours worked in U.S. jobs (i.e., full-time employment in the U.S. is 40 hours, part-time is 20 hours, and odd jobs is 5 hours). Based on our experience interviewing inmates about employment, odd jobs are usually inconsistent forms of work that vary greatly in number of hours, type of work, and amount paid from week to week, involving many weeks with no work at all. So, even though participants may have worked more than 5 hours per week doing a particular odd job, it likely averages out to something close to 5 hours per week across the whole year.

hours a participant was employed was multiplied by the number of weeks they were employed during the year after release to get *total hours employed*.

Community functioning: A community functioning index was created to assess the degree to which participants were functioning in, and contributing to, the community in a positive manner. We were specifically interested in identifying adaptive, prosocial forms of community functioning. Most research in criminology focuses on negative outcomes (e.g., recidivism). Adaptive community functioning is not merely the flip side of poor outcomes such as re-arrest and reincarceration, but instead represents a distinct source of variance (Moore, Stuewig, & Tangney, in press). Eight items were selected from a detailed demographic questionnaire completed at the one-year post-release interview, with each coded as adaptive (1) or non-adaptive (0). No value judgments were used in deciding which aspects of functioning were "good" or "bad." Coding was based on prior theory and research.

Items include: 1) residential stability, 2) homeownership, 3) current marital status, 4) largest source of support, 5) valid driver's license, 6) financial support of children, 7) educational and vocational upgrades, and 8) volunteerism in the community. Specifically, for residential stability, living in one or two places in the year post-release was considered adaptive and living in more than two places or being homeless was considered non-adaptive. For current marital status, being married was considered adaptive and all other statuses were considered non-adaptive (e.g., widowed, divorced).[5] We chose to analyze current marital status at the post-release timepoint, not changes in marital status from pre- to post-incarceration; regardless of marital status pre-incarceration, being married at the post-release timepoint was considered adaptive and prosocial. Formalized social ties such as marriage offer an adaptive resource for navigating post-release challenges and opportunities a former inmate is likely to face. For largest source of financial support, a job or savings was considered adaptive and all other responses were considered non-adaptive (e.g., family, spouse, illegal activities). For financial support of children, supporting all of their children or more than their own children (e.g., a partner's children) was considered adaptive, and not having children or failing to financially support all of their children was considered non-adaptive. For educational and vocational upgrades, participating in any of 7 options (i.e., worked on their GED or any type of vocational or technical training, took college classes, participated in any other training or seminars, graduated from high school, completed a vocational or technical training program, completed their GED, or completed college) specifically in the year after release was considered adaptive and not participating was considered non-adaptive. On yes/no questions, participants who reported owning their own home, having a valid driver's license, or volunteering in the community in the past year were given a score of 1 (adaptive) on those respective items.

[5]Social control theory (Hirschi, 1969) suggests that the act of being legally married is a community convention that is fundamentally different from other forms of cohabitation or relationships. Substantial research (e.g., Laub, Nagin, & Sampson, 1993) has investigated the role of legal marriage in the behavior of offenders, and it is believed that marriage represents a prosocial bond to the community that is not observed in cohabitating couples or other types of romantic relationships. Legal marriage predicts desistance from criminal behavior (Laub et al., 1993).

Scores were averaged across the eight dichotomous indicators to create a total functioning index. Cronbach's alpha was not calculated because this is a formative construct composed of different areas of functioning that may or may not be correlated with one another.

Results

Descriptive statistics are presented in Table 1. Just prior to release (Time 2), inmates felt only modestly connected with the criminal community and the community at large, but there was substantial variance in each variable. Intercorrelations between variables are presented in Table 2. As observed shortly upon incarceration (Mashek et al., 2006), just prior to release, connectedness with the criminal community continued to be largely orthogonal to connectedness to the community at large ($r(165) = .09$, $p > .05$). These are not opposite sides of a single dimension, but rather represent two distinct sources of variance in inmates' social connectedness.

Measurement Model for Post-Release Adjustment

Using Mplus statistical software, four latent variables (indicated with capital letters throughout the remainder of the manuscript) were created to capture outcomes of Recidivism, Substance Dependence, Mental Health Symptoms, and Community Adjustment. Recidivism was composed of self-reported arrests, self-reported offenses, and official records of arrests; Substance Dependence was composed of symptoms of hard drug dependence (combination of cocaine and opiate dependence), alcohol dependence, and marijuana dependence; and Mental Health Symptoms was composed of depression, anxiety, stress, and borderline personality disorder features scales. Community Adjustment was composed of total hours employed and community functioning. Missing data were handled using Full Information Maximum Likelihood (FIML) (Graham, 2009; Kline, 2005; Muthén & Muthén, 1998-2012; Schafer & Graham, 2002).[6] In the current study, 346 participants completed one-year post-release measures; only 164 participants completed connectedness measures prior to release, however, and of the 164 participants, 134 completed one-year post-release measures. FIML allowed us to utilize the sample of 383 (i.e., participants who had completed the connectedness measure at Time 2 or had completed a Time 3 interview) participants rather than 134.[7]

A confirmatory factor analysis using maximum likelihood estimation was conducted with these four latent variables using the full sample of 383 participants. The model included intercorrelations among all latent variables as well as a correlated residual for self-reported arrests and official records of arrest (Moore et al., in press). The latent variables were identified using the fixed factor method in order to freely estimate all loadings (Kline, 2005). This model fit the data acceptably ($\chi^2(47) = 105.04$, $p < .001$; $RMSEA = .06$ with 95%

[6]FIML uses all of the data available about a participant, including other measures at that timepoint and outcome measures, to determine the model parameters. Data values are not imputed in this technique, but rather the model parameters are estimated using all available information. This technique is widely accepted (Enders, 2001; Enders & Bandalos, 2001; Little, Jorgensen, Lang, & Moore, 2014; Schafer & Graham, 2002), especially in longitudinal research where people sometimes miss an entire wave of data collection, and provides more reliable results than are found with Listwise deletion (Schafer & Graham, 2002).

[7]Analyses were conducted with the two smaller samples of participants ($n = 134$ and $n = 164$) to examine the effect of FIML on the results. The pattern of results was the same as those using the larger sample, which had more power and is therefore what we chose to report.

CI .04 to .07, *CFI* = .95, *SRMR* = .05). Factor loadings were all significant and ranged from .45 to .88. On Recidivism, Substance Dependence, and Mental Health Symptoms, higher scores indicated worse functioning; higher scores indicated more adaptive functioning on the Community Adjustment latent variable (see Figure 4).

Does Pre-Release Community Connectedness Predict Post-Release Functioning?

Our full model including paths from each connectedness variable to outcomes (see Figure 5) fit the data acceptably ($\chi^2(63) = 123.37$, $p < .001$; *RMSEA* = .05 with 95% CI .04 to .06, *CFI* = 0.95, *SRMR* = .06) using maximum likelihood estimation. In support of Hypothesis 1, connectedness to the criminal community positively predicted Recidivism ($\beta = .33$, $p < .01$, 95% CI .17 to .49). Connectedness to the criminal community did not significantly predict Substance Dependence symptoms ($\beta = -.08$, $p > .10$, 95% CI -.25 to .09; Hypothesis 3), Mental Health Symptoms ($\beta = -.09$, $p > .10$, 95% CI -.24 to .07; Hypotheses 4 and 5), or Community Adjustment ($\beta = -.11$, $p > .10$, 95% CI -.27 to .05; Hypothesis 8). In support of Hypothesis 9, connectedness to the community at large positively predicted Community Adjustment ($\beta = .23$, $p < .05$, 95% CI .08 to .39).[8] Contrary to our hypotheses, connectedness to the community at large did not significantly predict Recidivism ($\beta = -.11$, $p > .10$, 95% CI -.28 to .06; Hypothesis 2), Substance Dependence ($\beta = -.01$, $p > .10$, −.18 to .16), or Mental Health Symptoms ($\beta = -.03$, $p > .10$, −.20 to .14; Hypothesis 6). In sum, individuals expressing high connectedness to criminal community had higher levels of recidivism one year later. In contrast, those who expressed high connectedness to the community at large had higher levels of positive community adjustment one year later.

A secondary analysis was conducted to test the hypothesis that individuals who are high in connectedness to both communities will experience high levels of mental health symptoms (Mashek et al., 2006). To test this theory, a model was run using only mental health symptoms as an outcome. The two community connectedness variables were centered prior to creating an interaction term. The model fit the data acceptably ($\chi^2(11) = 14.29$, $p > .10$; *RMSEA* = .03 with 95% CI .00 to .07, *CFI* = 0.99, *SRMR* = .03) using maximum likelihood estimation. As in the full model described above, neither connectedness to the criminal community ($\beta = -.09$, $p > .10$, 95% CI -.25 to .08) nor connectedness to the community at large significantly ($\beta = .00$, $p > .10$, 95% CI -.17 to .17) predicted mental health symptoms. The interaction between the two forms of community connectedness in predicting mental health symptoms was also non-significant ($\beta = -.07$, $p > .10$, 95% CI-.24 to .10).

Discussion

The current study sought to examine two types of community connectedness–connectedness to the criminal community and connectedness to the community at large–as predictors of

[8]Secondary analyses were conducted to determine whether community connectedness predicts specific aspects of Community Adjustment. Separate models were conducted with each community functioning item and employment as outcomes. The rest of the model was parallel to the full model described above. Model fit remained consistently acceptable in each of the eight models. Neither type of community connectedness significantly predicted any of the individual components of Community Adjustment. Marginally significant pathways were found from connectedness to the community at large to residential stability ($\beta = .26$, $p = .05$) and financial support of children ($\beta = .20$, $p = .05$), and from connectedness to the criminal community to largest source of support ($\beta = -.13$, $p = .06$). These results suggest the community functioning index may be a stronger outcome measure than the individual items due to greater variance. Results from these additional models can be furnished upon request to the corresponding author.

both desirable and undesirable outcomes in the year following felony offenders' release from jail. Two key findings emerged. First, connectedness to the community at large positively predicted community adjustment (i.e., community functioning, employment) during the first year post-release. Second, connectedness to the criminal community positively predicted recidivism during the first year post-release. Connectedness to dissimilar communities was differentially linked to behavioral outcomes. Somewhat surprisingly, neither form of connectedness predicted symptoms of mental health or substance dependence as is commonly found in the broader social connectedness literature (e.g., Sale et al., 2003; Uchino et al., 1996).

On the theoretical front, these findings augment efforts to understand the processes and outcomes of self-categorization (Turner, 1982; Turner et al., 1987) and including entities in the self (Aron et al., 2013) and the extent to which this inclusion informs the thoughts, feelings, and behaviors associated with complex, multi-dimensional, and malleable social identities. Although forms of social connectedness such as psychological sense of community have been related to important positive outcomes in normative samples (e.g., Brodsky et al., 1999), we are unaware of other studies that examine how connectedness to the criminal community and the community at large predict post-release functioning for jail inmates. By investigating social identity processes such as the inclusion of others in the self and self-categorization in diverse populations such as jail inmates, investigators gain insight into the generalizability—and, conversely, the boundary conditions—of processes such as the inclusion of others in self.

Based on the current findings, jail inmates do include the community at large and the criminal community in self and subsequently exhibit behaviors characteristic of each distinct community (e.g., including the criminal community in self leads to increased recidivism). Yet, it was unexpected that neither form of community connectedness predicted symptoms of mental health or substance dependence (Hypotheses 3, 4, 5, and 6). The absence of effects could be because complex psychological processes like mental health and substance dependence are influenced by a multitude of factors not captured by community connectedness alone.

In regards to symptoms of substance dependence, it is noteworthy that although not significant, connectedness to the criminal community is positively related to symptoms of marijuana misuse but negatively related to symptoms of alcohol or hard drug misuse (see Table 2). It may be that while alcohol and hard drug use are indicative of intensive substance dependence issues, marijuana use is more an indicator of a criminal or antisocial lifestyle. Connectedness to the criminal community may therefore differentially predict substance misuse depending upon the substance in question.

For mental health, it is possible that examining only two forms of connectedness, connectedness to the community at large and connectedness to the criminal community, is too narrow a scope. In addition to the multitude of factors influencing mental health symptoms, it is possible that other forms of connectedness (e.g., family, spiritual) are more relevant to mental health outcomes than community connectedness. We did not find support for the hypothesis that individuals who are high on both forms of community connectedness

would experience higher levels of mental health symptoms. In other words, we did not find support for the negative impact of dual connectedness on mental health. It is possible that community connectedness holds different meanings for individuals depending upon their stage in the criminal justice process (e.g., beginning incarceration vs. pre-release). In the Mashek and colleagues paper (2006), the participants had just begun their incarceration, in contrast to the current study where they were assessed just prior to release into the community.

Strengths and Limitations

Although the results of this study hold important implications for understanding the predictive value of community connectedness in jail inmates, it has several noteworthy limitations. The first pertains to the generalizability of the findings. Despite the sample's diversity on factors such as ethnicity and criminal record, it consists largely of male “general population” inmates who had committed felonies and were housed in a single southeastern jail. Future research is needed in order to generalize these findings to other high-risk samples such as long-term prison inmates or juvenile offenders. Second, we relied on self-report assessment for the majority of correlates and outcomes (e.g., substance dependence, mental health symptoms). We did, however, utilize official records of recidivism in order to enhance the validity of our findings. Future research may benefit from the use of additional objective measures of outcome variables (e.g., employment records, drug tests, clinician ratings of mental health symptoms).

Additionally, we utilized two single item measures of community connectedness, our independent variables. Although single-item measures are not optimal, the ICS has been successfully validated in college and offender samples and shown to possess sound measurement properties (Mashek et al., 2007). The overlapping circles method has been widely used in research both to capture a sense of connectedness and to prospectively predict important relationship outcomes (Aron et al., 1992). Of note, the Inclusion of Other in Self scale, from which the ICS was derived, has outperformed substantiated, multi-item measures of closeness in prospectively predicting outcomes such as relationship breakup (Aron et al., 1992). Additional research should examine how well the ICS performs in comparison to other widely used predictors of criminal behavior and community functioning.

Lastly, the causal conclusions to be drawn from these results are somewhat limited. The results of the current study demonstrate that community connectedness – a malleable characteristic – has implications for downstream post-release functioning. One possibility we did not examine is that community connectedness and some of the outcomes affect one another bidirectionally, or recursively (For example, hypothetical Time 0 ICS measured a year before arrest may have affected community functioning during the time leading up to the Time 1 arrest.) A more sophisticated causal analysis assessing the degree to which changes in one variable result in changes in the other variable (and vice versa) would likely be a promising future direction holding relevant implications for intervention.

The limitations just described are tempered by a number of methodological strengths. The intuitive nature of the overlapping circles measure, its accessibility to individuals who may

have limited literacy skills, and its demonstrated utility across different contexts makes it well suited for use with incarcerated offenders. More importantly, this study's methodological rigor is enhanced by its longitudinal design, utilization of both self-report and official records, and examination of both positive and negative post-release outcomes.

Clinical Implications

On the applied front, an important implication of the current study is that, in promoting rehabilitation among offenders, reducing connectedness to the criminal community may be an insufficient intervention; our data suggest that increasing connectedness to the community at large is also needed in order to support optimal post-release functioning. In order to target outcomes in addition to recidivism (e.g., community functioning, mental health symptoms), jail-based interventions and post-release support mechanisms might be particularly effective if they take a two-pronged approach to guide the identity transitions of offenders, targeting both types of community connectedness.

On a final note, by design, jails bring offenders into intimate proximity with other offenders and sever these same offenders from the community at large. Although research has yet to examine changes in feelings of community connectedness among inmates over the period of incarceration, the design of jails are in contradiction to the implications of the current findings. As such, interventions targeting feelings of community connectedness will need to overcome the constraints of the current system in order to effect change in this area.

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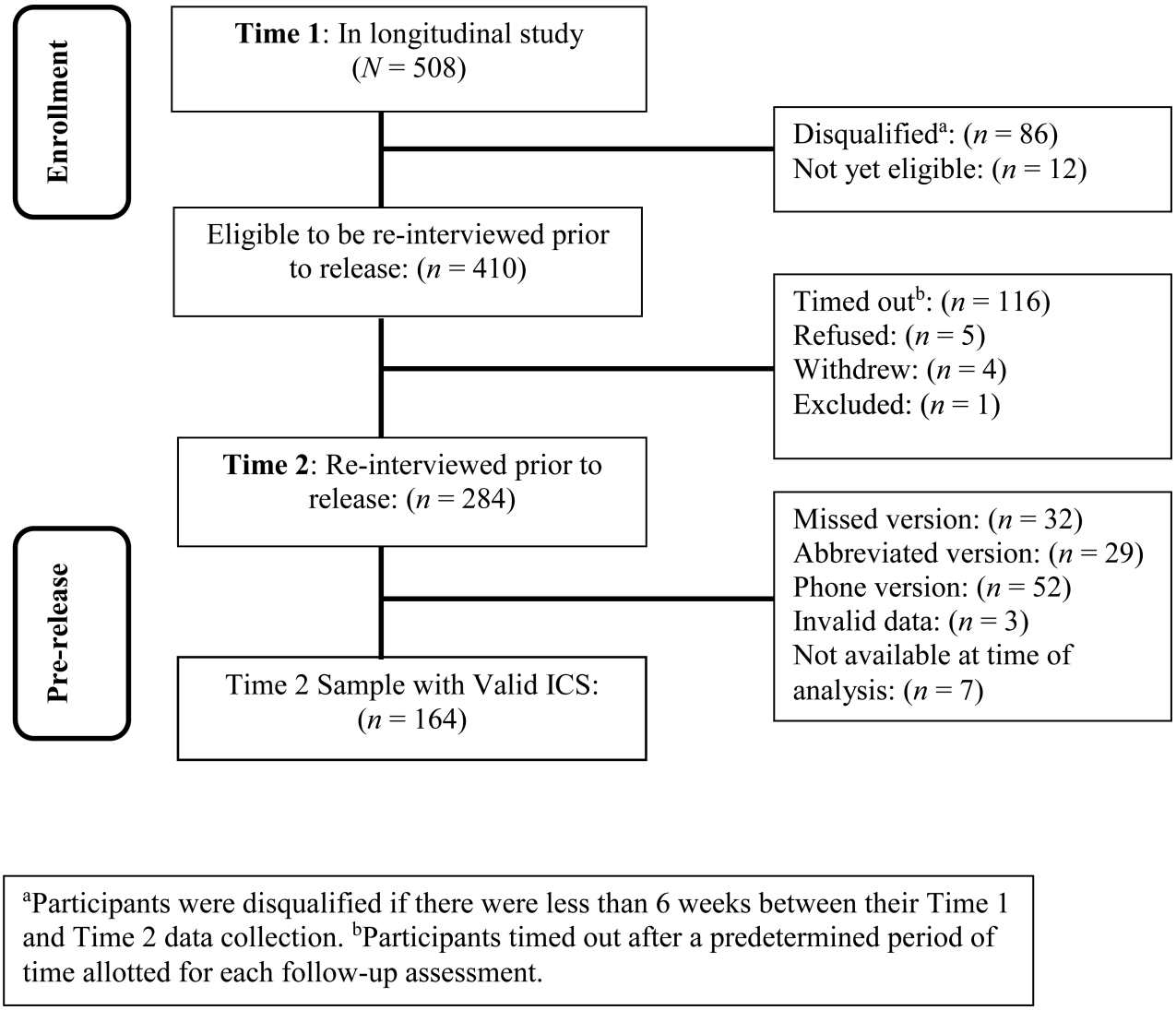

Figure 1.
Sample retention from Time 1 to ICS measure. This figure illustrates a consort diagram of sample retention from participants enrolled at Time 1 to those who completed the ICS measure prior to release from jail/prison.

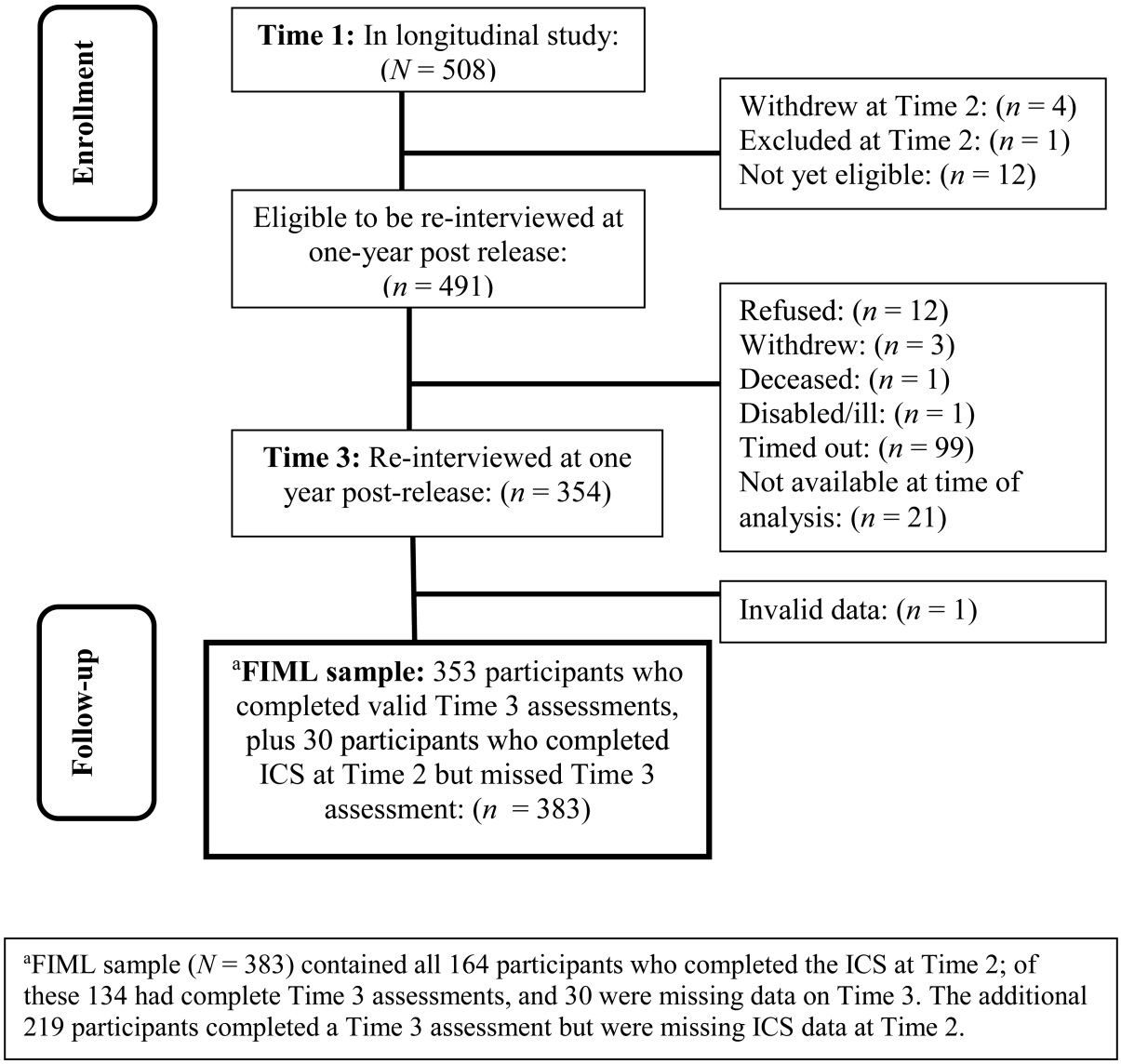

Figure 2.

Sample retention from Time 1 to FIML sample. This figure illustrates a consort diagram of sample retention from those enrolled at Time 1 to those who were analyzed with FIML analyses. The legend provides a detailed description of the sample.

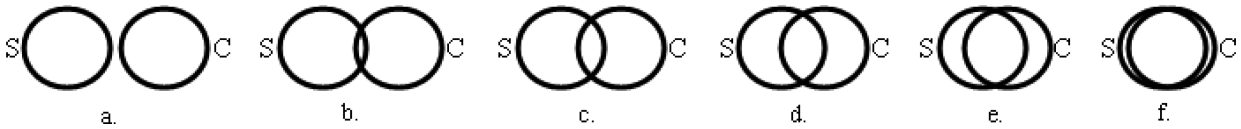

Figure 3.
Inclusion of Community in Self Scale.

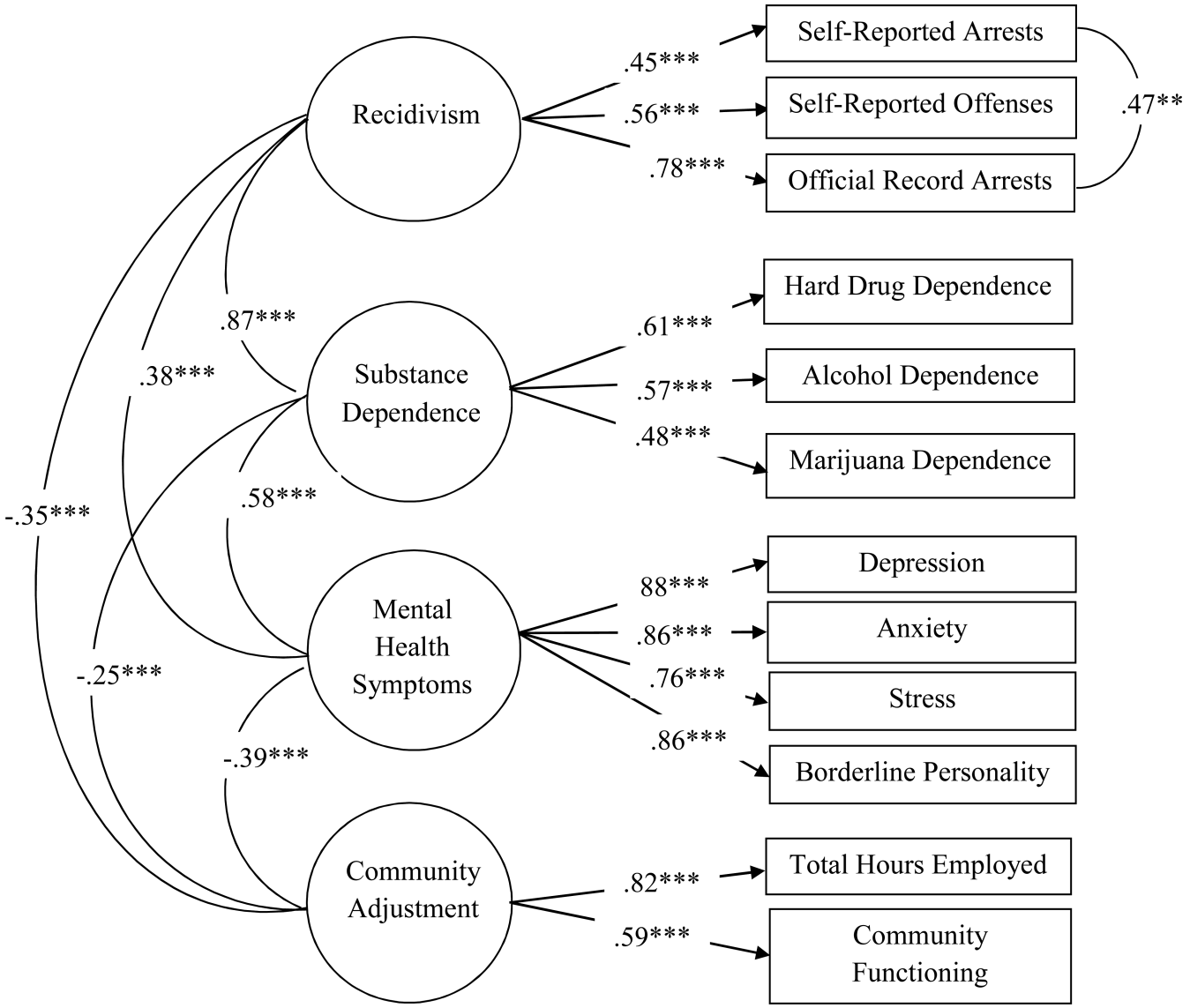

Figure 4.

Measurement Model. All parameter estimates are standardized. $p < .001$***; $\chi^2(47) = 105.04$, $p < .001$; *RMSEA* = .06; *CFI* = .95; *SRMR* = .05

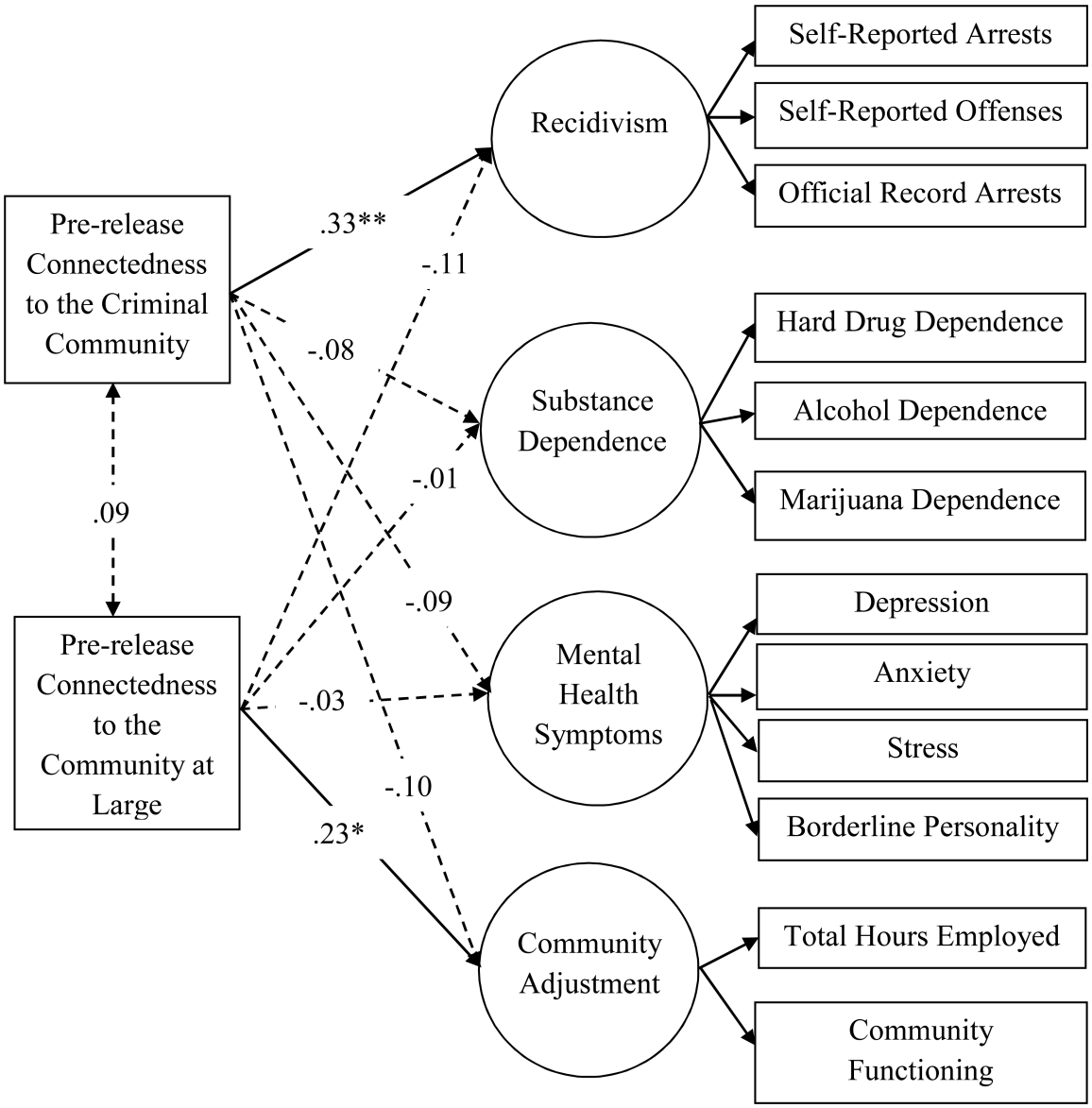

Figure 5.

Final Structural Model. All parameter estimates are standardized. Although not depicted in the figure for ease of representation, all latent variables are correlated. $p < .01$**; $p < .01$*; $\chi^2(63) = 123.37$, $p < .001$; *RMSEA* = .05; *CFI* = .95; *SRMR* = .06

Table 1

Descriptive Statistics

Variables	N	Mean	S.D.	Skewness	Kurtosis	Possible Range	Actual Range
Pre-release							
Connectedness with Criminal Community	164	2.59	1.53	0.70	−0.53	1-6	1-6
Connectedness with Community at Large	164	2.59	1.62	0.76	−0.56	1-6	1-6
Post-release							
Recidivism							
Official Records of Arrest	363	0.69	1.15	1.90	3.60	0-16	0-6
Self-Reported Arrests	350	0.50	0.90	2.25	5.57	0-16	0-5
Self-Reported Offenses	348	1.03	1.43	1.76	3.74	0-16	0-9
Mental Health Symptoms							
Depression	256	54.94	11.00	0.69	0.18	35-111	36-90
Anxiety	256	52.91	10.87	0.88	0.64	34-103	34-89
Stress	255	59.40	11.63	0.24	−0.68	37-91	37-91
Borderline Personality	136	61.33	12.60	0.22	−0.32	32-104	36-94
Substance Dependence							
Hard Drug	334	0.66	1.27	1.70	1.27	0-4	0-4
Alcohol	336	0.52	0.89	2.00	3.19	0-4	0-3.78
Marijuana	334	0.21	0.54	3.37	12.47	0-4	0-3.50
Community Adjustment							
Total Hours Employed	267	1082.27	749.08	−0.22	−1.54	0-8760	0-1920
Community Functioning	320	0.39	0.18	0.07	−0.69	0-1	0-0.86

Table 2

Intercorrelations Between Variables of Interest

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pre-release														
1. Connectedness with Community at Large	-	.09	.08	.10	−.09	−.03	.03	−.02	−.01	−.03	.01	.01	.02	.20*
2. Connectedness with Criminal Community		-	.29***	.17t	.14	−.06	−.08	−.08	−.16	−.13	−.14	.12	−.02	−.04
Post-release														
Recidivism														
3. Official Records of Arrest			-	.61***	.33***	.12 t	.09	.21**	.12	.26***	.24***	.24***	−.13*	−.19**
4. Self-Reported Arrests				-	.44***	.12 t	.08	.17**	.14	.27***	.27***	.28***	−.05	−.15**
5. Self-Reported Offenses					-	.22***	.21**	.30***	.40***	.44***	.35***	.35***	−.07	−.24***
Mental Health Symptoms														
6. Depression						-	.77***	.67***	.73***	.30***	.29***	.05	−.28***	−.28***
7. Anxiety							-	.61***	.78***	.31***	.25***	.06	−.18*	−.17**
8. Stress								-	.68***	.31***	.22**	.12*	−.35***	−.30***
9. Borderline Personality									-	.43***	.23**	.10	−.26**	−.30***
Substance Dependence														
10. Hard Drug										-	.33***	.22***	−.11t	−.11*
11. Alcohol											-	.40***	−.09	−.11*
12. Marijuana												-	−.06	−.11t
Community Adjustment														
13. Total Hours Employed													-	.48***
14. Community Functioning														-

Note. *ns* ranged from 109 – 350 with the expection of the *r* between Borderline Personality and Connectedness with Community at Large and Connectedness with Criminal Community where the *n* was 59 due to late addition of the Borderline Personality subscale to the assessment battery

*** $p < .001$

** $p < .01$

* $p < .05$

$_{t}$ p<.10