



From Future Orientation to Readiness for Reentry: An Exploratory Study of Pre-release Cognitions of Incarcerated Men

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Abstract

The literature suggests that individual characteristics of offenders are related to cognitive patterns before their release from prison. Empirical evidence shows that such cognitions can influence the extent to which offenders take an active role in rehabilitation. Given that many studies upon which these conclusions are made are dated, qualitative, or use bivariate analyses, it is unclear how salient, strong, and significant these associations are. Therefore, the aim of this exploratory study is to identify the factors that are associated with two pre-release cognitions, future orientation and readiness for release, and to investigate whether future orientation is associated with greater involvement in structured activities. This study uses survey data collected from a sample of 503 people incarcerated in medium-security prisons in South Carolina in the United States. Ordered logistic regression models reveal that idleness, marital status, and drug dependence are associated with future orientation, while idleness, engagement in work and education, age, marital status, sentence phase, and mental health issues are related to readiness for release. Negative binomial regression shows that future orientation is associated with more extensive involvement in structured activities. Overall, the study concludes that while inmates are generally future-oriented, they are less confident that they are prepared for release from prison. The limitations of this study, including low scale reliabilities for key variables and a substantial amount of missing data, are also discussed.

Keywords

future orientation, readiness for release, reentry, rehabilitation, prison

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Introduction

“Owning time” while in prison is often challenging because the burden of confinement removes any temporality of it (Meisenhelder, 1985; Sexton, 2012). Research and theoretical discussions suggest that inmates’ cognitions, including temporal orientation and expectations regarding their release, can influence their reentry (Doekhie, 2019; Maruna and LeBel, 2012; Paternoster and Bushway, 2009; Van Ginneken, 2015; Visher and Travis, 2003). For example, some studies show that having a positive outlook on the future is associated with confidence about being able to desist from crime, which, in turn, is related to actual desistance (Burnett and Maruna, 2004; Van Ginneken, 2015).

While the existing literature gives us a general idea about the individual differences in inmates’ perceptions and experiences before release, this body of work consists almost exclusively of dated research, qualitative studies, and studies of small samples. As a result, the strength, generalizability, significance, and the applicability of these findings in contemporary prison contexts are unknown. To address this gap in the literature, the current exploratory study uses quantitative data to examine factors that are associated with two aspects of prerelease cognitions: future orientation and readiness for release. We also investigate to what extent having a future perspective is associated with active participation in structured activities among inmates. We expect that future-oriented inmates will be more involved in structured activities and this involvement will be related to greater readiness for release.

The Importance of Inmates’ Time Orientations and Cognitions

We do not measure recidivism or desistance in this study; however, to understand the importance of our inquiry, it is essential to frame pre-release cognitions in the context of rehabilitation. Fifty years ago, Megargee and his colleagues recognized that temporal orientation is vital in understanding behavior and in planning offender treatment (Megargee, Price, Frohwirth, and Levine, 1970). Treatment is often oriented toward past conduct to address the traumas, guilt, and conflicts that fuel offending (Megargee et al., 1970). Further, programming can be directed towards the present and coping with the daily challenges of confinement (Megargee et al., 1970). In contrast, reentry programming targets the needs that will arise in the future (e.g. housing and employment after release) (Megargee et al., 1970). While separating intervention targets in this way is not without criticism (see, e.g. Muth et al., 2016), ideally, the type of treatment would be matched with the needs of offenders and their temporal orientation. For example, an intervention that targets outcomes far into the future will be of little relevance for an inmate who is primarily focused on past experiences or their daily conflicts.

Regarding the importance of cognition for successful rehabilitation, Visher and Travis (2003) argue that a personal decision to change is at the center of successful reentry. Cognitive-behavioral approaches also posit that changes in cognition affect changes in behavior (Clark, 2013). Other studies suggest that one’s identity must transform for behavioral change to occur (Crank, 2018; Doekhie, 2019; Fitzalan Howard, 2019; Van Ginneken, 2015; Visher and Travis, 2003). Paternoster and Bushway (2009) frame this idea of identity change into the context of temporal orientation. They distinguish the “working self,” which is the present identity of the offender, from the “possible self,” which is the future identity. The “possible self” includes desires and hopes for what or who the person wishes to become (the positive “possible self”) as well as anxiety about what they fear they might become (the “feared self”) (Paternoster and Bushway, 2009). Possible selves provide a concrete plan on how to achieve change (Paternoster and Bushway, 2009).

Future Orientation

The conceptualization of future orientation varies in the literature. Scholars have identified several aspects of future orientation, including a general focus on the future (Megargee et al., 1970), the content of future orientation (e.g. having goals) (Trommsdorff and Lamm, 1980; Carvalho et al., 2018), consideration of causes and consequences (Megargee et al., 1970; Trommsdorff and Lamm, 1980), the length of one's time perspective (Carvalho et al., 2018; Trommsdorff and Lamm, 1980), and emotions toward the future (Carvalho et al., 2018; Megargee et al., 1970). Studies that have sought to compare the temporal orientation of offenders and non-offenders suggest that offenders are generally less future-oriented. Morris and Zingle (1977), for example, analyzed a sample of 104 male prison inmates and 63 noninstitutionalized males from the general population, and they found that the offenders were less future-oriented than non-offenders. Trommsdorff and Lamm (1980) found that, compared to delinquents supervised in the community and nondelinquents, incarcerated offenders had shorter and more pessimistic future orientations. Similarly, in their comparisons of stories of young offenders and non-offenders, Barndt and Johnson (1955) and Davids, Kidder, and Reich (1962) found that the delinquents' temporal extension was shorter than nondelinquents. One explanation for these findings is that offenders generally have a greater desire for immediate self-gratification (Morris and Zingle, 1977; Trommsdorff and Lamm, 1980), but not all research supports this conclusion. For example, Megargee and colleagues' (1970) study revealed that youthful offenders were not exclusively oriented toward the present. They argue that this result may indicate that incarceration itself—suspending one's life—drives individuals to think either about the future or the past (Megargee et al., 1970).

While many incarcerated offenders may not assign as much meaning to their future as free citizens, one study showed that more than half of the Canadian inmates involved thought about the future most of the time or all of the time (Zamble and Porporino, 1988). Another study on affective attitudes of 60 youthful offenders revealed that offenders were primarily oriented toward the future and the past, over the present (Megargee et al., 1970). The study also found that offenders' attitudes toward the future were positive, but their views of the present and the past were negative (Megargee et al., 1970). The existing quantitative research on inmates' future orientation is quite dated—Zamble and Porporino (1988), for example, selected the participants for their study between 1980 and 1982, and other work is older. It is unclear, therefore, whether the conclusions from these dated studies apply to prisons today, which hold populations with more mental health and drug-related needs that serve longer sentences in crowded facilities (US Department of Justice, 2015).

Newer qualitative research has explored temporal orientations further. Carvalho et al. (2018) found that the Portuguese inmates in their sample thought about the future regularly, mainly about their relationships and professional life. Still, these thoughts were accompanied by feelings that their lives were suspended (Carvalho et al., 2018). However, because the longest sentence in their study was 25 years ($M = 8.6$, $SD = 7.3$), it is unclear whether these findings can be generalized to the American prison population that serves considerably longer sentences. In her study on seven men in the United Kingdom whose probation or parole had been revoked, Fitzalan Howard (2019) found that offenders struggled with developing and strengthening future perspectives because they felt that their futures were in the hands of others and they were passive recipients of their futures. It is unclear whether subjects adopted this perspective because they had a painful experience of revocation, or these cognitions are uniform across all inmates.

Limited research has explored the antecedents or the outcomes of future orientation in prisoners, and the findings are often inconsistent. The literature suggests that one factor that defines the

perception of time is idleness. Inmates who experience idleness are more likely to live “day by day” and to “pass their time” in mindless, unplanned activities (Flanagan, 1981; Meisenhelder, 1985). For them, time passes slowly, and they are less likely to be oriented towards the future and their goals (Irwin, 1980; Meisenhelder, 1985; Sexton, 2012; Trammell, 2009). Susceptibility to boredom is also related to greater pessimism about the future (Howerton et al., 2009).

Furthermore, some research reveals that temporal orientation depends on the phase of one’s sentence. For example, Crewe et al. (2016) found that those who were past the early part of their sentence began to change their focus from ruminating about the past towards thinking about the future. This turn resulted in perceiving time more as a resource than a burden. Trommsdorff and Lamm (1980), in contrast, found that future orientation was lowest during the middle phase of the sentence among delinquents, and Megargee and his colleagues (1970) found no differences in the temporal attitudes of youthful offenders across different phases of their sentence.

Other factors that were found to be related to temporal orientations of offenders and non-offenders include various psychological factors, such as substance abuse (Howerton et al., 2009; Keough et al., 1999; Strathman et al., 1994), depression and anxiety (Kendall and Ingram, 1989; Surtees, 1995; Zamble and Porporino, 1988), and psychological adjustment (Van Ginneken, 2015). Carvalho et al. (2018) found that optimism about the future was influenced by inmates’ perception of social support, while another quantitative study found that future orientation was associated with impulse control in young serious offenders (Petrich and Sullivan, 2020). Finally, in terms of the outcomes of future orientation, scholars have suggested that optimistic expectations about the future promote hope and encourage greater engagement in activities in prison (Burnett and Maruna, 2004; LeBel, Burnett, Maruna, and Bushway, 2008; Visher and O’Connell, 2012). Studies on non-offending populations suggest that future-oriented individuals will avoid activities that could jeopardize their future (Chen and Vazsonyi, 2013) and that future orientation leads to healthier behaviors (e.g. eating habits in Dassen, Jansen, Nederkoorn and Houben, 2016 and smoking cessation in Hall, Fong, and Meng, 2014).

It is important to bear in mind that conceptualizations and operationalizations of future orientation vary widely across prior studies (e.g. Carvalho et al., 2018; Megargee et al., 1970; Trommsdorff and Lamm, 1980). For example, Morris and Zingle (1977) measured future orientation by asking individuals to state five events they expected to occur and how far in the future they envisioned them, and Barndt and Johnson (1955) and Davids et al. (1962) used a story completion method to assess time orientation in respondents’ imaginations. Other researchers used scales with items such as “The best period of my life is to be found in the ___ [past/present/future]” (Megargee et al., 1970), “I think it is more important to work on things that have important consequences in the future, than to work on things that have immediate but less important consequences” (Strathman et al., 1994), or “It upsets me to be late for appointments” (Keough et al., 1999). Additionally, because the studies used diverse convenience samples, it is unclear how these findings translate to other offender populations. Also, no study on future orientation accounted for confounding variables that could explain the observed associations.

Readiness for Release

As a product of their contemplations about the future, inmates develop plans for what they will do after release and discuss them with others (Irwin, 1970). Such pathways-oriented thinking includes making arrangements about where they will reside, desistance, social support, and contingency plans in case initial plans do not come to fruition (Van Ginneken, 2015). Unlike future orientation that describes general thought orientation toward the future, readiness for release relates to concrete

aspects of reentry, such as release planning, concerns associated with release and recidivism, and securing housing and employment. Carvalho and colleagues (2018) and Doekhie (2019), however, observed that offenders often have unrealistic expectations, and they plan to use unconventional methods of achieving their goals after release. Inmates can be naïvely optimistic about their reintegration because their current prison experience is so different from the free world (Carvalho et al., 2018; Uggen, Manza, and Behrens, 2004).

When inmates hold realistic expectations about reintegration into society, they exercise agency and attempt to create practical plans for their future (Van Ginneken, 2015). For them, the goal of their reentry is behavioral change and adherence to conformist values and social integration (Carvalho et al., 2018; Doekhie, 2019; Van Ginneken, 2015). Van Ginneken (2015) found that inmates wanted “normality,” legitimate employment, and family life. Other research has revealed stable housing and employment as central concerns, especially for those with no social support (Fitzalan Howard, 2019; Howerton et al., 2009; Nelson et al., 1999; Seim, 2016; Visser and Travis, 2003; Ward et al., 2021). An additional focus of offenders facing release is the possibility of reoffending. Although one study showed that more than 80% of inmates reported confidence about desistance (Schaefer, 2016), other research uncovered that offenders think that factors outside of their control hinder their desistance (Fitzalan Howard, 2019; Nelson et al., 1999).

The anticipation of and general concern about release sometimes come at an emotional cost. Research shows that the period close to release is characterized by higher levels of anxiety and stress, which are accompanied by irritability and restlessness (Cormier et al., 1967; Kruttschnitt et al., 2000; Nelson et al., 1999). Obtaining sudden freedom and full responsibilities, as well as risking possible failure to remain crime-free, are at the root of such stress (Cormier et al., 1967). Not all research, however, suggests that approaching release is distressing. Drawing on in-depth interviews with 35 English inmates shortly before their release, Howerton and her colleagues (2009) concluded that most inmates shared positive feelings about being released. It could be that American samples are more pessimistic about reentry than English offenders because of the greater structural barriers to reentry (Seiter and Kadela, 2003).

In any case, a small number of studies suggest that commitment to planning for release varies with the phase of the sentence (Carvalho et al., 2018; Wheeler, 1961; Zamble and Porporino, 1988). Inmates make more specific plans about release at the beginning and close to the end of their sentence (Irwin, 1970; Seim, 2016). It is unclear from previous studies how a range of other institutional factors such as participation in structured activities or idleness influence inmates' perception of readiness for release. Nevertheless, it has been recognized that institution-sponsored programs are intended to enhance reentry by promoting responsibility, skills, and self-worth (Flanagan, 1981; Wunder, 1995) and that female inmates regard programs that teach life skills as important for their desistance and reintegration (Lord, 2008; Sexton, 2012). Finally, the largely qualitative previous research has been unable to separate the role of prerelease cognitions from possible confounding factors such as age, family background, or criminal history.

Current Study

Previous research suggests that certain factors are related to prerelease cognitions and that such cognitions can influence the extent to which offenders take an active role in their rehabilitation (e.g. Carvalho et al., 2018; Doekhie, 2019; Trommsdorff and Lamm, 1980; Visser and Travis, 2003; Zamble and Porporino, 1988). Given that many studies are dated (e.g. Cormier et al., 1967;

Megargee et al., 1970), qualitative (e.g. Carvalho et al., 2018; Doekhie, 2019), or have relied on only bivariate analyses (e.g. Trommsdorff and Lamm, 1980; Zamble and Porporino, 1988), it is unclear how salient, strong, and significant these associations are.

To provide a more robust investigation, the current study draws on quantitative data to identify the factors that are associated with future orientation and readiness for release, and to examine whether future orientation is associated with greater involvement in structured activities, net of other variables. Existing theory and research do not support firm predictions about the direction of these relationships, and our cross-sectional data do not allow examination of causal relationships. We construct statistical models, therefore, based on the most logical but not the only possible associations. Specifically, we examine how future orientation varies as a function of a sense of idleness, psychological factors, sentence phase, and inmate characteristics; how participation in structured activities varies as a function of future orientation, psychological adjustment, sentence phase, and inmate characteristics; and how readiness for release varies as a function of participation in structured activities, a sense of idleness, psychological factors, sentence phase, and inmate characteristics.

Sample and Data Collection

This study was conducted in fall 2016 at five medium-security correctional institutions housing male inmates in South Carolina, United States. At the time of data collection, the South Carolina Department of Corrections (SCDC) operated twenty-four prisons that housed around 19,100 male inmates (SCDC, 2015). The state's incarceration rate for 2016 was 408 inmates per 100,000 population (excluding local jails) (National Institute of Corrections, 2016). Nine medium security prisons housed around 8000 inmates in general housing units (SCDC, 2015). The selected institutions provide different work and vocational opportunities for inmates in industry programs (e.g. computer training, carpentry, litter crew), educational programs (e.g. literacy, General Education Diploma preparation), rehabilitation programs (e.g. Addiction Recovery Program, Alcoholics Anonymous, Impact of Crime classes), and recreation programs (e.g. quilting, animal rescue and training, religious services).

From a total population of 5684 inmates, SCDC personnel created a sampling frame at each institution that listed adult male inmates housed in general population units. Inmates who did not speak English, could not read or write, or who were not able to provide consent (due to physical or mental illness) were excluded from the sampling frame by the staff. From the sampling frame, a sample of 516 men was randomly selected. We achieved a response rate of 97%, with 503 people agreeing to participate. In addition to the characteristics of the sample presented in Table 1, the sample on average served 8.47 years on the current sentence ($SD = 7.85$), ranging between less than a year and 46 years. The average length of the current sentence of the respondents was 15.74 years ($SD = 13.43$), with the shortest sentence reported being less than a year and the longest 80 years.

Data were collected using anonymous self-administered surveys. The surveys had been pretested on a small convenience sample before data collection using cognitive interviewing with respondent debriefing (Willis, 2005). The goal of pretesting was to ensure the respondents understood the questions as well as to identify any items and instructions on the questionnaire that might affect the quality of the data. As a result of the pretesting and the debriefing afterwards, new items were added, and the response scales amended (see Dependent variable). The study protocol was approved by the SCDC and the University of South Carolina Institutional Review Board (IRB).

Before distributing the surveys, the researcher read the informed consent script that introduced the study and informed the inmates of their rights as study participants, including that their participation was voluntary. The inmates signed a copy of the informed consent. The participants were not

Table 1. Descriptive statistics for dependent and independent variables.

Variable	Mean	SD	Range	Imputed
Dependent variables				
Future orientation	20.93	2.88	7-25	5%
Readiness for release	22.65	2.96	11-30	5%
Work (hours/day)	3.87	4.03	0-18	8%
Education (hours/day)	2.45	3.14	0-20	8%
Counseling (hours/week)	1.43	4.25	0-60	14%
Religious programming (hours/week)	1.84	3.34	0-40	10%
Independent variables				
Idleness	12.86	3.13	5-25	4%
Depression	21.67	7.51	9-45	8%
Anxiety	19.35	6.37	7-35	8%
White	.35			6%
Age	40.19	11.48	19-78	14%
Employed full-time	.55			4%
Married	.17			5%
Has children	.46			5%
Sentence phase				10%
First	.24			
Middle	.50			
Last	.26			
Violent offense	.39			15%
Prior incarcerations	1.58	2.36	0-20	9%
Drug dependence	.29			5%
Mental health issues	.38			6%

compensated for their participation nor were there any adverse consequences associated with not participating in the study. To prevent any inadvertent association of prison staff with the study, maintain the confidentiality of responses, and ensure voluntary participation, the prison staff were not involved in the distribution and collection of the surveys. Self-administered surveys were used because they generate greater validity in responses of sensitive questions than face-to-face interviews and can gather information on issues that official prison records do not report (DeLeeuw, Hox, and Dillman, 2008).

Dependent Variables

We measured two dimensions of prerelease cognitions. *Future Orientation* was conceptualized around inmates' general focus on the future and goal-oriented content. A composite index was computed by averaging participants' scores on five items (see Appendix A). The respondents chose their level of agreement or disagreement with each statement on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). A higher total score on the scale indicates a stronger future-orientation.

The items to create this scale were partially adopted and revised based on other studies and theoretical work (Carvalho et al., 2018; Meisenhelder, 1985; Zamble and Porporino, 1988), but we

chose not to use any of the complete scales from previous studies because of their limitations. We wanted to avoid measuring the emotional valence of time perspective as in Keough et al.'s (1999) study to avoid interference with the well-being measures described below. Furthermore, some items or methods used in prior research (e.g. story completion, "fill-in-the-blanks") would not have been appropriate for a prison sample (e.g. Barndt and Johnson, 1955; Davids et al., 1962; Megargee et al., 1970; Morris and Zingle, 1977; Strathman et al., 1994). We also sought to maximize inmates' comprehension of the questionnaire by keeping the Flesch-Kincaid Grade Level (Flesch, 1948), i.e., the readability score of the questionnaire, below the reading level of the population from which the sample was drawn.¹

Readiness for Release measured the inmates' perception of preparation for their release with a focus on specific aspects of reentry. This variable measured release planning and preparation, concerns with release and recidivism, and having housing and employment. A higher score on the index indicates better preparation for release. These items were developed from prior literature (Irwin, 1980; Howerton et al., 2009; Zamble and Porporino, 1988). While Cronbach's alpha for both scales was .5, we deemed composite scales better measures than single-item variables because these cognitions, especially future orientation, are "a complex of cognitive and affective-motivational components" (Trommsdorff, Burger and Fuchsle, 1982, p 168) that would not be represented well with single items. The individual items, along with their descriptive and bivariate statistics, are listed in Appendix A.

We also measured participation in structured activities using four separate count variables: *Work*, *Educational Programming*, *Religious Activities*, and *Counseling*. These activities were selected because they are goal-oriented and target many reentry needs, including employability and desistance (Ward et al., 2021). Additionally, they are developed, scheduled, and administered by prison administration, and as such, they are more structured than informal leisure pursuits. Work and educational programming were measured by asking respondents how many hours or minutes per day they spent at work and school/training on a typical day. To measure religious activities, respondents reported how many hours or minutes per week they spent on group religious services. Counseling was measured using an additive combination of hours or minutes per week spent in individual and group counseling.

Independent Variables

Idleness captures the extent to which inmates experienced boredom and idleness, planned their daily routines, or lived "day by day." Four items were combined to create an index: "I try to keep myself busy to pass the time" (reverse coded); "I try to plan my free time" (reverse coded); "I can say I live day by day"; "I often feel bored"; and "I spend most of my free time doing nothing." A higher total score on the scale indicates a higher level of idleness. These items were developed based on prior literature (Zamble and Porporino, 1988).

We assessed two aspects of mental health. *Depression* was measured using the Patient Health Questionnaire (PHQ) scale PHQ-9 (Kroenke, Spitzer, Williams, and Löwe, 2010). The PHQ-9 contains nine items that address respondents' affective state and somatic symptoms (e.g. appetite, energy) by asking about inmates' frequency of experiencing certain conditions (e.g. "Little interest or pleasure in doing things" ("). The GAD-7 scale of the PHQ is a seven-item measure that we used to assess *Anxiety* (Spitzer, Kroenke, Williams, and Löwe, 2006). The items measure anxiety as a state rather than a trait, for example, "Not being able to stop or control worrying." For both mental health measures, the respondents recorded their answers on a scale ranging from "never"

(1) to “all the time” (5). The PHQ-9 and GAD-7 are widely used to measure depression and anxiety for both clinical and general populations (Kroenke et al., 2010; Spitzer et al., 2006). For both scales, a higher score indicates greater problems with mental health.

We also assessed demographic characteristics, prior incarceration experience, and psychological adjustment. Age was recorded in years, and race/ethnicity (1 = white), employment status 6 months before incarceration (1 = employed full-time), current marital status (1 = married), and having children under 18 at the time of the survey (1 = yes) were all dichotomized. Variables that measure marital status and having children were included as indicators of social support which may influence cognitions and behaviors (Carvalho et al., 2018) while employment prior to current incarceration was included to control for the fact that prior employment experiences may influence inmates' confidence on securing employment after release, thus influencing their assessment of readiness for release. Offense type was measured using a dichotomous measure (1 = violent, 0 = other), and prior incarcerations were the number of times the respondents served a sentence in prison or jail before the current incarceration. We also included a categorical variable that measured the phase of the sentence, with three categories: early (the first third of the sentence), middle (the second third of the sentence), and late phase (the last third of the sentence), computed from self-reported sentence length and time served (Wheeler, 1961). Finally, two dichotomous variables served as indicators of psychological adjustment. One assessed mental health issues by asking, “Have you ever received treatment for psychiatric or emotional problems (e.g. counseling, medication)?” The second variable measured drug dependence by asking, “In the year before you started your sentence, did using drugs keep you from doing work, going to school, or caring for children?” In the readiness for release model, we included the structured activities variables (work, education, religious programming, and counseling) as independent variables.

Analytical Procedure

First, we evaluated missing data. Missing data represented 0 to 15% of the cases, which would have reduced the sample by 40% in a complete case analysis with listwise deletion. Because the patterns of missingness were not correlated with the characteristics of the respondents, assuming that data are missing at random, we performed multiple imputation with chained equations (White et al., 2011). Logistic, linear, ordered logistic and Poisson regression models were used to impute on dichotomous, continuous, categorical and count variables, respectively. A total of 20 imputed datasets were generated—a number recommended by White and colleagues (2011) based on the potential data loss in a complete case analysis. All analyses are based on a final dataset where $n = 459$, given that some cases had values missing on too many variables to impute reliably (see Appendix B).

Next, we analyzed descriptive statistics, bivariate correlations, and conducted diagnostic tests to verify that the assumptions of regression were satisfied. Spearman correlation coefficients and variance inflation factors did not indicate issues with multicollinearity. Models that predicted future orientation and readiness for release, however, did not satisfy the normality of residuals assumption of linear regression (Shapiro and Wilk, 1965). For that reason, and given that common methods of variable transformation (log, quadratic, cubic, and root transformations) did not improve the normality, these two dependent variables were recoded into quartiles, and the models were estimated as ordered logistic models. Omnibus or approximate likelihood-ratio tests of proportionality of odds across response categories showed that we met the proportional odds assumption in the future orientation model ($\chi^2(20) = 17.70, p = .61$) and the readiness for release model ($\chi^2(20) = 19.74, p = .47$) (Wolfe and Gould, 1998). We used negative binomial regression models to predict

participation in structured activities because these measures were count variables, with a large proportion of zeros and overdispersion. All models were estimated with robust standard errors adjusted to control for the clustering of respondents in five correctional institutions (Long and Freese, 2006).

Finally, due to the exploratory nature of the current study, we did not want to prematurely foreclose discussion of correlates that might emerge as only marginally statistically significant. We, therefore, reported results that were significant at $p \leq .1$ in addition to more traditional thresholds. This approach seems to be increasingly common in criminology (e.g. Phelps and Pager, 2016; Pogarsky and Piquero, 2003; Shaefer and Uggen, 2016; Trulson et al., 2020).

Results

Descriptive statistics are presented in Table 1. On average, the inmates reported relatively high readiness for release as well as future orientation. Looking at the dependent variables' items individually, less than 1% of the sample disagreed or strongly disagreed with all statements about future orientation; in comparison, 62% of the sample agreed or strongly agreed that they are oriented towards the future on all items. Similarly, less than 1% disagreed or strongly disagreed with all statements that they are ready for release, and less than 50% of the sample agreed or strongly agreed that they are ready for release on all items.

In regards to the individual items of the independent variables, 23% of the inmates disagreed or strongly disagreed with all items that idleness is an issue for them. In contrast, less than 2% agreed or strongly agreed that they are experiencing idleness on all items. Around 38% of the sample reported never having or almost never experiencing any depressive symptoms, and only 22% of the sample reported never having or almost never experiencing all the symptoms of anxiety.

Table 2 presents the results of ordered logistic regression models that explore the factors that are associated with future orientation. The model shows that only a few variables are associated with future orientation. Specifically, with each additional unit increase in idleness, the odds of higher future orientation decrease by 21%, holding all other variables constant. For an average individual in the sample, one unit increase in idleness increases the predicted probability of the lowest level of future orientation by 4% and decreases the predicted probability of the highest level of future orientation by 3%. Further, compared to unmarried inmates, the odds of higher future orientation for married respondents decrease by 28%. As marital status changes from married to unmarried, the predicted probability of the lowest level of future orientation increases by 6% and the predicted probability of the highest level of future orientation decreases by 4% for those who are average on other independent variables. For drug-dependent inmates, the odds of higher levels of future orientation increase by 28%, compared to those without drug-related issues. As drug dependence status changes from dependent to not dependent, the predicted probability of the lowest level of future orientation decreases by 4% and the predicted probability of the highest level of future orientation increases by 4% for those who are average on other independent variables. With regards to overall marginal effects, the predicted probability of each person expressing the strongest future orientation when all independent variables are at their means, i.e., for the "average" individual in the sample, is 18.67% ($p < .001$), while the predicted probability of the lowest reported readiness for release is 20.18% ($p < .001$).

Table 3 displays the estimates of the negative binomial models that predict involvement in structured activities. The models show that future orientation is a significant factor in participation across all four types of activities. With each unit increase in future orientation, the expected count of work hours increases by 20%, hours spent in education increases by 22%, hours in religious activities

Table 2. Ordered logistic regression of future orientation on inmate characteristics (*n* = 459).

	<i>b</i>	<i>OR</i>	<i>SE</i>	<i>95% CI</i>
Idleness	-.23***	.79	.04	-.30, -.15
Depression	-.04	.96	.02	-.08, .01
Anxiety	.03	1.03	.03	-.02, .08
Age	.00	1.00	.01	-.02, .03
White	.22	1.25	.23	-.24, .68
Employed full-time	.02	1.02	.16	-.30, .33
Married	-.33 [†]	.72	.18	-.67, .01
Has children	-.05	.95	.28	-.60, .50
Violent offense	-.16	.85	.17	-.49, .17
Sentence phase				
First	-.01	.99	.18	-.37, .35
Last	-.34	.71	.31	-.96, .28
Prior incarcerations	.01	1.01	.03	-.06, .07
Drug dependence	.25 [†]	1.28	.15	-.04, .54
Mental health issues	-.20	.82	.10	-.39, .00
<i>F</i> (14, 1213.3) = 31.49***				

[†] *p* < .1 **p* < .05 ***p* < .01 ****p* < .001.

increases by 36%, and the expected count of counseling hours increases by 30%, all else equal. Several demographic and criminal history variables were significant factors in structured activities as well (age, race, marital status, offense, sentence phase, and mental health).

The model that predicts readiness for release reveals that higher levels of idleness are associated with lower readiness (Table 4). Specifically, with each unit increase in the idleness scale, the odds of higher readiness for release decrease by 16%, holding other variables constant. A one-unit increase in idleness increases the predicted probability of the lowest readiness for release by 3% and decreases the predicted probability of the highest level of readiness by 2% for an average individual in the sample. Further, with each additional hour spent at work, the odds of greater readiness for release increase by 7%. Holding other variables at an average value, one hour increase in work decreases the predicted probability of the lowest readiness for release by .8% and increases the predicted probability of the highest level of readiness by .4%. Similarly, with each additional hour spent in education programming, the odds of a higher level of readiness for release increase by 7%, all else equal. One hour increase in education decreases the predicted probability of the lowest readiness for release by 1% and increases the predicted probability of the highest level of readiness by .8%. Participation in religious activities and involvement in counseling were not related to readiness for release. In terms of overall marginal effects, the predicted probability of each person expressing the highest readiness for release when all independent variables are at their means is 18.18% (*p* < .001), while the predicted probability of the lowest reported readiness for release is 26.75% (*p* < .001).

When it comes to demographic characteristics, age and marital status are the only significant factors that are associated with readiness for release, and both relationships are negative. Specifically, with each additional year of age, the odds of higher readiness for release decrease by 2%. Holding all variables constant, the odds of greater readiness for release increase by 43% for married inmates, compared to unmarried. While the sentence phase was not related to future orientation, being in an early phase of

Table 3. Negative binomial regression of participation in structured activities on future orientation and inmate characteristics ($n = 459$).

	Work				Education			
	<i>b</i>	<i>IRR</i>	<i>SE</i>	<i>95% CI</i>	<i>b</i>	<i>IRR</i>	<i>SE</i>	<i>95% CI</i>
Future orientation	.18***	1.20	.04	.10, .25	.20**	1.22	.06	.08, .33
Age	.01*	1.01	.01	.00, .03	.00	1.00	.01	-.01, .02
White	.03	1.03	.10	-.16, .23	-.14	.87	.20	-.53, .25
Employed full-time	.37**	1.45	.12	.13, .60	-.02	1.02	.05	-.12, .08
Married	-.21	.81	.20	-.61, .19	-.30 [†]	.74	.17	-.64, .03
Has children	-.15	.86	.11	-.36, .06	-.21*	.81	.09	-.39, -.03
Violent offense	-.02	1.02	.09	-.20, .17	-.17 [†]	.84	.09	-.36, .02
Sentence phase								
First	-.30*	.74	.13	-.55, -.05	-.34*	.71	.14	-.63, -.06
Last	.00	1.00	.10	-.19, .18	-.02	.98	.09	-.19, .15
Prior incarcerations	-.03	.97	.02	-.07, .01	.01	1.01	.02	-.03, .04
Drug dependence	.04	1.04	.20	-.35, .43	-.20	.82	.19	-.57, .17
Mental health issues	-.00	1.00	.08	-.17, .16	.11	1.12	.15	-.17, .40
Constant	.32	.99	.24	-.16, .80	.66 [†]	1.93	.38	-.09, 1.41
	$F(12, 800.6) = 47.24***$				$F(12, 923.6) = 16.82***$			
	Religious activities				Counseling			
	<i>b</i>	<i>IRR</i>	<i>SE</i>	<i>95% CI</i>	<i>b</i>	<i>IRR</i>	<i>SE</i>	<i>95% CI</i>
Future orientation	.31**	1.36	.11	.09, .52	.26 [†]	1.30	.14	-.01, .52
Age	.01	1.01	.01	-.01, .04	.02*	1.02	.01	.00, .05
White	-.54*	.58	.21	-.96, -.12	-.29 [†]	.75	.23	-.73, .16
Employed full-time	.29	1.34	.22	-.13, .72	-.41	.66	.30	-1.00, .17
Married	-.38**	.68	.12	-.62, -.14	-.14	.87	.24	-.61, .33
Has children	-.26	.77	.19	-.64, .12	-.12	.89	.14	-.38, .15
Violent offense	-.62**	.54	.23	-1.06, -.17	-.04	.96	.31	-.65, .57
Sentence phase								
First	-.73 [†]	.48	.28	-1.47, .01	-.18	.84	.49	-1.14, .77
Last	-.52*	.59	.24	-.99, -.05	-.41*	.66	.17	-.76, -.07
Prior incarcerations	-.04	.96	.03	-.10, .02	-.01	.99	.05	-.12, .09
Drug dependence	-.18	.84	.21	-.59, .22	-.29	.75	.33	-.94, .35
Mental health issues	.76*	2.14	.37	.04, 1.49	.21	1.23	.42	-.62, 1.04
Constant	.04	1.04	.48	-.90, .99	-.76	.47	.53	-1.81, .30
	$F(12, 606.2) = 22.73***$				$F(12, 855.5) = 16.56***$			

[†] $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$.

the sentence is associated with lower readiness for release. Compared to inmates in the middle phase, those who are in the first phase of their sentence have 32% lower odds of higher readiness for release. Finally, inmates with mental health issues have 42% lower odds of higher readiness for release, compared to those without mental health problems, all else equal.

Table 4. Ordered logistic regression of readiness for release on structured activities and inmate characteristics (*n* = 459).

	<i>b</i>	OR	SE	95% CI
Idleness	-.17***	.84	.02	-.21, -.13
Depression	-.02	.98	.02	-.05, .02
Anxiety	.00	1.00	.04	-.07, .07
Work	.04*	1.04	.01	.01, .06
Education	.06***	1.06	.01	.03, .09
Religious activities	-.04	.96	.05	-.13, .06
Counseling	.08	1.08	.05	-.02, .19
Age	-.02**	.98	.01	-.04, -.01
White	-.23	.79	.29	-.79, .33
Employed full-time	-.10	.90	.09	-.27, .07
Married	.41 [†]	1.43	.22	-.01, .84
Has children	.20	1.17	.13	-.06, .46
Violent offense	-.27	.77	.23	-.73, .19
Sentence phase				
First	-.39*	.68	.20	-.78, .00
Last	-.17	.84	.19	-.55, .21
Prior incarcerations	.04	1.04	.05	-.05, .12
Drug dependence	.12	1.13	.19	-.26, .50
Mental health issues	-.55**	.58	.20	-.94, -.16
<i>F</i> (18, 1261.6) = 52.00***				

[†] *p* < .1 **p* < .05 ***p* < .01 ****p* < .001.

Discussion and Conclusion

Before discussing the results of the current study, several limitations should be borne in mind. First, the study’s cross-sectional design prevents us from identifying the causal ordering of the variables. It is possible, for example, that instead of future orientation influencing participation in structured activities, involvement in rehabilitation leads inmates to start thinking more about the future. Cross-sectional designs like ours are quite common in correctional research (see, e.g. ICPSR, 2020), but future research should be designed to begin teasing out the direction of relationships identified here.

Furthermore, we cannot rule out the possibility of measurement error. Because we developed new measures of future orientation and readiness for release to match the nature of our sample, the measures had not been previously validated. This could be of concern because Cronbach’s alpha is .5 for both scales. When Cronbach’s alpha is low, the fraction of a value on the scale is attributable to error is large which reduces the reliability of the scale (Tavakol and Dennick, 2011). Although methodologists have raised concerns about interpreting Cronbach’s alpha as a measure of internal consistency (McNeish, 2018) and other studies in criminology used predictor and outcome variables of lower internal consistency (e.g. Tyler and Weber [1982] reported alphas of .52 [liberalism], .24 [authoritarianism], and .52 [death penalty support]), these relatively low values may raise questions about how well the items measured single underlying constructs.

Additionally, it is plausible that some inmates did not report the correct number of hours spent in structured activities due to poor recollection. Finally, it may be that some respondents were reluctant to report the actual intensity of their symptoms of depression and anxiety because of the stigma attached to mental health issues (Gary, 2005). Nevertheless, we believe that our theory-based scales are more suitable for our research question than existing empirically robust measures that are either standardized on non-criminal populations (Keough et al., 1999) or inappropriate for this correctional context (e.g. Barndt and Johnson 1955; Davids et al., 1962; Megargee et al., 1970).

Moreover, the results can only be generalized to the general population of literate, English speaking male inmates in selected institutions for the period when data were collected. Scholars have observed that women in the criminal justice system often have different prior experiences and express different risks for recidivism than men (Olson et al., 2016; Salinas-Saunders and Stacer, 2017). More relevant for the current inquiry, men's and women's in-prison behaviors may also be distinct (Kruttschnitt et al., 2000). Assessing a subpopulation of inmates with co-occurring mental illness and substance abuse problems, Koons-Witt and Crittenden (2018) recently found that women were significantly more likely than men to participate in self-help programs.

Regarding the specific context of our study, factors such as policies, lockdowns, budget cuts, staffing, and crowding can also influence how inmates spend and experience their time in prison. For example, according to S.C. Code 24-13-230 (2010), unless serving mandatory minimum sentences, inmates in South Carolina will earn credits towards early release for participating in education and work which can influence what programs they choose. Nevertheless, being proactive in securing an early release can be another indicator of future orientation. Future research should build upon our inquiry to include these potentially important dimensions that were not addressed in the current study.

Despite the limitations reviewed here, our results provide insight into issues that have previously escaped quantitative examination. Overall, the findings reveal that only a few variables were associated with future orientation and readiness for release and that the effect sizes were small. Even though the current empirical evidence on these associations is limited and inconclusive, we expected to find more robust effects of the independent variables. This finding may point towards the need for improving the measures of prerelease cognitions.

One result that is consistent with prior theoretical work and research is that inmates are generally future-oriented. While it is plausible that reported future orientation is somewhat influenced by social desirability bias (Nederhof, 1985), the results suggest that rather than dwelling on the past or living moment-to-moment, men who are incarcerated think about where their lives are headed. Still, they are less confident that they are prepared for release from prison. It may be that our sample is cognizant of the barriers to successful reentry or their future-oriented thoughts do not include concrete steps and goals to be taken to overcome the challenges of reentry (Carvalho et al., 2018; Nelson et al., 1999; Zamble and Porporino, 1988). These barriers are of particular concern for older and mentally ill inmates who reported lower readiness for release in our study. It may be that these offenders expect considerable difficulties with finding employment because, without proper support, they may not be able to navigate the usual obstacles of finding stable housing, employment, or treatment (Van Ginneken, 2015).

Another consistent finding is that inmates who experience greater idleness are less future-oriented and feel less ready for release. These results support the empirical evidence that suggests that boredom and lack of activity are associated with a range of adverse emotional and behavioral outcomes (Arrigo and Bullock, 2008; Carvalho et al., 2018; Cashin et al., 2008; Haney, 2003; Welch, 1991). Because

constant awareness of confinement and living moment-by-moment results in perceiving that time in prison passes slowly, inmates see it is a burden rather than a resource (Flanagan, 1981; Zamble and Porporino, 1988). While we used a subjective measure of idleness in the models, the low number of hours spent in rehabilitative programming—less than 1.5 h per week, on average—is another indicator of inactivity: inmates have an excess of free and unstructured time. Such idleness is not only detrimental to the offenders' well-being, but it also impedes reentry because the institutional structure weakens their autonomy and lessens the ability to structure their lives after release (Haney, 2003). Notably, we found that more time spent involved in structured educational programming was associated with an increased perception of being ready for release from incarceration.

Other results from the current study challenge the conclusions of prior research. Some empirical evidence suggests that anxiety and depression are associated with temporal orientation and readiness for release (e.g. Cormier et al., 1967; Kendall and Ingram, 1989; Zamble and Porporino, 1988), but we did not find significant associations with either. It may be that depression and anxiety did not significantly affect prerelease cognitions because the fears, guilt, and worries that anxious and depressed inmates experience may not be anchored in any temporal perspective; they might be ubiquitous. Alternatively, qualitative work may uncover substantial connections between mental health symptoms and future orientation among a small number of inmates, which could make this appear to be a more widespread phenomenon than is revealed with a larger sample.

Furthermore, our findings show that married inmates are less future-oriented but feel more ready for release. If we discuss this finding in the context of other studies that found that optimism about the future is influenced by the inmates' perception of social support (Carvalho et al., 2018; Schaefer, 2016; Visher and O'Connell 2012), we can argue that being less future-oriented does not mean being less optimistic about the future. It may also be that social support matters when future orientation is extended to life after release, but not to the near future in prison. On the other hand, having a spouse that provides social support may foster inmates' confidence that they will have instrumental (e.g. a place to stay, transportation) and emotional support after they are released fostering the possibility of desistance (Chouhy et al., 2020).

As expected, inmates who are more future-orientated were more engaged in structured activities. This finding supports conclusions that offenders who have optimistic expectations about the future are more motivated to participate in rehabilitative activities (Burnett and Maruna, 2004; LeBel et al., 2008; Visher and O'Connell, 2012). Even though some offenders do not attribute their reentry success to programming (Fitzalan Howard, 2019; Van Ginneken, 2015), future-oriented inmates may generally be more likely to exercise their agency and take an active role in their rehabilitation. Such cognition has a central role in behavior change because participation in programs is unlikely to be successful until the individual has adopted the idea of the "possible self" who is law-abiding (Paternoster and Bushway, 2009).

Future orientation has the most robust effect on participation in religious activities. While we do not have information about what religions or denominations inmates follow, it may be something unique about the message they receive in these gatherings that resonates well with future-oriented inmates. Our sample includes more inmates who participate in religious activities, and they spend more hours in such pursuits than a nationally representative sample (Bureau of Justice Statistics, 2004), but neither participation in religious activities nor involvement in counseling were related to readiness for release. It may be that offenders do not see a practical and direct value in participating in counseling and religion for improving their reentry prospects. To further identify the effects of counseling, however, we would need to explore which particular interventions inmates receive to be able to understand why it is not associated with greater readiness for release.

On the other hand, participation in work and education were associated with a higher perception of readiness for release. This finding is consistent with other studies that revealed that obtaining employment and housing are crucial steps in successful reentry (Seiter and Kadela, 2003), as well as the studies that show that offenders are aware of the need to secure employment (Pruin, 2016; Ward et al., 2021). Offenders are also mindful of barriers to finding employment, such as stigma and background checks, so they understand the need for education or training to increase their chances of overcoming these challenges (Ward et al., 2021). Other research suggests that for those who are more proactive in their release planning, readiness for release is associated with an optimistic view of reentry (Howerton et al., 2009; Visher and O'Connell, 2012).

Finally, the findings related to the relationship between the phase of the sentence and prerelease cognitions add a unique element to understanding how inmates' conceptions of time are related to the proximity to entry into and release from incarceration. The prisonization literature suggests that inmates are more goal-oriented at the early and late stages of their incarceration (Irwin, 1970; Seim, 2016; Wheeler, 1961). As a result, we anticipated a parallel relationship with both prerelease cognitions—higher future orientation and greater readiness for release. Not only did we fail to find a significant relationship between sentence phase and future orientation, but also the only statistically significant relationship revealed in our results was a negative association between an early stage and readiness for release. Thus, while new inmates hold attitudes that are more closely aligned with the larger society than the prison (Wheeler, 1961), they do not feel ready to rejoin the outside community. It may be that for inmates in the early phase of the sentence release is too distant to conceive of preparation. Alternatively, they may feel less ready for release because they have engaged in considerably less work, education, or religious programming, as our results demonstrate. Future work should seek to determine whether this relationship is more than coincidental.

We can conclude that the current study added substantially to the literature on preparation for release from incarceration, but it also raised new questions ripe for further investigation. Regardless, it can be argued that efforts could be made in prisons and in the community to improve inmates' readiness for release. When offenders feel that they lack agency over their futures, they are less likely to develop hope and self-efficacy and actively participate in their rehabilitation. By increasing the extent to which incarcerated people are personally engaged, perceive autonomy, and feel self-determined, correctional programming can be transformed from something that is "done to" offenders into a collaboration that is "done with" offenders (Attrill and Liell, 2007; Fitzalan Howard, 2019; Muth et al., 2016). Relevant programming should attend to the individual characteristics we identified as factors related to prerelease cognitions. Additionally, to enhance inmates' awareness of autonomy, correctional institutions should provide more opportunities for involving inmates in decision-making (e.g. inmate councils, ombudsmen, an effective system of filing and resolving grievances). Reentry requires a holistic approach in both the prerelease and postrelease stage (Pruin, 2016).


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Note

1. The average education level of male inmates at intake in South Carolina Department of Corrections prisons was 10.6 years (South Carolina Department of Corrections, 2015).

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Appendix A

	Variable	Mean	SD
Future Orientation scale			
I have a goal I want to achieve during this prison term.	Q2	4.53	.77
I try to take part in any necessary programs to get out as soon as possible.	Q16	3.98	1.18
I try to do something to improve myself while I'm here.	Q10	4.59	.71
I don't really think about my future (reverse coded).	Q6	4.46	1.03
I'm only focused on what is happening right now (reverse coded).	Q14	3.33	1.36
Readiness for Release scale			
I don't have a place to stay when I'm released.	Q7	4.01	1.36
I don't have any plans for finding a job after my release.	Q15	4.44	1.01
I think I'm not ready for release.	Q9	4.49	1.10
I'm afraid that I will go back to crime when I'm released.	Q13	1.68	1.63
Participation in different programs has prepared me for what I will face when I am released.	Q3	3.64	1.32
I use the time here to prepare myself for my release.	Q18	4.33	.87

Table A.1. Spearman correlation coefficients for items on the future orientation scale.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1 Q2	1																						
2 Q16	.23	1																					
3 Q10	.47	.22	1																				
4 Q6	.18	.05	.21	1																			
5 Q14	.09	.11	.13	.18	1																		
6 Idleness	-.31	-.08	-.22	-.11	-.36	1																	
7 Depression	-.19	-.05	-.11	-.11	-.21	.41	1																
8 Anxiety	-.05	.03	-.06	-.03	-.17	.33	.76	1															
9 Work	.26	.11	.17	.04	.16	-.38	-.16	-.15	1														
10 Education	.23	.09	.24	.18	.06	-.30	-.16	-.07	.16	1													
11 Religious activities	.12	.11	.15	.04	.07	-.12	-.01	-.03	.19	.30	1												
12 Counseling	.13	.12	.08	-.04	.02	-.14	-.04	-.01	.16	.27	.25	1											
13 Age	.07	.04	.03	-.07	.09	-.23	.00	-.12	.25	.06	.23	.13	1										
14 White	-.08	-.03	-.08	-.11	-.01	.17	.26	.23	-.03	-.16	-.04	-.17	-.03	1									
15 Employment	-.03	.02	.07	.00	.04	-.06	-.08	-.10	.16	-.06	.06	-.01	.19	.05	1								
16 Marital status	-.03	.05	.01	.03	-.04	.06	.09	.05	-.10	-.06	.02	-.01	.16	.05	.08	1							
17 Children	-.04	-.05	-.04	-.03	-.13	.20	.16	.18	-.14	-.11	-.08	-.09	-.20	.04	.05	.14	1						
18 Violent offense	.08	-.02	-.02	.00	.01	-.11	-.08	-.02	.04	.04	-.11	.03	-.07	-.16	-.02	-.18	-.14	1					
19 Sentence phase	.05	-.14	.13	-.04	-.01	-.08	-.07	.02	.20	.15	-.01	.09	.07	-.16	.04	-.08	-.09	.13	1				
20 Prior incarcerations	-.01	-.04	-.10	-.10	-.04	.18	.10	.07	-.10	-.06	.00	-.09	.07	.04	-.16	-.08	.10	-.08	-.07	1			
21 Drug dependence	-.03	.07	.06	-.05	.05	.06	.15	.20	-.10	-.05	.05	.00	.02	.22	-.16	-.11	-.06	-.09	.05	.20	1		
22 Mental health	-.07	-.02	-.09	.01	-.10	.06	.32	.31	-.07	.05	.08	.04	-.01	.23	.04	-.01	.02	.00	-.03	-.03	.13	1	

Table A.2. Spearman correlation coefficients for items on the readiness for release scale.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 Q7	1																							
2 Q15	.21	1																						
3 Q9	.12	.29	1																					
4 Q13	-.18	-.27	-.17	1																				
5 Q3	.10	.23	.04	-.23	1																			
6 Q18	.16	.40	.15	-.23	.40	1																		
7 Idleness	-.15	-.23	-.06	.34	-.45	-.31	1																	
8 Depression	-.23	-.15	-.15	.14	-.23	-.14	.41	1																
9 Anxiety	-.19	-.06	-.09	.11	-.16	-.05	.34	.76	1															
10 Work	.09	.14	.06	-.17	.38	.35	-.39	-.15	-.15	1														
11 Education	.12	.15	.02	-.16	.33	.37	-.29	-.16	-.08	.17	1													
12 Religious activities	-.04	.06	-.08	-.13	.24	.21	-.12	.00	-.03	.20	.30	1												
13 Counseling	-.04	.03	-.05	.05	.20	.15	-.14	-.04	-.01	.15	.28	.26	1											
14 Age	-.10	.00	.00	-.17	.19	.02	-.25	.00	-.13	.26	.07	.24	.14	1										
15 White	-.24	-.19	-.15	.10	-.15	-.22	.16	.25	.23	-.01	-.18	-.06	-.17	-.04	1									
16 Employment	.01	.04	-.09	-.10	.03	-.08	-.06	-.08	-.10	.15	-.07	.05	-.02	.17	.06	1								
17 Marital status	-.03	.04	.05	-.03	.00	.00	.05	.09	.05	-.09	-.05	.01	.00	.15	.04	.07	1							
18 Children	.01	.03	-.02	.02	-.08	-.01	.20	.16	.19	-.15	-.10	-.07	-.09	-.20	.04	.05	.15	1						
19 Violent offense	.06	.02	-.08	.03	.07	.02	-.12	-.08	-.03	.04	.05	-.11	.04	-.06	-.17	-.03	-.18	-.15	1					
20 Sentence phase	.00	.08	.00	.04	.05	.09	-.08	-.08	.01	.19	.15	-.01	.09	.06	-.17	.03	-.09	-.07	.14	1				
21 Prior incarcerations	-.17	-.01	-.03	.19	.04	.01	.17	.10	.07	-.10	-.04	.00	-.09	.08	.05	-.16	-.07	.09	-.07	-.07	1			
22 Drug dependence	-.14	.00	.00	.12	-.09	-.03	.05	.15	.18	-.08	-.04	.05	.01	.04	.21	-.15	-.11	-.07	-.06	.05	.21	1		
23 Mental health	-.26	-.09	-.16	.04	-.08	-.17	.08	.33	.31	-.07	.03	.09	.03	.00	.23	.04	.01	.03	.01	-.03	.01	-.03	.12	1

Appendix B

Multiple imputation procedure

To examine data for patterns of missingness we used a logistic regression model with the missing data indicator as the outcome variable and demographic variables as predictors. No significant relationships were found, therefore, we assumed that data were missing at random and that multiple imputation with chained equations (MICE) is an appropriate method of dealing with missingness. Stata's "mi impute chained" command was used to impute missing data. The MICE models included all dependent variables, independent variables, and control variables. The high number of categorical variables resulted in a high number of parameters which prevented building successful prediction models due to small cell sizes and perfect prediction (Schafer and Olsen, 1998). The issues with perfect prediction were resolved after including the "augment" option into the logistic regression equation, which added negligible values that prevented perfect prediction (StataCorp, 2011). After a careful investigation of the imputation output and the confirmation of the correct model specification, to resolve further issues with convergence, multiple response categories on variables that measured race, employment, education, marital status, and offense type were each dichotomized, as presented above. Missing values were imputed using linear regression for continuous variables, Poisson regression for count variables, and ordered and binary logistic regression for categorical variables (StataCorp, 2011). The imputation models included the dependent variables which were then retained for the estimation analyses because comparisons of methods of handling missing data reveal that excluding the dependent variable from multiple imputation models appears to bias the coefficients towards zero (Schafer and Graham, 2002; Young and Johnson, 2010). After successful imputation, diagnostic tests (using 'midiagplots'; Eddings and Marchenko, 2012) were performed to compare the distribution of the imputed and the observed values. Graphic checks using kernel density plots and histograms did not identify problematic differences between the observed and imputation models. A Kolmogorov-Smirnov test conducted on a sample of imputations was used to compare the empirical distributions of the observed and imputed data, and no variables were identified as potentially concerning as the lowest p value was .086 (Nguyen, Carlin and Lee, 2017). The tabulations of the observed, imputed, and completed distributions on categorical variables did not reveal concerning differences either.