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Religion and Misconduct in “Angola” Prison: Conversion, Congregational Participation, Religiosity, and Self-Identities*

Sung Joon Jang, Byron R. Johnson, Joshua Hays, Michael Hallett and Grant Duwe

Prior research tends to find an inverse relationship between inmates’ religion and misconduct in prison, but this relationship has lacked empirical explanation. We therefore propose the religion-misconduct relationship is mediated by inmates’ identity transformation on existential, cognitive, and

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emotional dimensions. To test the mediation, we conducted a survey of inmates at the Louisiana State Penitentiary (a.k.a. "Angola"). Controlling for inmates' sociodemographic and criminal backgrounds, we estimated a latent-variable structural equation model of disciplinary convictions. Results showed that inmates' religious conversion and, to a lesser extent, religiosity itself were positively related to existential and cognitive transformations as well as a "crystallization of discontent," which were in turn associated with two types of emotional transformation in the expected direction. The crystallization of discontent and transformation in negative affect were related to disciplinary convictions as hypothesized, and their mediation of the effects of conversion and religiosity on misconduct were found to be significant.

Keywords religion; misconduct; "Angola" prison; conversion; identity transformation

Imprisonment is an "extreme stressor" or strain of high magnitude and long duration (Agnew, 1992, 2006) and is thus likely to lead prisoners to break institutional rules unless they cope with the strain by legitimate means (Blevins, Listwan, Cullen, & Jonson, 2010; Clear et al., 1992; Leban, Cardwell, Copes, & Brezina, 2016; Thomas & Zaitzow, 2006). One legitimate coping mechanism available in prison is religion, which not only tends to help prisoners adjust to life in prison but may also contribute to rehabilitation (Clear & Sumter, 2002; Hallett, Hays, Johnson, Jang, & Duwe, 2015, 2016; Johnson, 2011; Koenig, 1995; Maruna, Wilson, & Curran, 2006). Religiousness has been found to be inversely related to deviant behavioral outcomes of strain, such as infractions, among prison inmates (e.g. Kerley, Matthews, & Schulz, 2005; O'Connor & Perreyclear, 2002), as is the case for the general population (Jang & Johnson, 2003; Johnson & Jang, 2010).

The inverse relationship between religion and misconduct in prison has been found in both quantitative and qualitative research, and prisoners often attribute it to religion-based identity transformation when asked in their personal interviews (Clear, Hardyman, Stout, Lucken, & Dammer, 2000; Clear & Sumter, 2002; Johnson, 2011; Kerley, Matthews, & Blanchard, 2005; Maruna et al., 2006). This potential explanation reported in qualitative research, however, has rarely been tested based on quantitative data. To fill this gap in research, we examine whether existential, cognitive, and emotional identity transformations (Farrall, 2005; Giordano, Cernkovich, & Rudolph, 2002; Giordano, Schroeder, & Cernkovich, 2007; Paternoster & Bushway, 2009) mediate relationships between three measures of inmate's religiousness—conversion, participation in religious congregations, and individual religiosity—and misconduct in prison.

To examine empirically the relationships among inmate's religiousness, identity transformations, and misconduct in prison, we conducted an anonymous survey of 2,249 inmates at America's largest maximum-security prison, the Louisiana State Penitentiary (a.k.a. Angola). Latent-variable

structural equation modeling was applied to analyze data from the survey. This paper begins with a discussion of key concepts included in our theoretical model and a review of prior research on prison misconduct. After presenting the model of hypothesized relationships, we briefly describe the research site before explaining our data and measures. Finally, results are presented, and implications of our findings and suggestions for future research are discussed.

Religion and Identity Transformation

Inmates are likely to question their self-identity as a result of the "hitting rock bottom" strain of imprisonment (Blevins et al., 2010; Clear et al., 2000; Maruna et al., 2006) and see their isolation as "an opportunity for identity work" and rewriting their personal narrative (O'Donnell, 2014, p. 258). They may turn to religion in order to address their identity crisis, and their religious involvement, whether it takes place before or after a possible conversion experience, is expected to contribute to identity transformation.¹

We conceptualize identity transformation as a *process* of developing a new self-identity rather than a discrete *event* of abrupt self-change (Johnson, 2011).² If observed at any point in time, inmates are expected to be different in their progress in identity transformation. Inmates who have advanced ahead of others in the process are more likely to show signs of identity transformation than those who are behind, slow, or not even in the process.

Identity transformation via religion is a cognitive process in that it involves a change in worldview and self-concept, which may lead an inmate to see and interpret reality differently, as a result of a new "living narrative" (Smith, 2003) or meaning system of religion. Religion that separates a "new self" from an "old self" (James, 1902/2007) allows the inmate to have a second chance in life, whether the new self is claimed to be a gift from God or a "good core self" that already existed in him or her (Johnson, 2011; Maruna, 2001). It is also an emotional process because it includes dealing with inmate guilt stemming from a criminal past as well as anger and depression related to imprisonment and its resultant losses (Clear et al., 2000). We therefore need to examine both cognitive and emotional dimensions of identity transformation.

1. Qualitative interviews we conducted with over 100 inmates at Angola illuminate the timing of religious conversion and add valuable context to our cross-sectional survey data. While each individual's experience is of course unique, a majority of those inmates reporting religious conversion date the experience to a "rock bottom" moment, such as a point shortly after their arrest, conviction, or arrival at Angola.

2. While we conceptualize religious conversion as process in this paper, interview narratives revealed a certain tension between conversions as momentary decisions and the ongoing process of identity transformation through exposure to further spiritual influences, reflecting rival paradigms of religious conversion in both empirical studies (Gooren, 2010; Rambo, 1993) and theological treatments (McKnight, 2002; Peace, 2004).

Our conceptualization of identity transformation is thus built in part upon criminological theories of cognitive and emotional identity transformation, proposed by Giordano et al. (2002, 2007) and Paternoster and Bushway (2009). We apply the theories of criminal desistance to the explanation of misconduct among prisoners under the assumption that crime and misconduct are behavioral outcomes of a common underlying propensity to deviance as prior research reviewed above tends to show (see also Osgood, Johnston, O'Malley, & Bachman, 1988).

First, Giordano's symbolic interactionist theory suggests that four types of interrelated "cognitive transformations" are necessary for desistance from crime (Giordano et al., 2002): (1) one's openness to change (a general cognitive readiness for change), (2) one's exposure to a particular hook (or set of hooks) for change and its perceived meaning or importance for the individual, (3) one's construction of a conventional "replacement self" or new identity, and (4) one's perception of crime to be negative, unviable, or even personally irrelevant. Inmates in cognitive transformation are expected to display different levels of these characteristics, depending on their status in the process.

Giordano later added to her initial theory the concept of "emotional self" based on the neo-Meadian view that human cognitions and emotions forge a variety of interconnections rather than being oppositional forces (Giordano et al., 2007). A motivation for change involves not only cognitive but also "emotional transformations" that lead to "an increased ability to regulate or manage the emotions in socially acceptable ways" (p. 1610). Inmates in emotional transformation are more likely to be able to regulate and manage their emotions, thereby identifying themselves with socially acceptable, positive emotions, than those who are not in the process or lag behind. Besides this "transformation in positive affect," they are expected to display their "transformation in negative affect," being less likely to identify themselves with negative emotions.

For Giordano et al. (2002), religion is one of the major hooks for change among offenders. They argue that religion is an important catalyst for changes that offenders make as it provides an "all-encompassing blueprint for behavior and a highly prosocial replacement self" (p. 1037) that are crucial for cognitive transformations.³ Religion would also facilitate emotional transformations as religiosity is positively related to positive emotions and inversely to negative

3. Although this study, being cross-sectional, cannot address whether exposure to religion leads to cognitive transformation or *vice versa*, we propose the former causation for the religion-transformation relationship based on our data from interviews. As in Giordano et al.'s (2002) research, oftentimes it appears based on our interview data that exposure to the "hooks" of faith, in fact, often precedes "openness to change." Interviewees frequently described exposure to some type of "hook for change" that prompted their openness to conversion, whether the influence of a cellmate, a Bible available in the parish jail, or their relationship with a chaplain or religious volunteer. Conversion and, particularly, its narratives then contribute to cognitive transformation. Definitive answers to the question about causal ordering, however, require more research.

emotions (e.g. Koenig, King, & Carson, 2012). In addition, religious conversion leads to building alternative interpersonal ties, which in turn help offenders stay on the course of cognitive and emotional transformations.

Second, Paternoster and Bushway (2009, p. 1105) proposed an identity theory of desistance from a rational choice perspective based on "a distinction between ... one's current or working identity and ... the kind of person that one wishes to be—and, more importantly, not be ['feared self']—in the future: one's *possible self*." The criminal identity is fine to offenders as long as they perceive it to be more beneficial than harmful. It becomes problematic, however, as they increasingly see "failures or dissatisfactions across many aspects of [their] life [being] *linked together* and attributed to the criminal identity itself" (p. 1123). The cognitive process of linking, called "crystallization of discontent," weakens their attachment to the criminal identity and provides offenders with the initial motivation to break from crime and engage in a deliberate act of intentional self-change, which begins with a new, anti-criminal identity. Inmates who engage in crystallization of discontent are more likely to be conscious of their feared selves and thus intentional about changing themselves to achieve their possible selves than those who do not.

Paternoster and Bushway (2009) did not discuss religion in their theory, but their distinction between one's current identity (and its extension, feared self) and possible self parallels religion's distinction between old and new self (James, 1902/2007). Religion not only separates between the two but also offers a cognitive blueprint detailing how to move from old self to new. The Bible teaches, for example, if one repents (no matter what has been done, even murder), he or she is forgiven and becomes a new creation (Acts 2:38; 2 Cor. 5:17). The process of repentance involves crystallization of discontent as offenders see how their failures across the board are linked together, being attributable to their old self (i.e. being a sinner). This suggests that religion should contribute to inmates engaging in crystallization of discontent.

Next, in addition to the cognitive and emotional dimensions of identity transformation, we propose to examine a third, existential dimension, which concerns an individual's self-transcendent search for a meaningful identity and the emotions the search entails, because existentialism captures the internal changes in self-identity and their processes (Farrall, 2005). We assume, therefore, that offenders (like non-offenders) are existential as well as cognitive and emotional beings in the sense that they are in need of an existentially meaningful identity (Emmons, 1999; Frankl, 1946/1984; 2000; Tillich, 1957). Offenders may occasionally feel empty inside or meaningless but tend to dismiss this need for meaning and purpose until they are forced to deal with the existential identity crisis, which generates intense feelings of ontological insecurity and existential frustration (Frankl, 1946/1984). Such a moment may come when offenders are incarcerated (see note 1) and their self-identity is fundamentally questioned (Maruna et al., 2006).

As a result, prisoners may go through the process of existential transformation, in which they search for meaning and purpose in life for the first time or

look to replace unsatisfying former identities. Inmates who have made much progress in existential transformation are more likely at least to affirm and search for the ultimate truth, meaning, and purpose in life, even if they have not found them yet, compared to those who made little or no progress. Religion as a system of meaning offers inmates an existentially meaningful identity for a new start based on doctrines such as rebirth, while meaning and purpose could also be found outside of religion.

An inmate's cognitive and existential transformations and crystallization of discontent are expected to be positively associated with one another as they are likely to reinforce each other. The more an inmate advances in existential transformation and thus searches for a new meaning and purpose, the more likely the inmate is to be cognitively transformed and thus ready for self-change, get exposed to a hook for change (e.g. religion), and construct a conventional replacement self. This cognitive transformation is in turn likely to enhance existential transformation. Similarly, the more advanced an inmate is in existential transformation, the more likely the inmate is to engage in crystallization of discontent, thereby becoming conscious of the feared self, whereas the crystallization in turn is likely to intensify existential transformation.

On the other hand, we propose that an inmate's cognitive transformation and crystallization of discontent are more likely to affect their emotional transformation than the other way around, increasing the likelihood of transformation in positive and negative affect. This causality between cognition and emotion is based on Giordano et al. (2007), who posit that cognitions are central to emotional transformations. It is also consistent with that causality between belief and attitude in social psychology (Ajzen & Fishbein, 2005). Identifying oneself with positive emotions, for example, is unlikely to lead an inmate to go through cognitive transformation and crystallization of discontent, while the former is a likely outcome of the latter. Similarly, while inmates who are in the process of existential transformation are likely to identify themselves more with positive emotions and less with negative ones, identifying with positive and negative emotions in and of itself is unlikely to result in existential transformation (Farrall, 2005).

Prior Research on Prison Misconduct

Defined as the failure by inmates to follow institutional rules and regulations (Camp, Gaes, Langan, & Saylor, 2003), prison misconduct encompasses behavior that ranges from disobeying orders and possession of "contraband" (i.e. alcohol, drugs, etc.) to assaults against staff and other inmates. Prison misconduct is not synonymous with criminal offending but is a significant predictor of recidivism (Duwe, 2014; Gendreau, Little, & Goggin, 1996); they both represent rule-violating behavior, and they share many of the same risk and protective factors, which may be why correctional interventions tend to have similar effects on both outcomes.

While dynamic factors such as anti-social companions and social achievement (e.g. marital status, level of education, employment, etc.) have been found to be associated with both misconduct and recidivism (Gaes, Wallace, Gilman, Klein-Saffran, & Suppa, 2002; Gendreau, Goggin, & Law, 1997; Gendreau et al., 1996; Tewksbury, Connor, & Denney, 2014), the strongest predictors tend to be static factors like criminal history, age, and race (Caudy, Durso, & Taxman, 2013; Gendreau et al., 1996, 1997). Cognitive-behavioral therapy has been shown to be one of the most effective interventions for curbing disciplinary infractions (French & Gendreau, 2006) and recidivism (Lipsey, Landenberger, & Wilson, 2007). Education and employment programming have also been found to reduce recidivism (Davis, Bozick, Steele, Saunders, & Miles, 2013) and misconduct (Duwe, Hallett, Hays, Jang, & Johnson, 2015; Gover, Perez, & Jennings, 2008; Steiner & Wooldredge, 2014), although their effectiveness has been more modest and sometimes inconsistent.

Although some studies have not found an association between religiousness and prison misconduct (Johnson, 1987; Pass, 1999), others indicate that religious involvement is inversely related to disciplinary infractions (Camp, Daggett, Kwon, & Klein-Saffran, 2008; Clear & Sumter, 2002; Kerley et al., 2005; Kerley, Copes, Tewksbury, & Dabney, 2011; O'Connor & Perreyclear, 2002). Most notably, Kerley et al. (2005) found less misconduct among prisoners who believed in a higher power, attended the prison's faith-based program, and regularly attended religious services than those who did not. In a more recent study, Kerley et al. (2011) reported that attending a religious class or group was inversely related to misconduct, while praying privately and watching a religious broadcast on television were not.

Quantitative studies tend to show that an inmate's religion is inversely related to misconduct in prison, controlling for risk and protective factors for misconduct as well as sociodemographic variables, but scholars have yet to empirically examine and sufficiently explain the religion-misconduct relationship. Qualitative studies have nonetheless identified an intervening mechanism of the relationship: a religion-based change in self-identity, which prior research found is a key aspect of inmate's life greatly affected by imprisonment (Clear et al., 2000; Johnson, 2011; Maruna, 2001; Maruna et al., 2006). This study examines whether religion contributes to identity transformation, which in turn reduces misconduct among inmates. In doing so, we simultaneously examine three different aspects of an inmate's religiousness (religious conversion, participation in religious congregations, and individual religiosity) since their relationships with misconduct may not necessarily be the same (e.g. Kerley et al., 2011).

The Present Study

Figure 1 shows the relationships we will examine in a structural equation model of prison misconduct, where ovals and rectangles represent latent and

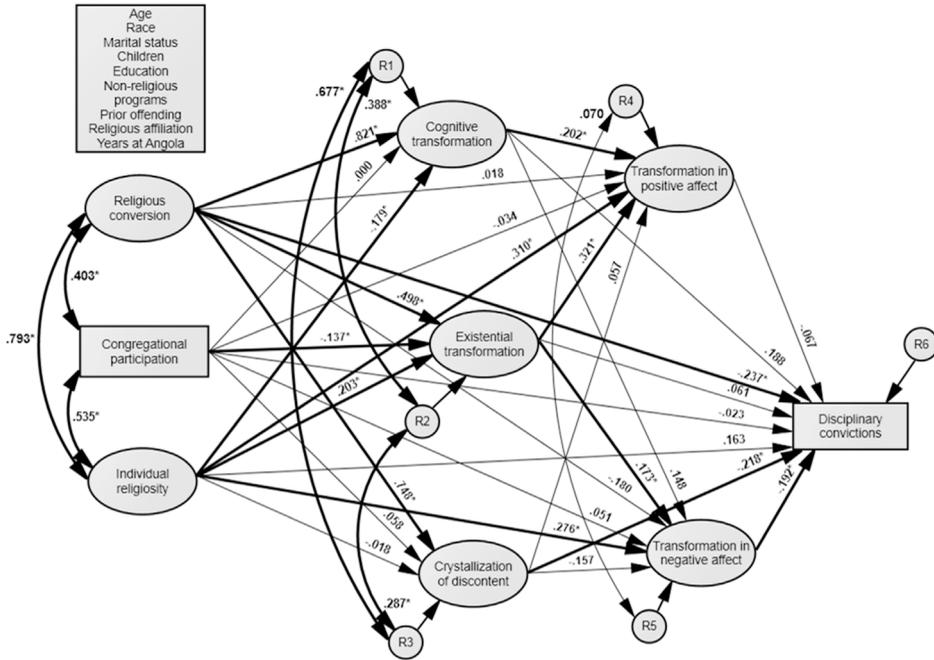


Figure 1 A theoretical model of inmate’s religiousness, identity transformations, and misconduct in prison.

Note. Thick lines refer to significant coefficients; $\chi^2 = 2163.316$, d.f. = 752, $p < .05$; RMSEA = .036 (90% C.I. .034, .038); CFI = .891; SRMR = .033. * $p < .05$ (two-tailed test).

manifest variables, respectively. Besides sociodemographic and criminal justice system-related controls, two other concepts are manifest variables because they are directly observable: whether or not an inmate participated in religious congregations and an inmate’s disciplinary convictions. All other key concepts are latent variables because they are abstract and thus, by definition, unobservable (e.g. individual religiosity and the process of identity transformation), thereby being measured by observable indicators (not shown in figure).

As the figure shows, between the three variables of religiousness (religious conversion, congregational participation, and individual religiosity) and disciplinary convictions there are two sets of mediators: first, cognitive and existential transformations and crystallization of discontent; and, second, transformations in positive and negative affect. While relationships among the first set of mediators are likely to be reciprocal as discussed, the relationships were specified as correlations among the residuals of mediators because estimating the reciprocity is beyond the scope of this study. The structural relationship between transformations in positive and negative affect was also specified to be a residual correlation between the two types of emotional transformation. Finally, criminal justice system-related variables (e.g. criminal history and participation in non-religious programs) as well as sociodemographic backgrounds (e.g. age, race, education, and marital status) are

included in the model to control for various sources of spuriousness based on previous studies (Gendreau et al., 1997; Steiner & Wooldredge, 2014).⁴

We estimate the structural equation model to test the following hypotheses.

- *Hypothesis 1:* (a) An inmate’s religiousness (i.e. religious conversion, congregational participation, and individual religiosity) is positively related to the inmate’s status in cognitive and existential transformations and crystallization of discontent, whereas (b) the religiousness and the status in cognitive and existential transformations and crystallization of discontent are positively associated with the inmate’s status in emotional transformation in terms of both positive and negative affect.
- *Hypothesis 2:* An inmate’s religiousness and status in cognitive and existential transformations, crystallization of discontent, and emotional transformation of both types are inversely related to the inmate’s misconduct in prison.
- *Hypothesis 3:* The religiousness-misconduct relationships are mediated, in part, by the inmate’s status in cognitive and existential transformations, crystallization of discontent, and emotional transformation.

Research Site: “Angola” Prison

Louisiana State Penitentiary (a.k.a. “Angola”) is America’s largest maximum security prison, housing over 6,300 male inmates in five separate complexes (“Main Prison,” the focus of our study, and four “Out-camps”) spread over 18,000 acres of a working prison farm. A disproportionately large percentage of the inmates serving time at Angola have been convicted of violent offenses. Angola is arguably America’s harshest prison in that 90% of inmates will die on its grounds—in part because a life sentence in Louisiana means “natural life” with no opportunity for early release of any kind. Louisiana also has America’s highest imprisonment rate due to its slate of harsh sanctions levied for almost all criminal convictions, including non-violent drug crime (Carson, 2015).

Drawing upon the unique history of Angola, inmates are allowed to lead their own religious congregations, serving in lay ministry capacities in hospice, cell-block visitation, providing death notifications, pastoral counseling, leading churches, and tithing with care packages for indigent prisoners. While the number fluctuates as new ones are founded and some merge, the Main Prison had 21 congregations at the time of this study: 17 fully inmate-led Protestant congregations plus four congregations led by visiting outside clergy—Roman Catholic, Muslim, Episcopal, and Greek Orthodox. Angola is also home to a unique prison

4. All endogenous variables were regressed on the exogenous variables, but structural paths from the latter (except the three variables of religiousness) to the former are not shown in the diagram to avoid visual clutter.

seminary—the New Orleans Baptist Theological Seminary, Angola Extension Center (a.k.a. “Bible College”)—founded in 1995 and matriculating its graduates into functioning inmate-run churches (see Hallett et al., 2016 for details).⁵

Methods

Data

Data to test our hypotheses came from an anonymous survey we conducted at the Main Prison of Angola in 2015. We developed a questionnaire that included items to measure our key concepts as well as inmates’ sociodemographic and criminal justice-related backgrounds, constructing new multi-item scales for all the key concepts except individual religiosity. An initial version of the questionnaire was pretested with 11 inmates at Angola in February, and the final version was prepared based on their feedback on wording as well as content of questions.

We administered paper-and-pencil surveys dorm by dorm to all inmates at the Main Prison between March and May, during which the facility’s inmate population was about 3,000 in total. About three quarters of them ($N = 2,249$) participated in the survey. Since we conducted an anonymous survey to have inmates report as accurately and honestly as possible, we could not examine whether those inmates who did not participate were different from the participants and, if so, how. While this limitation needs to be kept in mind when results are interpreted, the high response rate and large sample size offer an unprecedented opportunity to study inmates at America’s largest maximum-security prison.

Measures

Prison misconduct was measured by an item asking inmates about their *disciplinary convictions* during the last two years prior to our survey (1 = none, 2 = once, 3 = twice, 4 = 3–5 times, 5 = 6 or more). To control for an inmate’s criminal background that is likely to affect his misconduct in prison (Gendreau et al., 1997), we constructed a composite measure of *prior offending*, which is the mean of five items about lifetime number of arrests, incarceration in an adult prison before coming to Angola, and convictions for violent, property, and drug offenses (see Appendix A). The first two items and the average of the last three were loaded on a single factor with high loadings, ranging from .626

5. Both Angola’s congregations and its seminary flourished under longtime warden Burl Cain, although the congregations long preceded Cain’s two-decade tenure. Cain introduced seminary instruction into the prison only after Congressional revocation of Pell Grant eligibility for convicted felons negatively affected Angola. Cain leveraged his unusual degree of autonomy to formalize subsequently the ministry of its seminary graduates into Angola’s unique “Inmate Minister” program.

to .786, and had a good inter-item reliability ($\alpha = .746$). An inmate's *length of sentence* currently being served was measured based on a 6-point Likert scale, and number of *years at Angola* was based on inmate's self-report. We measured an inmate's participation in *non-religious programs* by adding two items asking inmates whether they had ever participated or were enrolled at the time of our survey in some type of educational and vocational program.

Inmate's religiousness was measured by three variables. Participation in religious congregations or *congregational participation* measures whether an inmate participated in any congregations (1 = yes, 0 = no) in the prison. *Individual religiosity* was constructed by summing standardized scores of five items: perceived closeness to God, religious salience (i.e. perceived importance of religion), religious service attendance, praying outside of religious services, and reading a sacred text in private. The items had high factor loadings, ranging from .645 to .779, and high internal reliability ($\alpha = .799$). To measure *religious conversion*, we constructed five items based on five distinct ways in which Maruna et al. (2006) said "conversion narrative" achieves identity-crisis management function among prison inmates. For indicators, we employed two of the five items that are religious in explicit content or connotation relative to the other three (see Appendix A).⁶ The two items have high internal reliability ($\alpha = .829$).

An inmate's status in identity transformation at the time of our survey was measured by using a multi-item Likert scale we developed based on relevant literatures. First, status in existential identity transformation (henceforth, *existential transformation*) was measured by six items about the extent that inmate believes in meaning, purpose, and ultimate truth in life (see Appendix A), which are likely outcomes of the transformation. They all had moderate-to-high loadings, ranging from .417 to .762, and good inter-item reliability ($\alpha = .742$). Second, to measure an inmate's status in Giordano et al.'s (2002) *cognitive (identity) transformation*, we asked inmates how strongly they agreed or disagreed with each of the six statements regarding openness to change, exposure to a hook or hooks for change, and conventional replacement self. The items were moderately or highly loaded on a single factor (see Appendix A), ranging from .427 to .745, with a good inter-item reliability ($\alpha = .778$).

Third, to operationalize the degree of an inmate's engaging in the process of crystallization of discontent (Paternoster & Bushway, 2009), we employed four items that capture an inmate's agentic decision for self-change and consciousness of the feared self as well as perceived costs and benefits associated with crime and its lifestyle (see Appendix A) because the cognitive process is posited to provide an inmate with the initial motivation to break from

6. The three items not used are: (1) I have a new identity that replaces the label of prisoner; (2) My experience of imprisonment led me to find new meaning and purpose in life; and (3) I have a sense of control over an unknown future. A supplemental analysis conducted later, however, revealed that including all or any of these items in the measure of religious conversion did not change overall results (complete results are available upon request).

a life of crime and engage in a deliberate act of intentional self-change. The items were loaded on a single factor with loadings ranging from .373 to .734 and an acceptable internal reliability ($\alpha = .617$), so we used them all as indicators of an inmate's status in *crystallization of discontent*. Fourth, using items asking inmates how they see themselves in terms of positive (hopeful, loved, and grateful) and negative emotions (depressed, angry, and worried) as indicators, we measured an inmate's status in Giordano et al.'s (2007) emotional (identity) transformation, *transformation in positive affect* and *transformation in negative affect*, respectively. They both had moderate-to-high factor loadings, ranging from .615 to .770 and from .570 to .747, and acceptable-to-good inter-item reliability, .728 and .682, respectively.

To control for sources of spuriousness other than inmate's criminal justice-related factors in examining hypothesized relationships, we included inmate's sociodemographic characteristics: *age* (in years), *race* (dummy variables of *black* and *other race* with white being a reference category), *marital status* (dummies of *single*, *divorced/separated*, and *widowed* with married being a reference category), *children* (1 = yes, 0 = no; i.e. whether an inmate was a father or not), *education* (see Appendix A for categories), and *religious affiliation* (dummies of *Catholic*, *Islam*, *other religion*, and *no religion* with Protestant being a reference category). Including these and justice-related variables in our analysis is particularly crucial to estimate the effects of religion on identity transformations and prison misconduct because it enables us to address statistically the issue of self-selection bias, for which criminological research on religion is often criticized because of a limited number of controls as well as its non-experimental design. Our rather long list of various controls is therefore a strength of this study compared to prior studies.

Analytic Strategy

We applied a structural equation modeling approach to estimate the proposed model (see Figure 1). Latent-variable modeling is appropriate given that most of our key concepts are abstract and thus not observable (i.e. religious conversion, religiosity, and self-identities). It also enables us to control for measurement errors so we can test hypotheses based on more valid and reliable results than what manifest-variable modeling would produce (Bollen, 1989).

For model estimation we employed Mplus 7.4 (Muthén & Muthén, 1998–2012) that incorporates Muthén's (1983) "general structural equation model" and full information maximum likelihood (FIML) estimation, which allows not only continuous but also dichotomous and ordered polytomous variables to be indicators of latent variables. Because variables were measured by ordered categorical (e.g. religious attendance) and continuous variables (e.g. age), we used the estimation option of MLR: "maximum likelihood parameter estimates with standard errors ... that are robust to non-normality and non-independence of observations" (Muthén & Muthén, 1998–2012, p. 484). We employed FIML to

treat missing data, which tends to produce unbiased estimates, like multiple imputations (Baraldi & Enders, 2010; Graham, 2009).⁷ Finally, besides the χ^2 statistic, we report three types of model fit index—incremental (CFI: Comparative Fit Index), absolute (SRMR: Standardized Root Mean Squared Residual), and parsimonious fit index (RMSEA: Root Mean Square Error of Approximation). A model was determined to have a good fit to data if one of two joint criteria that Hu and Bentler (1999) suggested was met: (CFI \geq .950 and SRMR \leq .080) or (SRMR \leq .080 and RMSEA \leq .060).

Results

We included in the subsequent analysis only those inmates who had been at Angola for at least two years at the time of our survey since the observation period of their misconduct was the past two years prior to our survey. As a result, the sample size reduced from 2,249 to 1,450.⁸ Table 1 shows the frequency and percentage distributions of nominal-level variables and the descriptive statistics of others along with number of valid observations for each variable.

For example, almost 90% of inmates reported a religious affiliation: Christianity, Islam, and other religion (5.2%; which included .6% Judaism, .1% Hinduism, .1% Buddhism, and 4.4% “other”; not shown in table), whereas 12.5% had no religion. Two-thirds participated in one or more religious congregations in prison. Inmates reported, on average, almost one disciplinary conviction during the past two years prior to our survey, while frequency varied across the 5-point scale (not shown in table): 0 = “none” (52.8%), 1 = “once” (23.0%), 2 = “twice” (12.5%), 3 = “3–5 times” (8.1%), and 4 = “6 or more” (3.6%).

Table 2 presents parameter estimates (*b*) and their standard error (in parenthesis) of the structural model that was found to have a good fit, meeting one of the two joint criteria (Hu & Bentler, 1999). RMSEA and SRMR were both smaller than its maximum cutoff, .060 and .080, respectively, though CFI came

7. Little’s (1988) MCAR test indicated that our data were not missing completely at random ($\chi^2 = 10140.238$, d.f. = 8545, $p = .000$). While we cannot tell whether our data are missing at random (MAR) or missing not at random (MNAR) because there is no diagnostic procedure for the determination, Mplus’ FIML “provides maximum likelihood estimation under MCAR, MAR, and MNAR” (Muthén & Muthén, 1998–2012, p. 387).

8. Compared to 799 inmates excluded from the analysis, those in the final sample were, on average, older (45.098 vs. 43.513), more educated (4.590 vs. 4.182), and less criminal in terms of previous arrest (2.461 vs. 2.810), incarceration (1.782 vs. 2.175), and conviction for property (1.558 vs. 1.703) and drug offenses (1.570 vs. 2.022), whereas they were serving longer sentences (5.232 vs. 4.084) and more likely to have a conviction for a violent offense (.913 vs. .817). Interestingly, however, we found no significant mean difference in disciplinary convictions over the 2-year period between inmates who were at Angola for two or more years and those for less than two years (1.869 vs. 1.904, $p = .579$). In addition, the former inmates tended to score higher on religious service attendance, conversion, cognitive and existential identities, feared self, positive emotional identity of being hopeful but lower on negative emotional identity of being depressed than the latter (complete results available upon request).

Table 1 Descriptive statistics of variables used in analysis (n = 1,450)

| Variable | n | Mean/% | S.D. | Min. | Max. | Variable | n | Mean/% | S.D. | Min. | Max. |
|----------------------------------|-------|--------|--------|--------|--------|---------------------------------------|-------|--------|-------|-------|-------|
| Age | 1,402 | 45.098 | 11.160 | 19.000 | 96.000 | (c) importance of religion | 1,403 | 3.937 | 1.286 | 1.000 | 5.000 |
| Race | 1,409 | | | | | (d) praying outside of services | 1,408 | 4.874 | 1.545 | 1.000 | 6.000 |
| White | 424 | 30.1% | | | | (e) reading religious text | 1,396 | 5.777 | 2.410 | 1.000 | 8.000 |
| Black | 857 | 60.8% | | | | Religious conversion | | | | | |
| Other race | 128 | 9.1% | | | | (a) became an agent of God | 1,386 | 3.291 | .818 | 1.000 | 4.000 |
| Marital status | 1,412 | | | | | (b) have been forgiven for my past | 1,389 | 3.333 | .800 | 1.000 | 4.000 |
| Single | 789 | 55.9% | | | | Existential transformation | | | | | |
| Married | 175 | 12.4% | | | | (a) believe in ultimate truth in life | 1,395 | 3.422 | .678 | 1.000 | 4.000 |
| Divorced/Separated | 391 | 27.7% | | | | (b) to discover the purpose of life | 1,416 | 3.338 | .829 | 1.000 | 4.000 |
| Widowed | 57 | 4.0% | | | | (c) significant philosophy of life | 1,384 | 3.233 | .745 | 1.000 | 4.000 |
| Children | 1,406 | .742 | .437 | .000 | 1.000 | (d) know my purpose in life | 1,409 | 3.106 | .818 | 1.000 | 4.000 |
| Education | 1,340 | 4.590 | 1.651 | 1.000 | 8.000 | (e) part of a much larger plan | 1,394 | 3.412 | .729 | 1.000 | 4.000 |
| Religious affiliation | 1,362 | | | | | (f) ultimate meaning in life | 1,408 | 3.481 | .782 | 1.000 | 4.000 |
| Protestant | 846 | 62.1% | | | | Cognitive transformation | | | | | |
| Catholic | 216 | 15.9% | | | | (a) open for change | 1,417 | 3.663 | .559 | 1.000 | 4.000 |
| Islam | 59 | 4.3% | | | | (b) opportunities to change | 1,408 | 3.506 | .655 | 1.000 | 4.000 |
| Other religion | 71 | 5.2% | | | | (c) replaced my old bad self | 1,398 | 3.481 | .669 | 1.000 | 4.000 |
| No religion | 170 | 12.5% | | | | (d) willing to be transformed | 1,388 | 3.411 | .704 | 1.000 | 4.000 |
| Non-religious programs | 1,425 | 1.128 | .785 | .000 | 1.000 | (e) to become different person | 1,400 | 3.314 | .861 | 1.000 | 4.000 |
| Length of sentence | 1,412 | 5.230 | 1.510 | 1.000 | 6.000 | (f) a different person today | 1,416 | 3.688 | .596 | 1.000 | 4.000 |
| Prior offending | 1,443 | 1.882 | .791 | 1.000 | 7.000 | Crystallization of discontent | | | | | |
| Arrest | 1,404 | 2.461 | 1.690 | 1.000 | 7.000 | (a) afraid of a miserable future | 1,406 | 3.063 | .988 | 1.000 | 4.000 |
| Incarceration | 1,430 | 1.782 | 1.087 | 1.000 | 7.000 | (b) the costs of offending | 1,382 | 3.326 | .840 | 1.000 | 4.000 |
| Conviction | | | | | | (c) cost me social relationships | 1,380 | 3.389 | .766 | 1.000 | 4.000 |
| Violent offense | 1,399 | 1.913 | .660 | 1.000 | 7.000 | (d) conscious decision to improve | 1,412 | 3.657 | .572 | 1.000 | 4.000 |
| Property offense | 1,259 | 1.558 | .898 | 1.000 | 7.000 | Transformation in positive affect | | | | | |
| Drug offense | 1,278 | 1.570 | .904 | 1.000 | 7.000 | (a) hopeful | 1,401 | 3.358 | .927 | 1.000 | 4.000 |
| Years at Angola | 1,450 | 14.086 | 9.986 | 2.000 | 74.000 | (b) loved | 1,399 | 3.261 | .996 | 1.000 | 4.000 |
| Disciplinary convictions | 1,317 | .869 | 1.135 | .000 | 4.000 | (c) grateful | 1,409 | 3.344 | .968 | 1.000 | 4.000 |
| Congregational participation | 1,427 | .655 | .475 | .000 | 1.000 | Transformation in negative affect | | | | | |
| Individual religiosity | | | | | | (a) depressed | 1,402 | 3.166 | .872 | 1.000 | 4.000 |
| (a) closeness to God | 1,339 | 3.867 | 1.099 | 1.000 | 5.000 | (b) angry | 1,393 | 3.057 | .936 | 1.000 | 4.000 |
| (b) religious service attendance | 1,407 | 5.661 | 2.364 | 1.000 | 8.000 | (c) worried | 1,390 | 2.930 | .990 | 1.000 | 4.000 |

short of its minimum, .950. The results from estimating the structural model are thus acceptable for hypothesis-testing. Estimated measurement models are reported in Appendix B, which shows that all indicators of each latent factor had high loadings, consistent with the preliminary results from factor analysis. Standardized estimates of structural coefficients except those associated with control variables are presented in Figure 1.⁹

Before examining hypothesis-testing results, it is worth discussing relationships among the three variables of inmate's religiousness. Figure 1 shows that they were all positively correlated as expected. Inmates who participated in congregations tended to score higher on religiosity and religious conversion than those who did not, and an inmate's conversion and religiosity were highly correlated. It is interesting to find religiosity's correlation with congregational participation to be small relative to its correlation with conversion, about half the size. This finding might suggest that inmates who said they participated in congregations were not as likely to practice religion publicly (i.e. religious service attendance) and privately (i.e. praying and reading a sacred book alone), feel close to God, or perceive religion to be important to them as those who indicated that they had undergone religious conversion.¹⁰

Table 2 shows that the hypothesis about relationships between an inmate's religiousness and status in existential and cognitive transformations was partially supported (Hypothesis 1a). Religiosity and conversion were positively associated with existential transformation as expected, which suggests that religious inmates and converts were more likely to report that they believe in ultimate meaning and purpose in life.¹¹

9. For an easier distinction between significant and non-significant coefficients, a thick line was used for the former.

10. Our interviews with inmates provided a potential explanation for the observed difference: participants in congregations were more religious than non-participants, but less so than the converts. One seminary graduate attributed some inmates' congregational participation to the desire for the material benefits offered to congregations by outside religious volunteers: "And we love to come when we have guests, because guests bring food, guests bring shirts, guests bring this ... so really, our whole motive all the way wrong for the Angola church." Another seminary graduate went so far as to call some of what transpires within Angola churches "a dog and pony show." Although active in their own religious beliefs, these inmates recognize the mixed motives of their peers among Angola's congregations (Clear et al., 2000).

11. For one seminary graduate, purpose, as understood through relationship with his Creator, was a touchstone of enduring worth tied to a new self-understanding: "You know, I've got a purpose, you know. I may not be going home, but I have a purpose. I still have a purpose, I still can serve a purpose here, you know, while I'm here. I can still serve a purpose for my family, you know. I still communicate with my family, you know, to let them know who I am, the different me, the new me. ... Knowing you have a relationship with the Creator, he created me for a purpose, he made me for a purpose. So what is my purpose? So you begin to ask yourself questions, and at that point, you can answer the question." According to him, this identity transformation did not occur in a vacuum nor randomly, but the process began with his exposure to "a hook for change" (Giordano et al., 2002): "Most guys, when I come in here, they didn't have a purpose. It was just like an institution of failure, an institution of lies. They didn't have no purpose in life, they didn't have no goals in life, so once you go through Bible college, it gives you that. It gives you something to sort of to grow, sort of to latch onto, so you can be able to start. It's a ladder, like, it's a process."

Table 2 Estimated structural model of disciplinary convictions among inmates at Angola prison for two or more years ($n = 1,450$): Unstandardized coefficients

| | Existential transformation | | Cognitive transformation | | Crystallization of discontent | | Transformation in positive affect | | Transformation in negative affect | | Disciplinary convictions (DC) | |
|-------------------------------------|----------------------------|--------|--------------------------|--------|-------------------------------|--------|-----------------------------------|--------|-----------------------------------|--------|-------------------------------|--------|
| | <i>b</i> | (S.E.) | <i>b</i> | (S.E.) | <i>b</i> | (S.E.) | <i>b</i> | (S.E.) | <i>b</i> | (S.E.) | <i>b</i> | (S.E.) |
| Age | -.003* | (.001) | -.006* | (.001) | -.003* | (.002) | -.003 | (.002) | .012* | (.003) | -.023* | (.004) |
| Black | .038 | (.025) | .015 | (.023) | -.042 | (.030) | .132* | (.036) | .067 | (.049) | .235* | (.071) |
| Other race | .065 | (.037) | -.019 | (.034) | .007 | (.045) | .087 | (.058) | .006 | (.076) | .135 | (.110) |
| Single | .019 | (.032) | -.012 | (.028) | -.008 | (.034) | -.014 | (.044) | .098 | (.062) | .002 | (.094) |
| Divorced/Separated | -.012 | (.032) | -.021 | (.027) | -.048 | (.035) | -.037 | (.044) | .143* | (.061) | -.099 | (.093) |
| Widowed | -.057 | (.049) | -.050 | (.062) | -.154* | (.068) | .005 | (.075) | .292* | (.105) | -.130 | (.131) |
| Children | .045 | (.028) | .038 | (.023) | .002 | (.031) | .027 | (.039) | .024 | (.051) | .000 | (.074) |
| Education | .019* | (.007) | -.011 | (.006) | .024* | (.008) | .014 | (.011) | .022 | (.015) | -.065* | (.023) |
| Catholic | -.058 | (.032) | -.021 | (.027) | -.017 | (.038) | -.065 | (.047) | .001 | (.064) | -.073 | (.089) |
| Islam | .065 | (.056) | .126* | (.043) | .146* | (.051) | -.214* | (.081) | .138 | (.095) | -.030 | (.178) |
| Other religion | -.016 | (.026) | -.020 | (.021) | .022 | (.027) | -.005 | (.034) | .039 | (.047) | .077 | (.072) |
| No religion | .039 | (.046) | -.014 | (.044) | .059 | (.058) | .034 | (.069) | .177 | (.091) | .210 | (.139) |
| Non-religious programs | -.012 | (.015) | .039* | (.013) | .029 | (.018) | -.006 | (.020) | .042 | (.029) | -.040 | (.041) |
| Length of sentence | -.018* | (.008) | -.006 | (.006) | -.001 | (.009) | -.016 | (.012) | -.025 | (.015) | .008 | (.023) |
| Prior offending | -.023 | (.017) | .002 | (.014) | .009 | (.020) | .003 | (.021) | -.022 | (.031) | .275* | (.042) |
| Years at Angola | .000 | (.002) | .004* | (.001) | .001 | (.002) | .002 | (.002) | -.002 | (.003) | .009* | (.004) |
| Congregational participation (CP) | -.118* | (.029) | .000 | (.023) | .051 | (.033) | -.041 | (.040) | .067 | (.054) | -.055 | (.086) |
| Individual religiosity (IR) | .115* | (.047) | -.089* | (.045) | -.103 | (.057) | .246* | (.070) | .236* | (.089) | .254 | (.143) |
| Religious conversion (RC) | .283* | (.046) | .411* | (.046) | .428* | (.063) | -.014 | (.078) | -.155 | (.096) | -.372* | (.146) |
| Existential transformation (ET) | | | | | | | .451* | (.076) | .262* | (.102) | .168 | (.153) |
| Cognitive transformation (CT) | .030* | (.006) | | | | | .322* | (.162) | .253 | (.208) | .592 | (.318) |
| Crystallization of discontent (CD) | .028* | (.006) | .052* | (.008) | | | .079 | (.123) | -.236 | (.164) | -.597* | (.225) |
| Transform. in positive affect (TPA) | | | | | | | .015 | (.012) | | | -.133 | (.112) |
| Transform. in negative affect (TNA) | | | | | | | | | | | -.352* | (.072) |

| | R^2 | (.035) | .540* | (.038) | .436* | (.045) | .555* | (.035) | .140* | (.027) | .224* | (.025) |
|--------------------|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| Indirect effects | | | | | | | | | | | | |
| CP → ET → TPA | | | | | | | | | | | | |
| CP → ET → TNA | | | | | | | -.053* | (.015) | .031* | (.014) | | |
| IR → ET → TPA | | | | | | | .052* | (.023) | | | | |
| RC → ET → TPA | | | | | | | .128* | (.029) | | | | |
| RC → ET → TNA | | | | | | | | | -.074* | (.031) | | |
| CP → ET → TNA → DC | | | | | | | | | | | .011* | (.005) |
| IR → TNA → DC | | | | | | | | | | | -.083* | (.037) |
| RC → CD → DC | | | | | | | | | | | -.256* | (.101) |
| RC → ET → TNA → DC | | | | | | | | | | | -.026* | (.012) |

Note. $\chi^2 = 2163.316$, d.f. = 752, $p < .05$; RMSEA = .036 (90% C.I. .034, .038); CFI = .881; SRMR = .031.

* $p < .05$ (two-tailed test).

After taking religiosity and conversion into account, however, an inmate's congregational participation was negatively related to his status in existential transformation, implying that the participation in and of itself does not necessarily contribute to existential transformation unless it is done with the "right" motivation, that is, religious. The negative association therefore might not be counter-intuitive. Clearly not all inmates participate in religious congregations for intrinsically religious reasons (for example, see note 10). This may help explain why after controlling for individual religiosity and conversion, participants in congregations were found to show lower levels of belief and interest in meaning, purpose, and ultimate truth in life than non-participants. Perhaps for them congregational participation provided greater sense of belonging and social support than answers to abstract questions of identity, or it was merely a programming option that kept participating inmates busy.

While congregational participation was not significantly related, an inmate's religiosity was found to have a negative association with his status in cognitive transformation, whereas the inmate's conversion had a positive association as hypothesized. The strong, positive association indicates religious conversion being a strong predictor of cognitive transformation. To the extent that this is the case, the negative association of congregational participation might show the effect of extrinsic, as opposed to intrinsic, religiosity of inmates as they used religion to fulfill their needs such as social relations and personal comfort (Allport & Ross, 1967), after controlling for the key source of cognitive transformation among religious inmates, conversion.

Religious conversion was found to be the only measure of inmate's religiousness that was positively associated with crystallization of discontent: inmate converts were more likely to be afraid of facing a miserable future unless they change themselves, perceive a life of offending to be costly rather than beneficial, and make a conscious decision to improve themselves as a result of engaging in the cognitive process. Only an inmate's religious conversion was related consistently to the three constructs of status in identity transformation as hypothesized (Hypothesis 1a). In addition, the three constructs' residuals were all positively correlated (see Figure 1). Inmates who believed in ultimate meaning and purpose in life were likely not only to be open for inner change and willing to have themselves fundamentally transformed but also to perceive the costs of offending to be greater than the benefits. Inmates ready for self-change and willing to have themselves transformed were also likely to make a conscious decision to change themselves.¹²

12. The larger correlation between cognitive transformation and crystallization of discontent ($r = .677$) than the other two correlations involving existential transformation ($r = .388$ and $.287$) might indicate that cognitive transformation and crystallization of discontent, both tapping the domain of cognition, share conceptually more in common than existential transformation, which is cognitive in part but more than human cognition in the sense that it concerns self-transcendent, ultimate meaning and purpose in life (Emmons, 1999; Frankl, 1946/1984; Tillich, 1957).

The hypothesis about relationships between religiousness, cognitive and existential transformations, and crystallization of discontent, on the one hand, and emotional transformation, on the other (Hypothesis 1b), also received partial support. Individual religiosity was directly related to status in both transformation in positive and negative affect as well as indirectly to transformation in positive affect via status in existential transformation (see Table 2's bottom panel), consistent with prior research on religiousness and emotions (Emmons & Paloutzian, 2003). Religious conversion and congregational participation, however, were related only indirectly to status in emotional transformation. Specifically, an inmate's conversion was related indirectly to his status in transformation in positive affect and transformation in negative affect via status in existential transformation, while the direction of congregational participation's indirect effects on status in transformation in positive and negative affect were opposite to what was expected because they were mediated by existential transformation, which was negatively related to congregational participation as reported.

Among the first set of identity transformation variables, existential transformation was related to both transformations in positive and negative affect in the hypothesized direction: inmates who believed in ultimate truth, meaning, and purpose in life were more likely to view themselves in terms of the emotions of being hopeful, loved, and grateful and less likely to portray themselves with anger, depression, and anxiety than those who did not. On the other hand, an inmate's status in cognitive transformation was related only to his status in transformation in positive affect, whereas the inmate's crystallization of discontent was not related to his status in either type of emotional transformation.

We found three variables to be directly related to prison misconduct. First, status in transformation in negative affect was inversely related to disciplinary convictions: inmates who tended not to identify themselves with negative emotions were less likely to report prison misconduct than those who did. A second variable related directly to misconduct was status in crystallization of discontent, which was not associated with either mediator between itself and disciplinary convictions: as expected, inmates who perceived the costs of offending to be higher than the benefits were less likely to report infraction. Conversion was also related directly to misconduct: inmates who indicated that they experienced religious conversion were less likely to report disciplinary convictions than those who did not. Hypothesis 2 therefore received partial support.

Finally, we tested whether an inmate's religiousness was related indirectly to his misconduct in prison through the mediators (Hypothesis 3). The results showed that all three measures of religiousness were indirectly related to disciplinary convictions via status in existential transformation, crystallization of discontent, and transformation in negative affect (see Table 2's bottom panel). Religious conversion had two indirect paths: one involving status in crystallization of discontent and the other both existential transformation and

transformation in negative affect. Religiosity had an indirect relationship with disciplinary convictions through transformation in negative affect.¹³ Congregational participation was indirectly related to misconduct via status in existential transformation and transformation in negative affect, though it was opposite in direction because of the inverse relationship between congregational participation and status in existential transformation. Hypothesis 3 therefore also received partial support.

Conversion was positively related to the inmate's status in cognitive and existential transformations and crystallization of discontent. On the other hand, religiosity was related only to status in existential transformation, which was in turn associated with status in transformation in both positive and negative affect in the expected direction, whereas inmate's status in cognitive transformation was related positively only to status in transformation in positive affect. It was, however, inmate's status in transformation in negative affect that linked preceding variables to disciplinary convictions, while status in crystallization of discontent also had a direct effect on the endogenous variable. As a result, conversion was inversely related indirectly to misconduct via crystallization of discontent as well as existential transformation and transformation in negative affect. Religiosity also had significant indirect effect on disciplinary convictions through transformation in negative affect.

Discussion and Conclusion

The term "jailhouse religion" is mostly used in a pejorative sense, and prisoners who "find religion" are often viewed with suspicion and thought to be angling for special consideration or sympathy from parole boards, correctional staff, or people outside prison (Johnson, 2011; Maruna et al., 2006). While such cynicism is not unfounded, a suggestion that religious activities in prison are generally fake and primarily for extrinsic purposes (e.g. safety and material comforts) contradicts what prisoners and ex-offenders often say about how religion transformed them and led to their subsequent behavioral change. It is reasonable to anticipate according to prior research on the religion-crime relationship outside of prison (Johnson & Jang, 2010) the same relationship between religion and misconduct in prison, though contexts are different. Previous studies tend to confirm an inverse relationship between an inmate's religion and infractions. The way religion would affect inmates' behavior, however, has been understudied.

This study intended to address the issue by focusing on whether an inmate's identity transformation mediates the religion-misconduct relationship.

13. Individual religiosity also had significant indirect effect on prison misconduct via existential transformation and transformation in negative affect, if one-tailed test was applied ($-.011$, S.E. = $.006$; $\beta = -.007$, S.E. = $.004$).

The identity concepts were drawn from criminological theories that posit that a change in offender's identity explains desistance from crime and were extended to the explanation of prison misconduct. Although this study's cross-sectional data did not allow us to examine the *process* of change in self-identity as well as desistance from misconduct, we applied the theories to test whether prisoners' religiousness tends to be inversely related to misconduct via their status in existential, cognitive, and emotional identity transformations. Given the data constraint, we assumed that inmates going through the process are likely to be ready for change and willing to replace an old self with a good new self, believe in and try to discover meaning and purpose in life, perceive the costs of offending to be higher than the benefits, and identify themselves with positive, not negative, emotions.

Results from estimating our latent-variable structural equation model partially supported the hypotheses. They tend to suggest that conversion and, to a lesser extent, religiosity are likely to lead prisoners to rehabilitate themselves by helping transform their old, antisocial self into a new, prosocial one in terms of existential, cognitive, and emotional dimensions of identity. On the other hand, we failed to find the same for inmate's participation in congregations, which was not related to all other variables except one, status in existential transformation, though the only significant relationship was in the opposite direction. We speculated about this unexpected finding in terms of some inmates' extrinsic religion revealed after taking into account potential measures of intrinsic religion (i.e. conversion and religiosity). Given our limited, dichotomous measure of inmate's participation in congregations, however, future research should examine how congregational participation might contribute to a prosocial change in identity through variables such as social support from other religious inmates.

To further validate our findings via a conservative test, we conducted a supplemental analysis, which was limited to 997 inmates who were serving life sentences. With absolutely no hope for release, these prisoners may have less motivation for making themselves look good by providing misleading, socially desirable answers for the key variables, including disciplinary convictions. Results revealed that key findings remained generally the same (see Supplemental Table 1). Conversion was the most consistent variable of inmate's religiousness in associations with the inmate's status in cognitive and existential transformations and crystallization of discontent, and existential transformation was related to both types of emotional transformation in the expected direction with transformation in negative affect being inversely associated with disciplinary convictions. While it no longer had a direct effect, an inmate's conversion had an indirect effect on his misconduct via status in existential transformation and transformation in negative affect.

We also conducted sensitivity analysis by estimating the model for the original sample ($n = 2,249$), including inmates who had been at the Angola prison for less than two years (see Supplemental Table 2). Religious conversion was found to have both direct and indirect effects on misconduct in the expected

direction, but congregational participation had no direct effect, consistent with the findings presented above (i.e. Table 2). On the other hand, the direct as well as indirect effects of individual religiosity on misconduct were found to be significant. Despite some differences between the two sets of results, our general conclusion remains the same: religious conversion and, to a lesser extent, individual religiosity are likely to reduce the probability of misconduct among inmates, whereas, once an inmate's conversion and religiosity factors are taken into account, congregational participation per se is unlikely to have an independent effect on inmate behaviors.

To the extent that the "extreme stressor" and chronic strain of imprisonment triggers the process of identity transformation by forcing prisoners to decide whether they want to maintain a criminal lifestyle, the present finding has an interesting implication for Agnew's (2006) general strain theory that posits strain causes crime and deviance via negative emotions. The strain of imprisonment provides a context where the prisoner has to deal with a crisis of self-identity (Maruna et al., 2006), and religion functions as a system that helps the prisoner address the identity crisis by offering a meaning and purpose in life, a new self to replace the old one, forgiveness of the past wrongs, a new hope for a fresh start, and a reason and motivation to avoid becoming their feared self. Offenders often say that being locked up was a "blessing" or "God's plan" for their new life (Johnson, 2011). The identity crisis involves negative emotions such as anxiety and "existential frustration" (Frankl, 1946/1984) as the prisoner struggles, which might result in deviance, whether infraction, suicide, or escape. With the help of religion, however, those negative emotions may motivate the prisoner for identity transformation. Then imprisonment could be called "positive strain" in that, being coupled with religion, it may contribute to something positive, that is, identity transformation and rehabilitation, unlike what general strain theory would predict.

Angola, America's largest maximum-security prison, is unique not only in historical background and the high percentage of inmates serving life sentence without the possibility of parole but also in allowing prisoners to lead their own congregations, where inmate ministers preach, counsel, and serve other inmates. This practice is uncommon in other prisons because of the fear it would put some inmates in a position of privilege and power over other inmates. In addition, the prison seminary program at Angola has served as the model that other states have attempted to follow in starting Bible Colleges within their own prison systems. Despite the "Angola exceptionalism," we believe the finding that conversion and religiosity are inversely related to prison misconduct is largely applicable to other prisons. We would speculate, however, that this inverse relationship is likely to be moderated by the degree of institutional support for religion in prison, the presence of inmate ministers and a seminary program, and the percentage of religious inmates in the prison population as Stark's (1996) moral community thesis posits. We are currently conducting a study of a prison seminary program within the Texas Department of Criminal Justice that is based on the Angola model.

A key methodological limitation of the current study is its use of cross-sectional data in studying causal relationships, while we believe the causal direction of relationships examined in this study to be more likely than its reverse for substantive reasons. Another limitation concerns our use of self-reported data on disciplinary convictions and prior offending. Problems with self-reported data have been studied (e.g. Hindelang, Hirschi, & Weis, 1981), and researchers tend to find measurement errors of self-reported data to be generally random rather than systematic (Farrington, Loeber, Stouthamer-Loeber, Kammen, & Schmidt, 1996; Jolliffe et al., 2003; Piquero, Macintosh, & Hickman, 2002). Thus, “self-report data appear acceptably valid and reliable for most research purposes” (Thornberry & Krohn, 2000, p. 33). This statement tends to be corroborated by our supplemental results as well as finding relationships involving disciplinary convictions and prior offending to be in the expected direction.

We believe our study contributes to the criminological literature on prison misconduct and offender rehabilitation despite these limitations by empirically demonstrating that religious conversion and, to a lesser extent, religiosity among prisoners are inversely related to disciplinary convictions via the inmate’s identity transformation of existential, cognitive, and emotional dimensions. It also contributes to Giordano et al.’s (2002, 2007) and Paternoster and Bushway’s (2009) theories of desistance as this study, we believe, is the first that measured their theories’ key concepts quantitatively by collecting data from a large sample using our developed scales of the concepts. While there has been quite a bit of academic writing on Angola in other disciplines (e.g. Bergeron, 2011; Rideau & Sinclair, 1985), our study is the first criminological research ever conducted to examine inmates at America’s largest and arguably harshest maximum-security prison, which has been “studied” far more by journalists (e.g. Bennis, 2015; Eckholm, 2013; The Associated Press, 2016; The Angola prison rodeo: Life, death, & raging bulls, 2014) than by criminologists.

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Supplemental Data

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Appendix A. Items used in analysis

| Variable | Survey Items (Response Categories) | Factor loadings (α) |
|---------------------------|--|--|
| Prior offending Arrest | In your whole life, how many times have you been arrested? (1 = 1–2 times, 2 = 3–5 times, 3 = 6–10 times, 4 = 11–15 times, 5 = 16–20 times, 6 = 21–25 times, 7 = 26+ times) | (.746) .786 |
| Incarceration | Before coming to Angola, how many times have you been incarcerated in an <u>adult prison</u> ? (1 = never, 2 = 1–2 times, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–15 times, 6 = 16–25 times, 7 = 26+ times) | .771 |
| Conviction | How many times have you been <u>convicted</u> of the following offenses? (1 = never, 2 = once, 3 = 2–3 times, 4 = 4–6 times, 5 = 7–10 times, 6 = 11–15 times, 7 = 16+ times) - A violent offense (e.g. assault, rape, robbery, manslaughter, or murder) - A property offense (e.g. burglary, larceny, author theft, fraud, or forgery) - A drug offense (such as possessing, selling or manufacturing drugs) | .626 |
| Individual religiosity | How close do you feel to God most of time? (1 = not close at all, 2 = not very close, 3 = somewhat close, 4 = pretty close, 5 = extremely close) How often do you <u>currently</u> attend religious services at a place of worship? (1 = never, 2 = less than once a year, 3 = once or twice a year, 4 = several times a year, 5 = once a month, 6 = 2–3 times a month, 7 = about weekly, 8 = several times a week) In general, how important is religion to you? (1 = Not at all, 2 = Somewhat, 3 = Fairly, 4 = Very, 5 = Extremely) About how often do you <u>currently</u> pray outside of religious services? (1 = never, 2 = only on certain occasions, 3 = once a week or less, 4 = a few times a week, 5 = once a day, 6 = several times a day) | (.799) .645 .693 .648 .720 |
| | Outside of attending religious services, about how often do you <u>currently</u> spend private time reading the Bible, Koran, Torah, or other sacred book? (1 = never, 2 = less than once a year, 3 = once or several times a year, 4 = once a month, 5 = 2–3 times a month, 6 = about weekly, 7 = several times a week, 8 = everyday) | .779 |

| | | |
|-------------------------------|---|--------|
| Religious conversion | How strongly do you agree or disagree with the following statements? (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) | (.829) |
| | (a) I have been empowered by becoming an agent of God | — |
| | (b) I can explain how I have been forgiven for my past | — |
| Existential transformation | How strongly do you agree or disagree with the following statements? (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) | (.742) |
| | (a) I believe in ultimate truth in life | .610 |
| | (b) It is useless to try to discover the purpose of my life* | .509 |
| | (c) It is important to have a significant philosophy of life | .417 |
| | (d) I know my purpose in life | .552 |
| | (e) My purpose is part of a much larger plan | .762 |
| | (f) I do not believe there is any ultimate meaning in life* | .592 |
| Cognitive transformation | How strongly do you agree or disagree with the following statements? (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) | (.778) |
| | (a) I am open for change within myself | .663 |
| | (b) There are opportunities in this prison that I could take advantage of if I want to change myself | .540 |
| | (c) I have replaced my old bad self with a good new self | .738 |
| | (d) I'm willing to have myself fundamentally transformed | .745 |
| | (e) I don't think I'm ready to become a different person than who I am now* | .427 |
| | (f) I am a different person today than I was | .634 |
| Crystallization of discontent | How strongly do you agree or disagree with the following statements? (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) | (.617) |
| | (a) I'm afraid that I would face a miserable future unless I change myself | .373 |
| | (b) The costs of offending are higher than the benefits | .585 |
| | (c) If I continue to live a life of offending, it will cost me social relationships | .734 |
| | (d) I have made a conscious decision to improve myself | .561 |

(Continued)

Appendix A. (Continued)

| Variable | Survey Items (Response Categories) | Factor loadings (α) |
|---|--|--------------------------------|
| Emotional transformation in positive affect | How likely is it you use each of the following emotions to describe yourself (e.g. "Angry John"), regardless of how you feel at this moment? (1 = very unlikely, 2 = unlikely, 3 = likely, 4 = very likely) (a) Hopeful (b) Loved (c) Grateful | (.728) .615 .680 .770 |
| Transformation in negative affect | (a) Depressed (b) Angry (c) Worried | (.682) .747 .634 |
| Education | What is the highest level of education you have completed? (1 = never attended school, 2 = 8th grade or less, 3 = 9th-12th grade [no high school diploma], 4 = high school graduate, 5 = some college [no college diploma], 6 = trade/technical/vocational training, 7 = college graduate, 8 = postgraduate degree) | .570 |

*Refers to reverse-coded items.

Appendix B. Estimated measurement models of latent variables

| Indicator ^a | Individual religiosity | | Religious conversion | | Existential transformation | | Cognitive transformation | | Crystallization of discontent | | Transformation in positive affect | | Transformation in negative affect | |
|------------------------|------------------------|--------|----------------------|--------|----------------------------|--------|--------------------------|--------|-------------------------------|--------|-----------------------------------|--------|-----------------------------------|--------|
| | β | (S.E.) | β | (S.E.) | β | (S.E.) | β | (S.E.) | β | (S.E.) | β | (S.E.) | β | (S.E.) |
| (a) | .659* | (.024) | .883* | (.015) | .604* | (.027) | .646* | (.025) | .419* | (.030) | .622* | (.026) | .710* | (.030) |
| (b) | .734* | (.018) | .802* | (.018) | .525* | (.033) | .550* | (.028) | .432* | (.036) | .666* | (.024) | .663* | (.031) |
| (c) | .695* | (.023) | | | .397* | (.034) | .733* | (.019) | .566* | (.031) | .782* | (.021) | .574* | (.032) |
| (d) | .681* | (.022) | | | .572* | (.028) | .728* | (.022) | .763* | (.024) | | | | |
| (e) | .729* | (.018) | | | .755* | (.021) | .424* | (.029) | | | | | | |
| (f) | | | | | .598* | (.028) | .645* | (.027) | | | | | | |

^aIndicators (a) to (f) correspond to items (a) to (f) in Table 1 and Appendix A; * $p < .05$ (two-tailed test).