

**FAIRNESS AND RESPECT IN CORRECTIONS: EXAMINING THE ROLE OF
PROCEDURAL JUSTICE IN REDUCING HARM AND DISORDER IN PRISON**

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Being a total institution, prisons possess a number of fundamental characteristics that are critical to their operation (Goffman, 1961). For instance, tasked with holding citizens who have lost their liberty as punishment, prisons must house inmates in a safe though secure manner. Additionally, considering 98% of inmates will return to the community at some point, prisons (especially medium and minimum security facilities) are expected to also reduce the likelihood inmates will recidivate when released (Travis, 2005). Indeed, much of the prison's purpose as a house of correction and punishment rests on the systemic structure, behavioral and psychological change, and physical security of its residents. Threatening each of these characteristics is inmate misconduct or rule violations that include behaviors from possessing and distributing contraband to violent altercations with other inmates or staff. As a result, prison administrators perpetually aim to maintain a safety and secure facility by reducing misconduct and increasing voluntary deference (Benefiel, 2018). Despite its importance, however, there remains little academic inquiry into how one's experiences in prison influence his or her behavior while incarcerated or upon release. Penological scholarship has shown that inmate misconduct is an important factor in predicting subsequent compliance, particularly upon release (e.g., Cochran, Mears, Bales, & Stewart, 2014). Although many have aimed to explain institutional compliance (or lack thereof) via theories such as importation or deprivation (Jiang & Fisher-Giorlando, 2002), transfers (Kigerl & Hamilton, 2016), or even adequate availability of rehabilitation programs (Randol & Campbell, 2017), one potential explanation is related to inmate perceptions of the disciplinary process and its actors.

Perceptions of an organization's disciplinary process and their relation to behavioral outcomes is often referred to as *procedural justice* (Greenberg, 1987; Tyler, 1988). Social psychological research suggests that when people identify a process of punishment to be fair, trustworthy, legitimate, and affording of the opportunity to present their side of the story, then they are more likely to accept the sanction as fair, regardless of favorability (Greenberg, 1993; Tyler, 1988; Van den Bos, Lind, & Wilke, 2001). Additionally, if one judges a process to abide by these aspects, then he or she is also more likely to comply with other expectations of the system (Crawford & Hucklesby, 2013; Sunshine & Tyler, 2003). Empirical evaluations support the role that perceptions of procedural justice play in predicting criminal behavior in community settings (e.g., police, courts); however, there remain few investigations of this concept in custodial settings

(Bottoms, 1999; Tyler, 2010). The lack of procedural justice research in prison is unfortunate because these highly structured environments, where compliance is of the utmost importance, provide an ideal setting to test this theoretical model.

To address this gap in the literature, this study provides a direct empirical evaluation of the procedural justice theory in a prison setting. We survey a stratified random sample of 144 inmates incarcerated in Maine state prisons about their perceptions of fairness, trustworthiness, legitimacy, and sense of voice in the disciplinary process and that afforded by corrections officers, and assess whether these views associate with and potentially influence patterns of institutional misconduct. The findings of this study provide partial support for the procedural justice perspective in prison. These results further supply important insight into helping correctional agencies gain greater voluntary order and safety in prison, which may also influence prosocial behavior in the community post-release. We discuss the research and policy implications of these findings.

Background

Institutional Order

Order maintenance in prison has long been a point of concern for administrators with emphasis placed on safety for inmates, staff, and the public (DiIulio, 1987). In order to adequately address order maintenance administrators must first identify potential causes of misconduct and then target them with effective policies and practice. Identifying causes and primary correlates of misconduct has proven to be a difficult task, however, as there are a host of issues that might lead to an increased likelihood of misconduct. In a systematic review of the literature from 1980 to 2013, Steiner and his colleagues (2014) laid out the list of measures most associated with misconduct from 98 studies. They noted that many inmate background variables, such as age (i.e., younger inmates) classification level, instant offense (i.e., non-sex related), and criminal history were all associated with higher misconduct across the majority of the studies. The authors also examined institutional routines and prison characteristics from the systematic review. Only a fraction of studies (three to 13 studies) actually included such measures, and among them they typically included aggregate proportions of demographics (e.g., proportion of inmates under 25 years old). Few characteristics were noted as reducing the likelihood of misconduct (e.g., work or religious involvement), and security

level of the institution (i.e., minimum versus medium security). None of the measures examined across the 98 studies included inmate perceptions of treatment or fairness in process.

Targeting such correlates and potential causes through policies and practice also tends to be quite difficult. Common attempts often increase direct supervision, frequency of security sweeps, and further restrict movement of inmates in hopes that increasing formal control will yield a decrease in misconduct, both violence and disorder. Some penologists have examined the role that prison management strategies play in shaping or changing such behavior. For example, the application of certain administrative controls, such as disciplinary segregation and programming, may influence institutional order (e.g., Butler & Steiner, 2017). However, apart from programming that aims to change criminogenic thinking styles or impulsivity, such administrative controls do not invite voluntary deference to the rules. A growing body of research suggests that one way to gain such deference is through understanding the inmate experience, particularly with the disciplinary process, as it may be an important predictor of compliance, both in and out of prison (e.g., Cochran et al., 2014).

Theoretically, there are reasons to anticipate that the disciplinary process itself may further influence one's behavior. According to the deterrence theory, for example, if discipline is perceived as swift, certain, and proportionally severe, then it should reduce subsequent criminal behavior (see Nagin, 2013). Other theoretical reasons for expecting the inmate experience and perceptions to play a major role in producing misconduct, for example, may exist in labeling inmates as a problem (Braithwaite, 1989), causing inmates undue strain (Agnew, 1992), or making the inmate more defiant of institutional rules (Sherman, 1993), all through the disciplinary process. One theoretical aspect that eludes penologists in their study of inmates and misconduct, however, is how inmate perceptions of the disciplinary process and enforcing officers (i.e., perceptions of procedural justice) may influence their subsequent behavior and deference to institutional control.

Procedural Justice

Procedural justice involves the degree to which the system and its agents are perceived as fair, trustworthy, respectful, and legitimate. Each of these perceptions are largely understood as normative perceptions of procedural justice (i.e., norms, values, beliefs, and definitions, see Suchman, 1995; Sunshine

& Tyler, 2003; Tyler et al., 2007), or those having little to do with an outcome (e.g., arrest). Fairness, trust, respect and whether the individual got to tell his/her side of the story (known as voice) are antecedents of legitimacy. Arguably the most important factor, legitimacy represents a property of authority that the people accept as something they defer to and obey (Crawford & Hucklesby, 2013; Tyler, Braga, et al., 2007). These public perceptions, therefore, encourage public cooperation and voluntary compliance (Beijersbergen et al., 2015). For instance, studies in procedural justice as it relates to policing suggest that if police officers are viewed by the public to exercise their authority unfairly, disrespectfully they risk jeopardizing their legitimacy, and in turn risk losing the public's cooperation and compliance (Sunshine & Tyler, 2003). In order to gain and maintain voluntary deference, the public must perceive the authority figure (as well as laws and system by proxy), to be legitimate (see also Tyler, 1988; 1990; 2010). According to Tyler's process-based model of regulation (1990, 2003, 2009), legitimacy operates through an indirect path, which mediates procedurally just actions and compliance. Within the criminal justice system, legitimacy has been defined as the public's belief that legal agents (i.e., police, courts, and legal system) are appropriate and just in their decision making (Tyler, 1990, 1997, 2006; Beijersbergen, Dirkswager, Eichelsheim, Van der Laan, & Neuwbeerta, 2015).

A distinctly separate aspect of procedural justice are instrumental judgements. Instrumental judgements tend to emphasize external factors that might influence behavior through incentives or penalties (Tyler, 1990). These perceptions often involve recognizing the importance of the consequence and how fairly such consequences are distributed across similar situations (i.e., distributive fairness). In Tyler's early work in procedural justice, he noted that instrumental judgements are assumed to be the important factor when it comes to compliance, however, when examining the data, it turns out that instrumental factors are far less important for the public's likelihood to comply with orders or with the law in general (Lind & Tyler, 1988; Tyler, 1990). Similar to the normative perspectives, instrumental judgements have not been tested in a corrections setting, especially not an institutional one where compliance and perceptions of legitimacy ought to be most important for the safety and security of the facility.

Procedural Justice in Prison

Although there have been no studies to date directly measuring procedural justice issues of institutional corrections, there have been several studies that suggest there may be a relationship between inmate behavior and such perceptions of fairness and legitimacy. Apart from the research in social psychology, research focusing on prison climate and maintaining order has been a key topic of discourse and analysis for many years. Stemming from much of the prison turmoil of the 1960s and 1970s (e.g., Attica and Lucasville riots), scholars have tried to highlight the multiple facets of compliance in prison based on types of inter-personal relationships. Many have emphasized the need to bolster institutional legitimacy in the eyes of inmates. For instance Bottoms (1999) argues that the focus of order should emphasize the notion of a dynamic social equilibrium, which includes seven reasons to comply: incentives, disincentives, normative acceptance, legitimacy, physical restrictions, restricting access to targets, and structural constraints. According to Bottoms, legitimacy is of “crucial importance in securing compliance in the prisons context” (Bottoms, 1999, p. 253). Perhaps the most important, differentiation between building perceptions of legitimacy over the other reasons for compliance, is emphasis on voluntary compliance over that of forced.

Theoretically, the notion of legitimizing authority, and its antithesis in delegitimization has been discussed for decades (e.g., Weber, 1958). More recent empirical focus has given a different, and more nuanced perspective to the notion of legitimacy and what it means to procedure (Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1988, 1990). Tyler, a major contributor to the development of perspectives on legitimacy and its relation to behavioral compliance, has noted that perceptions of fairness and the importance of voice should accompany perceptions of legitimacy (Sunshine & Tyler, 2003; Tyler & Caine, 1981; Tyler & Lind, 1992), and has related it to the general criminal justice system (e.g., Tyler, 1990) and agents of law enforcement (e.g., Tyler et al., 2007). In a recent research note, Tyler highlighted the fact that this research ought to be extended to the correctional system, especially given the recent age of mass incarceration (Tyler, 2010). Noting the lack of attention corrections has been given regarding this area, Tyler points to one study that has been completed which supports his arguments on legitimacy’s importance. The study by Franke, Bierie, and MacKenzie (2010) compared the perceptions of legitimacy of 202 adult inmates sentenced to boot camp prison and traditional prison. Finding that the traditional prison yielded a delegitimizing effect, but the boot camp did not, suggests that the environment and possibly

management may actually worsen perceptions of legitimacy toward the prison, prison officials, and the system in general (Franke et al., 2010).

However, in spite of the strong method and findings provided by Franke and his colleagues (2010), their study only provides evidence that legitimacy alone is a meaningful factor in the prison. It does not shed much light on how or why legitimacy is meaningful. Additionally, it does not address the other key aspects in perceptions of procedural justice that have been highlighted in other works such as fairness and voice. Subsequently, the aim of this project is to extend the findings of this body of work by implementing a similar pre-test, post-test design, as well as attempt to isolate the importance of disciplinary protocols within the institution. Furthermore, our study will also highlight inmate perceptions of professionalism in correctional officers (COs). This is to build on past claims by qualitative criminologists who note that prisoner labeling of officers often dictate how the inmate will respond to that officer (DiIulio, 1987; Irwin & Cressey, 1962; Irwin & Owen, 2004). Lastly, through this design, this study purposes to further explore how perceptions of procedural justice variables may mediate or moderate the predictive capacity of institutional misconduct on conduct post-release (see Cochran et al., 2014).

Methodology

The focus of this study is to evaluate if inmate perceptions of procedural justice correlate with and hold a potential to influence patterns of institutional misconduct. More specifically, our examination combines survey and secondary data of inmates incarcerated in the Maine Department of Corrections (MDOC). Our survey instrument assesses inmate perceptions of procedural justice and the administrative data includes various demographic, criminal history, risk classification, and institutional infraction information. In addition, we conduct a qualitative investigation to capture inmate thoughts about the disciplinary process itself and how COs treat inmates more generally.

We derive three hypotheses from our review of the procedural justice literature. First, if we assume that inmates view COs as fair, trustworthy, and legitimate, and further perceive a sense of voice during the disciplinary process, then we hypothesize the following:

***H₁** – Inmates with no experience with the disciplinary process should hold statistically similar normative perceptions of procedural justice as those with experience in this process.*

Second, prior scholarship suggests that higher inmate perceptions of procedural justice and legitimacy in COs and policies should associate with a greater willingness to adhere to the institutional rules and regulations (i.e., increase voluntary deference). Further, this literature also indicates that normative perceptions (i.e., norms, values, beliefs) should have a greater influence on measures of voluntary deference (i.e., compliance, cooperation, empowerment) than do instrumental judgments (i.e., distributive fairness, effectiveness of COs). Subsequently, we hypothesize the following:

H₂ – Inmate normative perceptions should be stronger predictors of voluntary deference outcomes than instrumental judgments.

Finally, research suggests that instrumental judgments regarding the effectiveness of COs in controlling institutional misconduct should influence an inmates' calculation of their likelihood of being caught. As such, we hypothesize the following:

H₃ – Inmate instrumental judgments should be stronger predictors of instrumental outcomes (i.e., perceived risk) than normative perceptions.

Measures

Administrative Data Measures. This study draws upon a wide range of covariates of institutional misconduct that the MDOC collects for other internal purposes, including age at time of survey (measured in years), race (1 = *white*, 0 = *other*), education level (1 = *high school diploma/GED or higher*, 0 = *no high school diploma/GED*), and instant offense (i.e., separated into dichotomous subcategories for *violent, sex, drug, and nonviolent crimes*). It also contains inmate risk assessment information, including the current MDOC classification rating (*minimum* [1], *medium* [2], and *close custody* [3]), and the Level of Service Inventory-Revised (LSI-R) risk category (*low-* [1], *moderate-* [2], and *high-risk* [3]). In addition, we also include measures of the total prison sentence length and the time spent in custody to date (both measured in months). Because these two variables possess a high level of skew, we use their natural log in our analyses. Finally, we have a record of the total number of guilty inmate rule infractions during the previous two years.

Survey Measures. Our procedural justice survey consists of 100 questions, which we primarily adapt from Sunshine and Tyler (2003). More specifically, we modify their questions regarding police and criminal

acts to be about perceptions of COs and misconduct behavior in prison. All of our questions possess a six-point Likert scale with a varying response type. For instance, questions about perceptions of one's obligation to obey directives include a range of responses from "strongly disagree" to "strongly agree," while one's perceptions about being caught for violating institutional rules range from "very unlikely" to "very likely." Please refer to the appendix for a full list of the individual survey items and their responses. Table 1 provides a breakdown of our scales and subscales (in italics), including the number of items within each construct. The alpha reliabilities for our scales range from .75 to .95, which is on par with those reported by Sunshine and Tyler (2003). We construct each of the scales using a maximum likelihood, exploratory factor analysis with oblique rotation¹ and determine that these scales load effectively on the appropriate and expected factors with few exceptions, which we discuss below.

Normative Perceptions. We conceptualize legitimacy within prison as the credence given to COs in accordance with the perception of their status and behaviors, insofar as such actions are proper or appropriate within the system's expectations (i.e., norms, values, beliefs, and definitions, see Suchman, 1995; Sunshine & Tyler, 2003; Tyler et al., 2007). This suggests that one's willingness to follow the rules relates to their normative perceptions of the COs and the correctional system. As a subordinate social member in prison, an inmate must define COs and the disciplinary process as fair and trustworthy in order for legitimacy to exist. We use three subscales to tap the construct of legitimacy: (1) Feeling of obligation to obey directives of COs ($n = 12$; e.g., there are times when it is ok to ignore what the COs tell you to do [reverse coded]), (2), trust in the prison system and COs ($n = 12$; e.g., COs can be trusted to make decisions that are right for everyone), and (3) affective feelings toward COs ($n = 6$; e.g., overall, I respect the COs). We also combine all 30 of these items to create one overall legitimacy scale, with higher scores indicative of greater perceptions of legitimacy regarding the authority of COs and the prison system.

From a normative perspective, for one to view an institution and its agents as legitimate, their actions must be openly acceptable to the participating members of the establishment given their context (Tyler & Braga et. al. 2007). In accordance with the procedural justice literature, we conceptualize the antecedents to legitimacy in prison to include three constructs: (1) Procedural fairness ($n = 5$; e.g., fairness in handling

¹ We use the direct oblimin method in SPSS 24 to conduct this analysis.

problems between inmates), (2) fairness in decision-making ($n = 9$; e.g., unbiased decisions on whose cell should be searched), and (3) perceptions of the quality of treatment ($n = 9$; e.g., being respectful toward inmates). We also combine all 21 of these items to create one overall procedural justice scale, with higher scores indicative of a greater belief that COs are procedurally just in their actions.

Instrumental Judgments. Instrumental perspectives tend to focus on perceptions of exogenous factors, or external controls, which shape behavior through “tangible, immediate incentives, and penalties” that correspond with rule following or rule breaking behavior (Tyler, 1990, p. 3). We conceptualize instrumental judgments through two constructs: (1) Perceptions of CO effectiveness in controlling institutional misconduct ($n = 10$; e.g., from gang violence to gambling), and (2) perceptions of distributive fairness or the extent to which inmates believe COs administer punishments equally across all people and similar situations ($n = 3$; e.g., how often inmates get the outcome they deserve according to the rules).

[INSERT TABLE 1 HERE]

Outcome Measures. Prior research identifies a link between feelings of legitimacy in an institution and the likelihood of adhering to its rules and policies (e.g., Tyler et al., 2007). From this work, perceptions of legitimacy appear to increase one’s self-monitoring, or voluntary deference, as one comes to view the authority as instrumentally and normatively acceptable (Johnson, 2007; Tyler, Braga, et al., 2007). We conceptualize the consequences of normative judgments to include three constructs: (1) Compliance with institutional rules ($n = 10$; e.g., how often do you possess a weapon?),² (2) cooperation or willingness to work with COs to address concerns ($n = 6$; e.g., how likely would you be to discuss problems in your pod with COs?), and (3) empowerment or openness to the idea of giving more rights and powers to the COs to search belongings, mediate problems, or provide protection to certain inmates, all in the name of prison order and overall safety for everyone ($n = 5$; e.g., “if we give enough power to the COs, the prison will be a safer place”). Finally, we include an instrumental outcome measure of one’s perceived risk of being caught

² Due to the positive skew of this measure, we trichotomize this scale for the descriptive breakdown and analysis for H_1 , while the we include the full six-point format of the measure in the Poisson multivariate models for H_2 and H_3 .

for violating the institutional rules ($n = 11$; “how likely is it that you would be caught if you possessed a weapon?”)

Qualitative context. In an attempt to capture the qualitative context of the inmate responses, we also include a final open-ended question. More specifically, our survey asks if there is anything else about disciplinary write-ups, procedures, or punishments in general that the inmate thinks we should know. We then code these responses in accordance with the normative and instrumental perceptions and use this information to provide examples of how inmates explain their perceptions of COs and the procedural justice elements in the prison system.

Procedure

With the help of agency officials, we created a stratified random list of 600 male inmates from the Maine Correctional Center (MCC) and Main State Prison (MSP). We focused exclusively these two facilities because they are the most populated institutions within the MDOC prison system. We excluded female inmates because time and resource constraints precluded our ability to collect a sufficient number of cases necessary for conducting separate gender analyses. Finally, we based stratification on the number of guilty rule violations during the previous two years, which we grouped equally into three categories: Low (i.e., no violations), moderate (i.e., 1 to 2 violations), and high (i.e., 3 or more violations) misconduct history.

The first two authors administered the surveys in both facilities in June of 2017. At both locations, the researchers had a non-uniformed staff member assigned to aid in the logistics of survey administration. Within each housing unit, we gave the CO in charge a copy of our randomized list. The CO then went into the living quarters and instructed the first name on the list in their unit to report to our location in a nearby private room. The CO did not tell the inmates the reason for our visit, just that “some university researchers want to talk with you.” We administered the surveys in a small group format. The number of inmates included at any one time depended on several aspects of the room, such as its physical layout and the number of chairs available. We often had only a few inmates participating at once, but at other times we had as many as ten. We told unit COs how many inmates the room could accommodate, and as an inmate returned back to the unit, the next person on the list was sent to our location. We did not permit correctional

staff to be present during the survey, nor did we provide the department with information about who participated or refused to participate in the study.

As inmates arrived to our location, we read aloud the description of the project and consent language. We then asked inmates to sign an informed consent form if they were willing to give us permission to use their survey information in our research study. Although we did not track how many inmates refused to participate, we estimate this figure to be fewer than five from each facility. Inmates read and answered the survey questions independently, but the researchers also walked the room answering any questions that arose. Some inmates inquired about the meaning of a particular question, and we read aloud and recorded the answers for a few inmates who had difficulty reading and writing. Finally, we placed the completed surveys in a locked briefcase and transported the forms to a secure university location for further analysis.

Sample

Table 2³ provides an unweighted breakdown of the administrative data for the survey participants ($n = 144$). Although a response rate of 24% may appear low, it is important to note that our randomized list of 600 inmates far exceeds our initial goal to survey 120 inmates in two days. We chose to begin with a larger pool of potential inmates because we knew that some would refuse to participate and others would be unavailable when we were on the unit (e.g., working or participating in treatment programming). Nonetheless, we undertook several checks to assess whether the participants in our sample are representative of the larger MDOC population.

First, we compare the administrative information of the inmates who took the survey to those from our randomized list who did not take the survey within each of the three strata. These analyses reveal only one statistically significant difference ($p \leq .05$). More specifically, there are fewer white survey respondents than non-respondents within the no misconduct group (71% vs. 85%, respectively). Despite this difference, we conclude that survey participants are representative of the original stratified random sample. Our analyses also reveal that the inmates with three or more misconducts are significantly older and possess a higher custody level than inmates with fewer rule violations. However, we expect this difference to exist owing to the number of violations the members in each group engage.

³ Information provided in Tables 1 and 2 are unweighted values.

[INSERT TABLE 2 ABOUT HERE]

Second, we also aimed to ensure that the responses could be generalized to the inmate population from both facilities.⁴ Subsequently, we elected to apply probability weights were applied based on inmate count reports of 2017 (the same year the data was collected) which is common practice in survey analysis. Probability weights account for how the sample was drawn and how many potential participants there were based on the population from the sampling frame. Using a MDOC data report (Thornell, 2017), we constructed probability weights to account for any remaining proportional differences in the general population by strata within these two facilities. Response weights were also calculated to account for those who did not participate from within the stratified sample. For example, if only 85% of respondents 1-2 misconducts participated, a new weight equal to the reciprocal of the response rate would be created for this subgroup. Thus, the new weight for an observed respondent with 1-2 misconduct would be $1/.85=1.18$, with the extra weighting substituting for the information not available from the non-respondents. As a result, a response from someone with 1-2 misconducts would be counted as 1.18 responses. Ultimately, the survey sample was statistically similar to that of the population from both facilities.

Analytical Plan

To test our three hypotheses, we apply a series of robust regression analyses that are consistent with the scope of each hypothesis. For H_1 , we conduct an analysis of covariance (ANCOVA) test to examine if differences in normative perception scores exist across misconduct groupings. We chose to use ANCOVA here because it is reasonable to expect that the perceptual scales may covary with one another. Although the ANCOVA test can detect differences across the strata, it is not able to capture the variation within the high misconduct group. This is an important limitation because the number of rule violations for the inmates in the high misconduct group range from three to 47 incidents ($M = 8.4$, $SD = 7.5$). With this variation in mind, we expand our examination of this hypothesis. More specifically, we use post-multiple imputation Poisson regression to test the ability for perceptual scales to predict the number of rule violations, rather than just the trifurcated misconduct history groups. For H_2 and H_3 , we investigate if normative and

⁴ Weights could not be calculated to generalize to the entire state because the misconduct information for the state was not available for this analysis.

instrumental perceptions predict voluntary deference and perceived risk of being caught, after controlling for misconduct history. We use a Poisson regression to test the hypotheses as it relates to compliance⁵ and multiple linear regression to test the hypotheses as it relates to cooperation, empowerment, and perceived risk.

Missing Data. There is a range of missing values across key measures in both the administrative data and survey responses.⁶ Considering the relatively small sample size in this investigation, the loss of observations due to missing data is not ideal and may increase the likelihood of a Type II error (i.e., failing to detect an effect that is present) in our analyses. As a result, we explore options to deal with the missing data and assess for any patterns in the missing information. According to Little's (1988) test for missing data, that data elements in our study are missing completely at random (χ^2 distance = 532.91, $df = 489$, $p = .083$). This finding suggests that multiple imputation is an appropriate method for dealing with our missing data. Multiple imputation uses iterative regression equations to estimate the missing values and produce a reliable estimate of the effects and standard errors in subsequent statistical tests (Rubin, 1996). Using chained equations, we impute the missing values for normally distributed continuous measures with linear regression, for dichotomous or categorical measures with logistic regression, and for positively skewed measures (e.g., compliance) with Poisson regression. Due to the study's sample size and various measures with missing data, we set the number of iterations to 100 (see Graham, Olchowski, & Gilreath, 2007). We also include the sampling weights in our multiple imputation calculations.

Qualitative. We examine and tally the responses to our open-ended question for a connection to the scales described above. Our coding scheme allows each response to contribute toward multiple constructs. For example, one respondent wrote that "Over punishment provokes a retaliatory mindset. Disciplinary actions should be more predictable." We code this response as including elements of both fairness in decision-making and distributive fairness. In addition, we also include a no affiliation option for statements that are unrelated to COs or the disciplinary process. As an example, another respondent wrote "We NEED

⁵ The measure of *compliance* includes a count distribution; however, it is in fact a scaled measure. While we conduct and report a Poisson model, we also test a negative binomial regression, which yields similar results.

⁶ The missing data range from 1% for most serious offense, to 11% for risk level, to 33% for highest education level.

Fans!!” We then tabulate a basic breakdown of references to the pertinent constructs, which provide supplemental context to our quantitative findings.

Results

***H*₁ – Normative procedural justice perceptions should not differ across misconduct history groups.**

Table 3 provides a weighted breakdown of the ANCOVA marginal means and standard deviations (SD) for each group. Although the focus of this hypothesis is on normative perceptions, we test and present the findings for all of the scales in the same way in order to clarify the nature of the observed relationships. The scale in each row is the dependent variable for the ANCOVA model. Thus, the *F* and *p* values represent the difference between the three groups when accounting for covariance between the other scales and group membership for each row’s model. The combined scales yield 119 total observations with no missing data. These analyses provide partial support for our first hypothesis. While inmate perceptions of legitimacy differ significantly across the three misconduct groups in the anticipated direction ($p = .002$), we find no such evidence of a difference in their perceptions of procedural justice ($p = .357$). Despite reaching statistical significance, however, the practical difference between the group means for the legitimacy scale is relatively small (average difference between the means [*Mdiff*] = .2). Our analyses also detect statistically significant group differences across three additional scales ($p \leq .05$) that are slightly larger in terms of magnitude: Performance (*Mdiff* = .3), cooperation (*Mdiff* = .5), and perceived risk (*Mdiff* = .5).

[INSERT TABLE 3 HERE]

It is possible that our sampling approach masks potential variation that exists within the perceptions of the three-or-more misconduct group. To test this possibility, we expand our examination of this hypothesis using a Poisson regression to assess how well the perceptual scales predict the total number of misconduct incidents, rather than just the trifurcated group placement measure (not shown). The covariates in the Poisson model include age, race, education, risk level, normative perceptions (i.e., legitimacy and procedural justice), and instrumental perceptions (i.e., performance and distributive fairness). The offset measure in this analysis is the length of time spent in prison prior to survey administration. Although none of these measures reach the Neyman-Pearson threshold for statistical significance ($p \leq .05$), the magnitude of the effect sizes for these scales is noteworthy. For instance, with every unit increase in ones’ normative

perceptions of legitimacy, there is a 45% decrease in the probability of having a history of misconduct (incidence rate ratio [IRR] = .55, $p = .44$). Similarly, for every unit increase in ones' perceptions of procedural fairness, there is a 37% decrease in the chances of having a misconduct history ($IRR = .63$, $p = .30$). The findings for the instrumental perceptions, however, yield the opposite effect. As perceptions of CO effectiveness in controlling crime increase, so too does the likelihood of possessing a misconduct history by 30% ($IRR = 1.30$, $p = .33$). Increases in perceptions of distributive justice also correspond to a 14% increase in the likelihood of having a misconduct history ($IRR = 1.14$, $p = .70$).

H_2 – Normative perceptions should predict voluntary deference better than instrumental judgments.

In testing H_2 , we conduct three multiple regression models on the imputed dataset (see Table 4).⁷ In this model, perceptions of legitimacy yield the largest effect size ($IRR=.79$). More specifically, as one increases their perceptions of legitimacy toward COs, the likelihood of their compliance with the institutional rules also increases by 21%. In contrast, increases in perceptions of procedural justice appear to decrease one's likelihood of following institutional rules by 20%. Again, however, these two measures do not reach our threshold for statistical significance ($p \leq .05$), and their strength weakens as we introduce age and other risk measures into the model. Additionally, when holding all else constant in the Poisson regression compliance model, ones' history of misconduct does not produce a statistically significant influence on their engagement in self-report rule violations. Regardless of the manner in which we specify misconduct history, prior rule violations appear to be a weak predictor of self-report compliance at best.

Similarly, legitimacy is a strong predictor in the multiple regression cooperation model ($\beta = .28$). This suggests that for every standard deviation increase in one's perceptions of legitimacy among COs, there is a corresponding one-third standard deviation increase in their willingness to cooperate with prison authorities ($p = .049$). In addition, age is also a strong predictor of cooperation, with older inmates being

⁷ The reader should note two points about the Poisson model coefficients in Table 4 as they relate to the Ordinary Least Squares (OLS) coefficients. First, the Poisson coefficients account for the offset measure of the length of time spent in prison prior to the survey date. We also test a similar negative binomial regression model using the same offset measure, which yields similar coefficients. Second, we calculate the Poisson coefficients using a linearized variance-covariance estimation (VCE) that is specific to the Stata command *mi estimate*. Such VCE estimation produces slightly different calculation of the standard errors than a robust estimation (i.e., sandwich estimator, Huber, 1967; White, 1980). We use the robust VCE in calculating the standardized OLS coefficients of the other three models with the *mibeta* command. The difference in the VCE calculation contributes to a difference in t -values and their subsequent p -values.

significantly more willing to cooperate than younger inmates ($\beta = .31, p < .001$). In contrast, perceptions of procedural justice ($\beta = -.09$) and both instrumental judgment scales (i.e., perceptions of CO effective performance, $\beta = .09$, and distributive fairness, $\beta = .01$) produce a trivial and non-significant relationship with cooperation willingness. The final model explains an average of 26% of the variance across the imputations.

In the next model, we again find that legitimacy is the best predictor of empowerment ($\beta = .33, p < .001$). More specifically, as one's perception of legitimacy increases by one standard deviation on a six-point scale, their willingness to support the empowerment of COs also increases by nearly a third on a similar scale. Perceptions of distributive fairness ($\beta = .18$) and procedural justice ($\beta = .14$) also share a moderate and positive relationship with empowerment, although the latter scale does not achieve statistical significance ($p = .271$). The other instrumental judgment scale regarding perceptions of CO performance in controlling misconduct appears to possess no substantively meaningful relationship with empowerment ($\beta = .01, p = .922$). The final model explains an average of 44% of the variance across the imputations.

Taking these three voluntary deference models in totality, we find partial support for H_2 . Our analyses reveal that perceptions of legitimacy possess an apparent and meaningful relationship with one's willingness to comply with institutional rules, cooperate with prison authorities, and empower COs to provide institutional safety and security. These analyses also reveal, however, that perceptions of procedural justice have only a marginal association with one measure of deference, CO empowerment. Our three models also indicate that instrumental judgments have very little association with the voluntary deference measures, with the exception of the relationship between perceptions of distributive justice and one's willingness to empower COs.

[INSERT TABLE 4 HERE]

H_3 – Instrumental judgments should predict perceived risk better than normative perceptions.

We use an OLS regression model to test H_3 . When holding all else constant, one's belief about how effective COs are in controlling misconduct is the strongest predictor of their anticipated risk of being caught if they were to violate the institutional rules ($\beta = .38, p < .001$). More specifically, as one's perceptions of CO effectiveness increase by one standard deviation on a six-point scale, their perceived risk

of being caught increases by more than a third on a similar scale. In contrast, both normative perceptions (i.e., legitimacy, $\beta = -.10$, and procedural justice, $\beta = .08$) and distributive fairness ($\beta = -.05$) possess small and non-significant relationships with perceived risk. The final model explains an average of 18% of the variance across the imputations.

This model suggests that, similar to H_2 , there is only partial support for H_3 , because only one of the instrumental judgments was predictive of perceived risk.

Qualitative Supplement

Next, we supplement these quantitative findings with a qualitative analysis of the responses to our open-ended question. Among the 144 survey respondents, 53 left written feedback to this question. Our coding procedure yields 95 counts of responses mentioning three of our primary scales: Legitimacy (34), procedural justice (44), and instrumental judgments (17). None of the responses mention voluntary deference or perceived risk.

Legitimacy. Comments in this category describe a breakdown of CO legitimacy in the eyes of the inmates. These statements provide insight into what inmates might view as examples of delegitimizing events. These responses often contain reference about trust. For example, one inmates reports:

I did something wrong that was very small, giving a pair of boots away, and I was honest with a guard and he is still giving a write up. If being honest is no different than lying to them, then what is the point.

This response suggests that his willingness to be honest and trust COs in disclosing information was lost after receiving a write-up in a situation where he did not understand its purpose, at the very least. This provides insight into how inmates express their distrust in the institution and its agents. Another inmate expresses a similar frustration:

It seems as though the COs, even though they will follow the rules, will get any information from someone instead of helping a person, will use it against them.

Another respondent describes a situation in which he felt degraded by the COs during a search of his pod:

During the last facility wide shake down, strip searches were conducted in full view of the entire Pod and also female DOC staff. Answers these questions numerically is difficult because of the COs who power trip over the most miniscule things rather than allow people

the semblance of choice. Those outliers (COs) are also countered by COs that instead of power tripping instead ask for inmates to respect them and in turn respect the inmates.

In this instance, the inmate seems to view the manner in which COs conducted strip-searches in the living unit to be particularly impactful. As a result, this appears to delegitimize his perceptions of the COs and the institution. This is an important consideration because as we demonstrate in our quantitative analysis such delegitimization holds the potential to breakdown ones' willingness to comply with orders and rules.

Procedural Justice. Statements in this category embody issues regarding the fairness of COs decisions and how COs treat inmates, although respondents do not appear to view all COs similarly on these constructs:

Not all of the COs are bad. But 90 percent of them treat us like animals. Show us no respect. And are very corrupted and corrupt. Medical and the higher ups are not doing their jobs. I speak on all inmates.

Many of these comments also encapsulate reference about a lack of CO professionalism:

In general, write-up procedures and punishments are very unprofessionally dealt with. Write-ups and punishment for minor violations are routinely more severe than more severe one's committed by the majority of COs entitled inmates' some people get away with everything and others have to do almost nothing to get severe punishments. I am older and most COs 80-85% of them are truly unprofessional. I have lived mostly out of prison in my life and worked at some good places. I realize this is a prison, but the unprofessionalism is overwhelming. It would be way more productive and efficient here with COs trained to deal with human beings. Overall, it is totally disrespectful, unproductive, and wasteful time here. It's no wonder recidivism is [high] here. It is very easy to see why. You only need to experience it here for a short time.

Examples like this provide context to how inmates may view COs as treating them with little respect. The low mean score among respondents regarding the quality of treatment by COs indicates that these inmates believe this is an important issue (see Table 1).

Instrumental Judgments. While the overwhelming majority of the comments in this category about job performance and distributive fairness are negative in nature, one in particular highlights the view that COs are getting more effective in their jobs:

This [higher security] prison has evolved from a violent prison to a laid back more efficient prison in the [10+] years I've been in. There is much more respect in general here.

This statement provides some context to the quantitative findings indicating that inmate perceptions of COs ability to combat misconduct is quite positive (see Table 1). This observation, however, pales in comparison to those about fairness. In particular, respondents stress the importance of distributive fairness and consistency, especially with respect to how COs apply punishment. Examples include comments such as the following:

Over punishment provokes a retaliatory mindset. Disciplinary actions should be more predictable.

Staff and admin are very inconsistent in all areas. They generally are more punitive than helpful or corrective.

Some COs use their power to control their reasoning for their actions and don't care for your explanation. It doesn't help when the facility has rules they have put in place and then they contradict themselves and say its CO's discretion. It allows the COs to have full say and control over the rules put in place, so why have any. No matter what you still loose good time if you win or lose your case so what good does it do to fight for your rights if you have none. There are other things I can say but don't have enough paper or time to do it other than the staff here can be very unfair at times.

These examples provide insight into ways that perceptions of distributive fairness may influence other aspects related to animosity and hostility toward COs and the institution.

Limitations

It is of course, important to consume the findings of research within the context of the study's limitations. Before discussing the theoretical and practical implications of our findings, we wish to acknowledge the limitations of our study, particularly those related to its research design and data.

Design. This study involves a cross-sectional examination of inmate perceptions and their relation to deference and perceived risk. Subsequently, the relationships we identify are correlational and not causal. We encourage future research to capture follow-up misconduct information to help establish how well one's previously held perceptions may predict his or her future compliance with institutional rules. Additionally, our design emphasizes self-report information, particularly on sensitive issues such as deviance in prison. Although the potential for untruthful responses always exists in survey research, there is simply no other way to gauge inmate perceptions or attitudes without relying on self-report. It is important to note, nevertheless, that we undertook several steps to help encourage truthful responses, including administering

the surveys in private rooms, and reiterating that we would not divulge who chose to participate or share individual responses with anyone from the MDOC. Finally, the possibility of selection bias also exists in our research design. In addition to the handful of inmates opting not to participate in the survey room, an unknown number of refusers and inmates not in the living unit during our rounds also did not complete the survey. It is therefore possible that our sample of respondents may comprise inmates who are more willing to divulge personal information, which may make them qualitatively different from the non-respondents. Although we did not capture the reason for refusal, our examination of the administrative data between the respondents and non-respondents suggests these two groups are highly comparable. We argue, therefore, selection bias is not a major concern or threat to the findings of this study.

Data. With regard to the administrative data, we acknowledge some limitations. For instance, we are only able to include the type and quality of information that the MDOC collects for other internal purposes. We encourage future research to collect and analyze other theoretically relevant information such as information about transfers or in relation to importation versus deprivation theories. Additionally, corrections officials do not detect all incidents of misconduct, nor do all rule violators receive an official documented sanction. As a result, it remains possible that some inmates were miscategorized (e.g., someone in the zero-misconduct group may actually engage in misbehavior, but is yet to be caught or receive an official sanction). Although we are not able to fully discredit this concern, our analysis of self-report compliance and official misconduct provides support for the quality of our administrative and survey information. For instance, each group admitted to engaging in a reasonable degree of rule violations (see Table 3). This suggests that our respondents are open and willing to admit to violating institutional rules, and it further gives us greater confidence in our data and subsequent findings. Nevertheless, we encourage researchers to replicate and expand upon our study to determine if our findings generalize to other settings (e.g., other prisons or prison systems, jails, juvenile detention centers) with different inmates (e.g., women, juveniles).

Cooperation. Some of the measures of cooperation held the potential to be interpreted as “snitching”, whereby an inmate reports the misconduct activity of another inmate to authorities. Snitching has long been known to be condemned in prison culture, often viewed to increase the possibility of physical harm in

victimization for those snitching. This point, and the potential animosity toward “snitches” getting preferential treatment in the form of more lenient punishments was highlighted by a few open-ended responses (e.g., “If your not a snitch your punished more than the snitches”). Subsequently, there is the possibility that the cooperation scale is not an accurate measure of willingness to cooperate. That said, such questions only made up a few points of the six-item scale, which was averaged. Considering that we provided an option of selecting “don’t know” or “rather not answer”, coupled with the additional items, we argue that this scale is a valid measure of cooperation.

Punishment type and consistency. A few areas in which the current study does not touch on were highlighted in the open-ended responses. A few inmates indicated there might be other ways to also improve both perceptions of legitimacy and fairness while also decreasing disorder. Specifically, they brought up the issues of using fines and loss of good-time credit as punishments for misconduct. Examples referring to the use of fines and loss of good time credit:

Fines of up to \$100 are imposed on prisoners who violate the rules, yet only about 30% of the population receive any type of \$ for work. Family-friends & loved ones’ end up paying the fine. There are at least 4 good time laws. It takes some prisoners three times as long to earn good time deductions as those sentenced in the 80s-90s. This is seen as unfair and creates tension and unrest. Work is denied to those who are fined – sometimes for a year or more. This CAUSES theft and violence. (Respondent’s original emphasis.)

Fines and monetary sanction are hurting only our friends and family. Also the percentage that is taken to pay these is greater than it should 50% for me and up to 100% for others. Also there is almost no fair reasoning when given write ups. You can get one for almost anything and for no reason.

Each of these areas hold the potential to influence voluntary deference in particular, and as a result should be the focus of future research. As for this study, there is no way of telling the magnitude of such potential influence. Subsequently, we err on the side of extant research in suggesting that the measures we collected were appropriate for our hypotheses.

Discussion

Despite these limitations, there is much to be gained from this work, including several research and policy implications. Findings from this project have a stake in a number of implications for institutional corrections and the community.

Theory. In terms of procedural justice theories regarding compliance, our study provides a direct test as to how such theories would work, if at all, in the prison setting. Altogether, we found only partial support for theories related to procedural justice and legitimacy. This suggests that there may in fact be a meaningful relationship between how inmates perceive disciplinary processes and their willingness to comply with directives and rules. Such a connection holds the potential to help inform prison officials about how best to address these perceptions, thereby increasing voluntary compliance and facility safety in the process. In the same token, however, our findings also suggest that prior findings related to procedural justice in the community (e.g., Sunshine & Tyler, 2003), does not appear to directly apply to the prison setting. Instead, it appears that instrumental judgments hold the possibility of meaning more to inmates as it relates to their perceived risk of being caught for misconducts.

Perhaps one of the major areas of future research for which this study provides a base is the investigation of for whom normative and instrumental are most important. The findings associated with race, for instance, suggest that there may be an interplay between race and cooperation with prison authorities. Considering the racially charged context of the justice system, and corrections specifically, there is reason to believe that race may have a mediating or moderating relationship with the influence of normative perceptions (e.g., legitimacy) and voluntary deference. Future research should place emphasis on this possibility and investigate such potential relationships through interaction effects. While we preliminarily assessed differences in some moderators in the current study, (e.g., facility, race, risk and classification), more work is needed in this area.

While the current study's analyses illustrate a somewhat complicated relationship between inmates' perceptions and subsequent behaviors, the qualitative findings provide an opportunity to broaden the theoretical scope of procedural justice. The supplemental narratives provided by participants suggest perceptions of a just or fair process are as much about an individual's experience *within* a given context as

they are about an individual's understanding of that process. These narratives allow us to discuss the concept of procedural justice from an experiential or humanistic perspective. Polizzi (2014) offers an articulation of the humanistic approach, which emphasizes the development of trust as the foundation of any therapeutic discourse, be it correctional or otherwise. Essentially, any correctional discourse that fails to develop a trust-centered relationship that promotes change only serves to combine the coercive forces of the total institution (Goffman, 1961) with the discursive reality of contemporary correctional dynamics (Schlosser 2015). At a minimum, a greater emphasis on professionalism, which recognizes the humanity of all who are involved, can help with promoting such dynamics. The supplemental narratives suggest participants experience both the coercive and discursive aspects of incarceration at the expense of therapeutic relationships and developing trust. It stands to reason that an individual's perception of any process will be impacted by his or her ability to trust the person, or in many cases the institution, that is overseeing or initiating that process. This reality is particularly consequential for our participants who lack trust in a process that, in their words, dehumanizes them.

By emphasizing trust in the process, Tyler's (1988) theory of procedural justice assumes a universal experience, which fails to account for the nuanced reality of justice system involvement. The humanistic approach fills this gap by providing a context that fosters a therapeutic relationship built on empathic engagement and oriented towards trust (Polizzi, 2014; Schaefer, 2014). By placing therapeutic trust at the core of correctional discourse, we empower both practitioners and inmates to reexamine their perceptions of the institution as whole, which can transform perceptions of sanctions as well as rewards. Essentially, if development and maintenance of trust centered therapeutic relationships is emphasized, then trust between the inmates and the staff can be increased. Improving trust between inmates and staff can improve inmate beliefs that the process is just. Belief in a just process and then increase "compliance" among the inmates. Increasing compliance among inmates in turn also increases the therapeutic energies of the prison, which holds the potential to also reduce recidivism in the community upon release.

Institutional utility. With regard to professionalism and humanistic measures, our findings can inform which relationships between COs and inmates hold the potential to promote compliance (Polizzi,

2014). These findings echo that of a recent study by Steiner and Wooldredge (2018) who found that perceptions of legitimacy toward COs may hold a connection to rule infractions for some, but not all inmates and not related to all infractions. Other prior research also suggests that legitimacy can increase through the use of fair procedures, regardless if the outcome of the interaction is positive or negative (Tyler & Fagan, 2008). However, missing from this connection (particularly in prison settings) may be the importance of instrumental judgements. Instrumental judgement relationships examined in the current study highlight a balance between inmate emphasis of legitimacy and their perceptions of how effective COs are at controlling behavior. This balance may yield direct connections to management and training connections to professionalism and a humanistic culture, while also promoting more transmission of staff successes in controlling behaviors.

While our findings particularly set the stage for creating supplemental material or guidelines for continuing education and training among COs, it is still unknown what specific policy changes would be most effective in this endeavor. That said, based on prior research and theory policy recommendations may include initiatives such as, more oversight of stages in disciplinary processes.

1. Improved data collection related to who is receiving an infraction write-up, for what reason, and which CO completes the report may allow quicker and more robust examinations of whether such write-ups and sanctions are fair, equitable, and unbiased.
2. Another recommendation may be clearer and predictable sanctioning processes, while ensuring such processes allow for inmates to have a legitimate voice to express their perception of the situation. This may be complimented by training COs to be clearer within their initial write-up decisions and expressing reasons as to why an inmate is being given a formal infraction.
3. Proportionate punishments should be clear. Similar to graduated sanctions in the community that are often explicitly expressed to the person on supervision, sanctions for infractions should be clear and present for inmates in their daily operations. Additionally, institutions should review various sanctions for their purpose and proportionality to their associated infraction. For instance, review the potential proportionality of monetary fines, loss of good time, and visitation punishments policies for low level infractions in particular. Removal of visitation and good time only in extreme cases may be particularly key as each aid in promoting compliance through the connection between early release and family support.
4. Lastly, increasing the use of rehabilitation programs (Randol & Campbell, 2017), therapeutic relationship efforts (Polizzi, 2014), and reward-sanction contingencies can promote positive behavior. Principles of effective intervention can aid in this process by

targeting high-risk inmates (i.e., 3+ misconduct) with specific interventions related to their criminogenic needs that may be identified at classification stages.

Ultimately, this study has demonstrated that there are critical aspects of the inmate perceptions that can be used to help inform practice to improve prison order. Our findings offer the possibility of noting long-term importance and meaning to the experiences of incarceration. Moreover, if shown to have a link to reoffending behavior of offenders upon release, then the experiences highlighted here, being avoidable and easily remedied, are ones that have the potential to influence the reform of widespread DOC policy.

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Table 1. Group descriptives and comparisons

Scale	No. of Items	<i>M</i> (<i>SD</i>)	<i>n</i>	α
Normative Perceptions				
Legitimacy	30	3.3 (.83)	144	.93
<i>Obligation to obey directives of COs</i>	12	3.4 (.83)	144	.80
<i>Trust in the prison system and COs</i>	12	2.9 (1.0)	143	.91
<i>Affective feelings towards COs</i>	6	3.8 (1.0)	144	.77
Procedural Justice	21	3.0 (1.0)	134	.95
<i>Procedural fairness</i>	5	3.1 (1.1)	134	.89
<i>Fairness in decision-making</i>	7	3.3 (1.2)	134	.82
<i>Quality of treatment</i>	9	2.7 (1.1)	132	.95
Instrumental Judgments				
Performance in fighting crime	10	3.7 (1.2)	132	.94
Distributive fairness	3	2.8 (1.1)	136	.75
Voluntary Deference				
Compliance ^a	10	0.3 (.32)	137	.76
Cooperation	6	3.2 (1.4)	132	.84
Empowerment	5	3.2 (1.1)	140	.76
Instrumental Outcome				
Perceived risk of being caught	11	3.8 (1.3)	125	.94

Note: *M* = mean; *SD* = standard deviation; *n* = number of inmates included in scale calculation; α = Cronbach's Alpha; CO = correctional officer.

^a Lower scores indicate greater compliance.

Table 2. Breakdown of survey participants by strata

Administrative Data	% No mis. (<i>n</i> = 45)	% 1-2 mis. (<i>n</i> = 36)	% 3+ mis. (<i>n</i> = 63)
Mean age (SD)	41.1 (11.9)	40.4 (11.5)	*** 33.5 (9.1)
White	71.4	82.4	88.3
At least completed high school/GED	85.3	81.0	78.0
Most serious instant offense			
<i>Violent</i>	44.2	47.2	46.0
<i>Sex</i>	25.6	16.7	20.6
<i>Drug</i>	11.6	8.3	11.1
<i>Nonviolent</i>	19.0	27.8	22.2
Classification			
<i>Close</i>	0.0	0.0	*** 25.8
<i>Medium</i>	63.4	63.9	69.4
<i>Minimum</i>	36.6	36.1	*** 4.8
Risk level			
<i>High</i>	54.5	48.5	61.3
<i>Moderate</i>	18.2	24.2	22.6
<i>Low</i>	27.3	27.3	16.1
Mean months served (SD)	48.3 (76.3)	67.1 (71.5)	38.5 (43.1)
Mean sentenced months (SD)	112.7 (168.2)	121.3 (123.3)	89.9 (121.4)

Note: SD = standard deviation; GED = general equivalency diploma.

****p* ≤ .001.

Table 3. ANCOVA scale marginal means by group membership

Scaled Variance Predicted	Mean (SD)			<i>F</i>	<i>p</i>
	No mis.	1-2 mis.	3+ mis.		
Normative Perceptions					
Legitimacy	3.5 (.07)	3.4 (.07)	3.2 (.08)	6.39	.002
Procedural Justice	3.1 (.02)	3.1 (.02)	3.1 (.03)	1.04	.357
Instrumental Judgments					
Performance in fighting crime	3.4 (.14)	3.5 (.14)	4.0 (.16)	3.14	.047
Distributive fairness	3.0 (.13)	2.9 (.13)	2.8 (.15)	0.50	.608
Voluntary Deference					
Compliance (trichotomized)	0.2 (.04)	0.3 (.04)	0.3 (.05)	1.48	.233
Cooperation	3.5 (.19)	3.3 (.18)	2.8 (.21)	3.13	.048
Empowerment	3.1 (.14)	3.4 (.13)	3.5 (.16)	1.56	.215
Instrumental Outcome					
Perceived risk of being caught	4.1 (.18)	3.8 (.18)	3.3 (.19)	3.76	.026

Note: *SD* = standard deviation; mis. = misconduct.

Table 4. Regressions predicting outcomes while accounting for administrative measures

Covariate measures	Voluntary Deference												Instrumental Outcome			
	Compliance				Cooperation				Empowerment				Perceived risk			
	IRR	<i>t</i>	[95% CI]	<i>p</i>	β	<i>t</i>	[95% CI]	<i>p</i>	β	<i>t</i>	[95% CI]	<i>p</i>	β	<i>t</i>	[95% CI]	<i>p</i>
Number of Misconducts	1.06	3.74	[.88, 1.26]	.163	-.05	-.61	[-.07, .02]	.541	.05	.87	[.02, .09]	.386	-.11	1.05	[-.14, -.08]	.296
Normative Perceptions																
Legitimacy	.79	-.78	[.16, 4.00]	.532	.28	1.99	[.24, .32]	.049	.33	3.30	[.29, .37]	.001	-.10	-.67	[-.15, -.07]	.502
Procedural Justice	1.20	.90	[.19, 7.52]	.512	-.09	-.64	[-.14, -.06]	.523	.14	1.11	[.11, .17]	.271	.08	.62	[.05, .12]	.535
Instrumental Judgments																
CO Performance	.90	-.73	[.32, 2.58]	.573	.09	.84	[.07, .12]	.404	.01	.10	[-.01, .03]	.922	.38	3.71	[.37, .41]	<.001
Distributive fairness	.96	-.23	[.35, 2.64]	.845	.01	.01	[-.03, .03]	.990	.18	2.01	[.17, .19]	.047	-.05	-.05	[-.03, .02]	.958
Administrative Data																
Age	.96	2.03	[.73, 1.26]	.302	.31	3.66	[.27, .35]	<.001	.15	1.84	[.14, .21]	.069	-.01	-.73	[-.12, -.01]	.467
Race – White	.84	-.61	[.08, 9.16]	.637	-.11	-1.30	[-.16, -.05]	.196	-.03	-.41	[-.10, .03]	.679	-.04	-.44	[-.10, .01]	.661
High school/GED	.92	-.18	[.01, 56.89]	.880	-.03	-.28	[-.18, .10]	.780	-.09	-1.01	[-.18, -.01]	.315	-.03	-.27	[-.12, .09]	.785
Risk level – High	1.08	.26	[.02, 71.42]	.838	-.08	-.89	[-.13, -.03]	.376	-.03	-.40	[-.09, .04]	.689	-.09	-.87	[-.18, .01]	.388
Constant (unstandardized)	.20	1.86	[.00, 215.33]	.275	.67	1.02	[-.63, 1.96]	.308	.60	1.32	[-.30, 1.50]	.190	3.21	4.21	[1.70, 4.73]	<.001
Model Summary																
Average Relative Variance Increase			.77				.06				.07				.06	
Largest Fraction of Missing Info.			.52				.25				.22				.50	
Complete df (small sample adjusted)			3				115				117				110	
<i>F</i> -value			9.02				6.45				9.96				3.07	
<i>p</i> -value of <i>F</i>			.006				<.001				<.001				.003	
Average <i>R</i> ² across imputations			-				.26				.44				.18	

Note: *IRR* = incidence rate ratio; CI = confidence interval.