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Procedurally just organizational climates improve relations between corrections officers and incarcerated individuals

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ABSTRACT

Correctional officers' attitudes about the treatment of inmates can affect an inmate's experience within a correctional institution. Previous research, largely outside correctional settings, suggested that individual (e.g. personality traits; racial bias) and organizational (e.g. procedural justice; training) factors related to attitudes regarding inmates. However, research involving correctional officers has been limited. In a sample of correctional officers (N = 89), we collected self-report measures of punishment-oriented attitudes, individual (personality traits, racial bias), and organizational (procedural justice in the work environment) factors. Agreeableness, a personality trait, and procedural justice in the work environment were significantly *negatively* associated with punishment-oriented attitudes, whereas racial bias was significantly *positively* associated with these attitudes. Furthermore, correctional officers who worked on a new rehabilitation-focused unit had higher perceptions of procedural justice in their work environment, and this was associated with more positive attitudes toward inmates. The present study provided preliminary evidence that both individual and organizational factors were important to consider within a correctional setting, but that instituting a procedurally just culture in the prison could promote more humane attitudes toward those currently incarcerated.

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The United States correctional system struggles with an identity crisis centered on whether the purpose of incarceration is to punish or rehabilitate offenders. Correctional officers often set the tone in the prison and have continuous and lasting contact with those in custody (Crewe et al., 2011; Wooldredge & Steiner, 2016). Whether correctional officers espouse views of punishment or rehabilitation affects how they exercise authority and interact with inmates (Gordon & Stichman, 2016; Kelly, 2014). Correctional officers that hold negative views of inmates and view incarceration as a means of punishment, tend to engage in physical contact more often with inmates and issue more institutional violations. Moreover, individuals who are subject to punitive treatment by authorities tend to develop defiant attitudes and increased antisocial behavior (Tyler & Trinkner, 2018).

Following broader psychological and legal work, researchers have begun to explore how individual (e.g. age, gender, race, education level) and organizational (e.g. shift, seniority, role conflict, job stress, perceptions of danger, and supervisory support) factors relate to correctional officers' views and behaviors towards inmates (see Dowden & Tellier, 2004; Griffin, 2001, 2002, 2006; Lambert, 2003; Lambert et al., 2010; Misis et al., 2013 for examples). The present study built upon this research by investigating how correctional officers' attitudes about the punishment of inmates related to personality traits and racial bias, as well as organizational culture, including procedural justice in the work environment. Moreover, we examined whether changes in organizational structure, with a change in unit culture toward a more rehabilitative focus, was associated with attitudes about inmates, as well as, individual and organizational factors.

Personality

Personality traits can be described as automatic patterns of thoughts, feelings, and behaviors that are relatively consistent across time and context and differentiate people from one another (Roberts, 2009). One of the most widely used and extensively researched models of personality is the 'Big Five' personality trait framework, which measures five dimensions of personality: Agreeableness, Conscientiousness, Openness, Extraversion, and Emotional Stability (Gosling et al., 2003). Research outside the criminal justice context indicated that these personality traits related to attitudes about authorities, punishment, and discipline. For instance, people who were more agreeable (i.e. cooperative; flexible) tended to view authorities with whom they interacted and organizations they were a part of as more just (e.g. fair, legitimate). By contrast, those who were more neurotic (i.e. heightened negative emotion) viewed authorities as less just (O'Neill et al., 2011; Shi et al., 2009; Van Hiel et al., 2008).

In the context of criminal justice, personality traits, broadly, predicted officer job performance in areas such as attitude, grievances, restricted duty, and termination (Cortina et al., 1992; Simmers et al., 2003). People who displayed an authoritarian personality style tended to hold more negative attitudes about rehabilitation and positive beliefs about punishment (Andersen et al., 2018; Laguna et al., 2010). Using the 'Big Five' framework, those who were more agreeable and open (i.e. intellectually curious and open to new experiences) tended to have more positive views of restorative justice approaches, humane sentencing, and treatment and management of sex offenders (Olver & Barlow, 2010; Scheuerman & Matthews, 2014). Taken together, these studies suggested that personality traits affect officer behavior and attitudes toward punishment and rehabilitation. However, to our knowledge, there has been no work in the United States examining how personality traits of correctional officers affect their attitudes toward inmates.

Racial bias

As minority individuals remain vastly overrepresented in the criminal justice system, officers' racial bias likely impacts their perceptions of inmates and their approaches to interacting with inmates. In contrast to structural forms of racial bias, interpersonal racial bias has been conceptualized as either implicit (associations or judgments that are automatically engaged below conscious awareness; Dovidio et al., 2002) or explicit

(conscious and intentional) negative assessments of racial minorities. Research showed that individuals (in largely White samples) viewed racial minority group members, especially males, as being physically threatening and they associated racial minority status with images of aggression (Eberhardt, 2019).

In a criminal justice context, racial bias has been shown to shape police perceptions (e.g. Eberhardt et al., 2004) and death penalty sentences, even when controlling for other factors, such as the crimes for which the individuals were accused (Eberhardt et al., 2006). Other studies showed that, when racial disparities in the criminal justice system were made salient, White individuals supported punitive and invasive law enforcement policies (e.g. 'Three Strikes' law in California and 'Stop and Frisk' as implemented in New York City before 2013) and opposed reforms that would reduce punitiveness and invasiveness (Hetey & Eberhardt, 2014). Thus, in a criminal justice context, racial biases purportedly impact all stages of the system from police encounters to jury selection to sentencing (Eberhardt et al., 2004; Kang et al., 2012). However, to our knowledge, there has been no published research on racial bias in correctional officers, and how it is related to their attitudes of inmates.

Procedural justice

At an organizational level, the concept of procedural justice is important for understanding how interactions with supervisors and subordinates in the environment affect behavior. Procedural justice refers to fairness in decision-making procedures and how individuals are treated. The components of procedural justice are (1) voice and fairness, (2) neutrality of decision-making, (3) respectful treatment that communicates appreciation for the person's dignity, and (4) the perceived trustworthiness of authorities' intentions (Tyler, 2006). Perceptions of procedural justice have been shown to influence individuals' judgments about the legitimacy of authorities, and ultimately, their behavior toward authorities (Tyler, 2006).

Much of the research on procedural justice has focused on the interactions between legal authorities and civilians (Tyler, 2006). However, some previous research investigated the relationship between law enforcement officers' perceptions of procedural justice in their work environment and how they performed their duties. Studies with police officers indicated that when officers believed that their departments were procedurally just, they were more likely to follow organizational rules, more likely to like their jobs, and more likely to treat people in the community fairly (Trinkner et al., 2016). When officers felt treated more fairly by their superiors, they acted more fairly when dealing with the public (Bradford et al., 2013; De Angelis & Kupchik, 2007, 2009; Farmer et al., 2003; Harris & Worden, 2014; Taxman & Gordon, 2009; Trinkner et al., 2016; Wolfe & Piquero, 2011).

There also has been some research evaluating procedural justice in the correctional setting. Evidence suggested that the experience of procedural justice by correctional officers was related to positive attitudes toward their work (e.g. higher organizational commitment, lower job stress, higher job satisfaction, lower burnout, and lower turnover intent) and more life satisfaction (Lambert, 2003; Lambert et al., 2010; Taxman & Gordon, 2009). Lambert (2003) found that procedural justice had a significant positive effect on job satisfaction and organizational commitment. Additionally, in a survey of 160 staff at a private prison, Lambert et al. (2010) found that procedural justice was inversely associated with burnout and turnover intent, but positively associated with life satisfaction. In a different

sample of 1,200 correctional officers, Taxman and Gordon (2009) found that procedural justice was associated with lower job stress, lower perceptions of fear and risk of inmate victimization, higher acceptance of change, and a stronger commitment to the organization. These findings suggested that procedural justice in the work environment was associated with officers' attitudes and affected their interactions in the workplace; however, this work has been limited and has not examined the association between correctional officers' perceptions of procedural justice and attitudes about inmates.

Strategies for addressing factors that affect attitudes and relational interactions

Beyond exploring associations between individual and organizational factors, some researchers have sought to address the factors that affect attitudes about and interactions with others through various types of training. For example, implicit bias training has been used to target underlying biases that impact attitudes and interactions. However, studies investigating the impact of implicit bias training have found mixed results. Implicit bias training has been shown to have a short-term, positive impact on reducing implicit bias (Kawakami et al., 2007; Lai et al., 2014), but also there was evidence of no impact and even potential backlash effects (see Bertrand & Duflo, 2017; Paluck & Green, 2009 for reviews) in a laboratory setting and real-world decision-making.

Another training approach has been to target procedural justice as an organizational factor. Studies have shown that training on procedural justice in police departments was associated with a sustained increase in the extent to which officers endorse and adhere to the tenets of procedural justice (Owens et al., 2018; Skogan et al., 2015; Wheller et al., 2013). Skogan et al. (2015) found that participation in procedural justice training increased police officers' expressed support for using procedural justice strategies in the community (Skogan et al., 2015; see also Antrobus et al., 2019 for example in Australia). Similarly, Rosenbaum and Lawrence (2017) found that procedural justice training changed cadet behavior toward community members in ways that reflected higher levels of procedural justice during scenarios involving interactions with people in the community. Finally, Owens et al. (2018) reported that procedural justice training led to lower levels of use of force among a group of police officers against people in the community. Overall, programs aimed at training procedural justice in police promoted a more procedurally just work and social climate. However, to our knowledge, there has been no work examining how changes informed by procedural justice tenets in a correctional environment might be related to attitudes of correctional officers toward inmates.

The present study

The goal of the present study was to explore individual and organizational factors that might be related to correctional officers' attitudes toward inmates. More specifically, we examined the association between personality, racial bias, and procedural justice in the workplace, respectively, and the extent to which officers viewed inmates as needing to be punished. Based on previous research we hypothesized that: (1) reporting personality traits consistent with being agreeable, stable, and open to experiences would be *negatively* associated with punishment-oriented attitudes toward inmates; (2) racial bias, measured by the Implicit Association Test (IAT) and feeling thermometers, would be

positively associated with punishment-oriented attitudes, and (3) experiencing more procedural justice in relations with supervisors and coworkers would be *negatively* associated with punishment-oriented attitudes.

In addition to examining these basic associations, we considered how these associations related to organizational context—namely, the opening of a new, experimental unit focused on rehabilitation and personal growth. In early 2017 the Connecticut Department of Correction created a distinct unit within one correctional institution as part of a program called Truthfulness, Respectfulness, Understanding, and Elevating (T.R.U.E.). This unit emphasized a more rehabilitative approach relative to the conventionally operated units within the institution. The unit was created for 18–25-year-old incarcerated men and was structured based on a German penal model (Lösel & Bliesener, 1989) that emphasized skills important for successful re-entry back into society. In the T.R.U.E. unit, inmates received more intensive programming focused on emotional development and intellectual growth. They were encouraged to resolve conflicts through restorative justice conferencing, and they had other opportunities for autonomy and self-expression, such as decorating their cells. They were given personal responsibility in the form of earning mock currency and paying mock rent and taxes. They received a bonus for doing extra work and they were fined for disruptive behavior. Peers participated in enforcing rules and holding one another accountable (Chammah, 2018). Correctional officers applied to work in the T.R.U.E. unit. Those who were selected received multi-session training in de-escalation tactics, interpersonal-affective communication skills, and were provided a briefing on the basic principles and intent of the T.R.U.E. unit program.

The structure of the T.R.U.E. unit and training of T.R.U.E. correctional officers differed from general population units; thus, the addition of this unit created a situation whereby within a single correctional institution, there were two groups of corrections officers, who were operating in potentially different work cultures. Many aspects of the T.R.U.E. unit were more consistent with the elements of procedural justice compared to more traditional prison policies. Hence the T.R.U.E. unit presented an opportunity to study the relationship among organizational culture/values, individual factors, procedural justice, and officers' attitudes toward inmates. To the extent that working in the T.R.U.E. unit vs. general population units might have been negatively associated with punishment-oriented attitudes, we hypothesized that: personality traits, racial bias, and/or procedural justice would affect (i.e. indirect effect) this relationship. Finally, as a supplemental analysis, we compared whether inmates currently housed in the T.R.U.E. unit had higher perceptions of procedural justice in how the prison staff treats them, compared to inmates in general population units. This supplemental analysis would suggest that the attitudes of the officers may have downstream effects on those they oversee.

Methods

Participants and procedures

Correctional officers

Participants included correctional officers from a high-security correctional institution in Connecticut. Fifty-four officers who worked in the T.R.U.E. unit and 58 who worked in

Table 1. Correctional officer sample characteristics for the overall sample, T.R.U.E., and General Population units.

Variable	Overall	T.R.U.E.	General Population units
Age (mean (SD))	39.50 (8.39) n = 88	39.20 (9.09) n = 30	39.60 (8.08) n = 58
Race			
White	70.80% n = 63	64.50% n = 20	74.10% n = 43
Black or African-American	15.70% n = 14	16.10% n = 5	15.50% n = 9
American Indian or Alaska Native	1.10% n = 1	–	1.70% n = 1
Native Hawaiian or Other Pacific Islander	1.10% n = 1	3.20% n = 1	–
Mixed	11.20% n = 10	16.10% n = 5	8.60% n = 5
Sex			
Male	91.00% n = 81	93.50% n = 29	89.70% n = 52
Female	9.00% n = 8	6.50% n = 2	10.30% n = 6
Education level			
Grade 12	13.50% n = 12	12.90% n = 4	13.80% n = 8
High School Diploma/Vocational School	11.20% n = 10	6.40% n = 2	13.80% n = 8
Some College	58.40% n = 52	58.00% n = 18	59.00% n = 34
Bachelor's Degree	14.60% n = 13	19.40% n = 6	12.10% n = 7
Some Graduate Work/Master's Degree	2.20% n = 2	3.20% n = 1	1.70% n = 1
Years at Cheshire (mean (SD))	6.06 (5.69) n = 89	4.11 (3.54) n = 31	7.09 (6.43) n = 58

general population units were invited to participate. There were no specific exclusion criteria and the only inclusion criterion was that the officer was employed on a daytime shift so that they were present in the facility between the hours of 7 am and 4 pm. This inclusion criterion was used so that study personnel could be present to secure the officers' consent and administer the questionnaires and computerized task. Of the 54 officers on the T.R.U.E. unit, 23 declined to participate (final N = 31). Officers in general population units were pulled from the same shift and were matched on age and race to the T.R.U.E. unit officers as best as possible. Ten officers from the general population units who were invited to take part declined to participate (final N = 58) (see Table 1 for sample characteristics).

All officers were given a packet of questionnaires described in detail below. Once the questionnaires were completed and returned, the officers were asked to complete an evaluative race version of the IAT (Greenwald et al., 1998) on a laptop in a private room. The computer task was administered on a different day than the questionnaires to reduce any potential spill-over or contamination between responses on questionnaires and performance on the IAT. Of the 89 participants, 67 completed the IAT (N = 26 in the T.R.U.E. unit and N = 41 in general population units). Some participants did not complete the IAT due to the facility being on 'no movement' (or lockdown) when they were asked to come back for testing, a change in their shift so that they were working during a night shift, or missed work on a day when the research personnel was available. Data were collected from June 2017 to September 2017.

All participants provided written informed consent and were paid \$20 for their participation. Participants were told that the research goal was to examine their experiences and views on the criminal justice system. Participants also were told that they could leave any question blank or withdraw from the study at any time. The procedures used for the correctional officers were approved by the Yale University Human Subjects Committee.

Inmates

Participants for the supplemental analysis included 84 inmates from the same high-security correctional institution in Connecticut. Of these inmates, 42 were housed in the T.R.U.E. unit and 42 were housed in the general population (see [Table 2](#) for sample characteristics). Before recruitment, study personnel received an institutional roster of inmates. Study personnel used this roster to review institutional medical files to exclude individuals who had: a history of psychosis or bipolar disorder, current mood/anxiety disorders, current psychotropic medication, a family history of psychosis, and certain medical problems (e.g. uncorrectable auditory or visual deficits, three or more serious head injuries) that could impede comprehension of or performance on the experimental task. Invited inmates were provided with information about study procedures and informed that any information collected during the study would not go into their institutional files and would not affect any pending legal status or sentencing they could be facing. Data were collected from June 2017 to September 2017.

All inmates provided written informed consent. In keeping with Connecticut Department of Correction regulations, inmates did not receive financial compensation. Participants were told the goal of the study was to examine factors that may have affected their experiences with the law. Participants also were told that they could leave any question blank or withdraw from the study at any time. After providing consent, participants completed a questionnaire about their views of procedural justice within the facility. The procedures used for the inmates were approved by the Yale University Human Investigation Committee.

Measures for correctional officers

The *Ten Item Personality Inventory* (TIPI) was used as a brief self-report measure that assessed the Big Five personality traits (Agreeableness, Conscientiousness, Openness, Extraversion, and Emotional Stability; Gosling et al., 2003). There were ten items, asking participants to rate the extent to which they saw themselves as having specific traits, such as 'extraverted, enthusiastic'; 'critical, quarrelsome,' 'dependable, self-disciplined,' etc. Responses were provided on a Likert scale ranging from 1–7 (1 = disagree strongly; 2 = disagree moderately; 3 = disagree a little; 4 = neither agree nor disagree; 5 = agree a

Table 2. Inmate sample characteristics for the overall sample, T.R.U.E., and General Population units.

Variable	Overall	T.R.U.E.	General Population units
Age (mean (SD))	25.50 (4.02) n = 84	23.00 (1.34) n = 42	28.10 (4.19) n = 42
Race			
White	45.20% n = 38	38.10% n = 16	52.40% n = 22
Black or African-American	54.80% n = 46	61.90% n = 26	47.60% n = 20
Ethnicity			
Not Hispanic	81.00% n = 68	71.40% n = 30	90.50% n = 38
Hispanic	17.90% n = 15	28.60% n = 12	7.10% n = 3
Education level			
Grade 11 or less	60.20% n = 50	64.30% n = 27	56.10% n = 23
Grade 12	29.80% n = 25	31.00% n = 13	28.60% n = 12
Some College	7.10% n = 6	4.80% n = 2	9.50% n = 4
Bachelor's Degree	1.20% n = 1	0.00% n = 0	2.40% n = 1
Graduate Degree	1.20% n = 1	0.00% n = 0	2.40% n = 1
Years at Cheshire (mean (SD))	3.46 (3.06) n = 82	3.04 (1.7) n = 42	3.90 (4.01) n = 40

little; 6 = agree moderately; 7 = agree strongly). Each of the 'Big Five' personality traits was determined by the mean of two items, where one item in the pair was reverse scored. Scores for each subscale ranged from 1-7. Higher scores within subscales indicated a stronger presence of traits that represent that personality factor. The ten-item inventory was developed and validated by Gosling et al. (2003) for situations where researchers need very short measures due to time limitations. Gosling et al. (2003) found that the brief ten-item inventory reached adequate levels of convergence with longer 'Big Five' measures, demonstrated expected associations with external correlates, test-retest reliability, and convergence between self and observer ratings.

The *Implicit Association Test (IAT)* was used as a well-validated measure of automatic preferences assessing implicit racial bias (Greenwald et al., 1998). Participants sorted photographs of Black and White faces and positive and negative words into the categories Black, White, Good, and Bad by pressing a designated key on the keyboard. Words in the 'good' category included: *joy, love, peaceful, wonderful, glorious, laughter, and happy*. Words in the 'bad' category included: *agony, terrible, horrible, nasty, evil, awful, failure, and hurt*. During stereotype-congruent trials, participants used the same keyboard key to indicate that a stimulus (face or word) belonged to either the category Black or Bad and they used a different key to indicate that the stimulus belonged to either the category White or Good. During the stereotype-incongruent trials, participants used the opposite pairing of keyboard keys and stimulus categories. That is, Black and Good stimuli required participants to press the same keyboard key and White and Bad stimuli required the same keyboard key. In total, participants completed 2 test blocks (1 stereotype-congruent, 1 stereotype-incongruent) of 40 trials each, presented in a counter-balanced order. On average participants completed this task in 4.77 min (SD = .79 min). Greater racial bias on the IAT was indicated by d scores based on the response times to complete stereotype-incongruent and stereotype-congruent trial blocks (Greenwald et al., 2003). More positive scores on the IAT indicated a pro-White bias and more negative scores indicated a pro-Black bias.

Explicit racial bias was measured with *feeling thermometers*. Participants rated on a scale of 0 (coldest feelings) to 10 (warmest feelings) how warm or cold they felt towards Blacks and Whites. An index of pro-White explicit racial bias was created by subtracting participants' warmth ratings for Black people from their warmth ratings for White people. Negative scores indicated warmer feelings toward Black people and positive scores indicated warmer feelings toward White people. Feeling thermometers have been recognized as valid measures of attitudes about various social groups (Alwin, 1997).

Correctional officers completed a questionnaire with 61 items generally about *procedural justice* in their experience working in the prison, including perceptions of their work environment, their relationships with inmates, and the management of the prison. These items were adapted from previous questionnaires used in the Trust in Legal System Project (Tyler, 2012) and Measuring the Quality of Prison Life project (Crewe et al., 2015; Liebling et al., 2012). Items were scored on a 6-point Likert scale, ranging from strongly disagree (1) to strongly agree (6). This 61-item questionnaire included items related to procedural justice in interactions with supervisors and coworkers, items related to trusting inmates, items related to feeling respected by inmates, and items related to a sense of efficacy in dealing with inmates. Since the focus of the present study was specifically on procedural justice in the work environment, for the sake of

content validity, we limited the scale to items that specifically related to procedural justice *in interacting with supervisors and coworkers*. [Note: Items not specifically about procedural justice in relations with supervisors and coworkers also were included in this questionnaire because this was a unique opportunity to collect information on correctional officers' perceptions and data are intended to be used for future analyses other than the ones that are the focus of this paper.]

Based on the work of Tyler (2012), we selected items that were face valid indicators of (1) having a sense of voice and participation in dealing with supervisors and coworkers; (2) being treated fairly by supervisors and coworkers; (3) being treated with dignity and respect by supervisors and coworkers; and (4) feeling as though supervisors and coworkers are trustworthy. Forty-two items covered these four components. The remaining 19 items were excluded because they do not pertain specifically to procedural justice *in relations with supervisors and coworkers*. These items related to things like feeling respected by inmates (rather than supervisors/coworkers), identifying with the values of prison leadership, and a sense of efficacy in dealing with inmates (see Supplemental Material for the full list of items that were included and excluded based on face validity).

We ran a reliability analysis on the 42 items that were selected as about procedural justice in interactions with supervisors and coworkers. We removed two items had a corrected item-total correlation lower than .3 ('I am not being treated as a human being in here' and 'I know when I am doing something that is against the rules in my unit.'). This left a scale with 40 items (Cronbach's $\alpha = .97$). [Note: With the number of items (42) and the number of subjects (89), there were not enough subjects per parameter to run a suitable factor analysis (Tabachnick et al., 2007).]

The *Punishment/Control Index* (PCI) scale (Bazemore et al., 1994) was used as a five-item measure that assessed the degree to which correctional workers held punishment attitudes about inmates. Items were scored along a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Items included statements like 'Individuals in detention should understand that they are there for punishment.'; 'Most individuals in detention only respond to physical intervention or the threat of physical intervention.' Responses to these items were summed to create a single PCI score with a range of 5-35. Higher scores reflected an orientation toward an authoritative, restrictive, physically coercive, and controlling management of those incarcerated. Reliability for this scale, in the present sample, was good (Cronbach's $\alpha = .81$).

Measures for inmates

To test whether inmates in T.R.U.E. had different perceptions of the prison environment, compared to those in the general population, we asked inmates to respond to a 61-item questionnaire measuring perceptions of procedural justice in the prison environment. These items covered the four components of procedural justice: voice and participation, fairness and neutrality, being treated with respect and dignity, and trustworthiness of authorities. Sample items included: 'I am treated with respect by staff in this prison'; 'Overall, I am treated fairly by staff in this prison'; 'I trust the officers in this prison'; and 'My views are considered when rules are being applied.' We ran a reliability analysis on these 61 items, and we removed three items with a corrected item-total correlation lower than .3. (These three items were: 'Staff in this prison turn a blind eye when prisoners

break the rules'; 'This prison is run by prisoners rather than staff'; and 'Staff respond promptly to incidents and alarms in this prison.')

This left a reliable scale with 58 items (Cronbach's $\alpha = .98$) (see Supplemental Material for a complete list of items in the inmates' procedural justice scale).

Results

Personality traits, racial bias, and procedural justice

First, we ran a regression on PCI score with all five TIPI traits as predictors (Agreeableness, Conscientiousness, Openness, Extraversion, and Emotional Stability entered simultaneously). Overall the model was significant, $F(5, 80) = 3.49, p < .01, \eta_p^2 = .18; R^2 = .18$ [Adj. $R^2 = .13$], $SE = 5.89$. Of the five personality traits, only Agreeableness had a significant relationship with PCI score, $B = -1.96, SE = .64, t = -3.06, p < .01, \eta_p^2 = .10, 95\% \text{ CI } [3.24, -.69]$ (Conscientiousness: $B = 1.12, SE = .73, t = 1.53, p = .13, \eta_p^2 = .03, 95\% \text{ CI } [-.34, 2.58]$; Openness: $B = -.42, SE = .62, t = -.68, p = .50, \eta_p^2 = .00, 95\% \text{ CI } [-1.67, .814]$; Extraversion: $B = .04, SE = .49, t = .08, p = .94, \eta_p^2 = .01, 95\% \text{ CI } [-.94, 1.01]$; Emotional Stability: $B = -.57, SE = .51, t = 1.12, p = .27, \eta_p^2 = .02, 95\% \text{ CI } [-1.57, .44]$). Thus, consistent with our hypothesis, officers who reported being more agreeable endorsed lower punishment-oriented attitudes about inmates.

Second, we ran a regression on PCI score with racial bias as the predictor (mean of the z-scores for Race IAT score and the difference in feelings of warmth toward whites vs. blacks). Consistent with our hypothesis, racial bias was positively associated with punitive and control-oriented attitudes toward inmates, $B = 2.23, SE = .95, t = 2.35, p = .02, \eta_p^2 = .07, 95\% \text{ CI } [.33, 4.12]$.

Third, we ran a regression on PCI score with procedural justice in the work environment as the predictor. Consistent with our hypothesis, experiencing higher procedural justice in interactions with supervisors and coworkers was negatively associated with punishment-oriented attitudes toward inmates, $B = -3.45, SE = .83, t = -4.18, p < .01, \eta_p^2 = .17, 95\% \text{ CI } [-5.09, -1.81]$.

The effect of T.R.U.E on punishment-oriented attitudes and the indirect effect of personality, racial bias, and procedural justice

Next, we investigated whether the organizational culture—namely, working in the T.R.U.E. unit—related to these variables. [Note: Correctional officers for the present study started in the T.R.U.E. unit early 2017 and were part of the first cohort of T.R.U.E. trained officers] For all five personality traits, the mean score for all correctional officers was above the mid-point of the scale, and there were no significant differences between correctional officers in T.R.U.E. and those in general population units. The mean IAT score was .45 (on a scale ranging from -2 to 2). The mean level of explicit pro-White bias from the feelings thermometer was slightly negative, but confidence intervals of ± 1 SE overlap with zero—meaning, on average, correctional officers reported essentially equivalent feelings of warmth toward both racial groups. There were no significant differences between correctional officers in the T.R.U.E. unit and general population units on the measures of implicit or explicit racial bias. [Note: For these analyses, we re-coded one outlier on race IAT score and one outlier on TIPI emotional stability to equal two standard deviations

from the mean.] The average score for procedural justice in the work environment was 4.19, on a 6-point scale, where a higher score indicates more procedural justice. Correctional officers in the T.R.U.E. unit rated their work environment as being significantly higher in procedural justice, compared to correctional officers in general population units. Finally, correctional officers in T.R.U.E. scored significantly lower on the PCI than correctional officers in general population units, indicating that correctional officers in T.R.U.E., on average, hold less punishment-oriented attitudes (see Table 3).

To examine whether personality, racial bias, and procedural justice accounted for the association between being in the T.R.U.E. unit vs. general population units and punishment-oriented attitudes, we conducted several mediation models using the PROCESS macros for SPSS (model 4; Hayes, 2017). First, results indicated that T.R.U.E. was a significant predictor of Agreeableness (a path = 0.51, SE = 0.24, $p = .03$, 95% CI [0.03, 0.98]) and Agreeableness was a significant predictor of PCI score (b path = -1.91, SE = 0.59, $p = .02$, 95% CI [-3.08, -0.73]). The indirect effect was tested using a bootstrap estimation approach with 5000 samples. The indirect effect indicated that Agreeableness had a significant effect on the relationship between T.R.U.E. and PCI score (indirect effect = -0.97, SE = 0.51, 95% CI [-2.10, -0.11], R^2 for the indirect effect = .09), and T.R.U.E. unit status score remained a significant predictor of PCI score after Agreeableness was accounted for (direct effect = -3.17, SE = 1.33, $p = .02$, 95% CI [-5.83, -0.51]). Overall, officers in the T.R.U.E. unit tended to be more agreeable and this was associated with lower PCI score (see Figure 1a).

Table 3. Correctional officer variable means (standard deviations) for the overall sample, T.R.U.E., and General Population units.

Variable	Overall (mean (sd)) n =	T.R.U.E. (mean (sd)) n =	General Population units (mean (sd)) n =	T.R.U.E. vs. General Population units
IAT score	.45 (.51) n = 67	.37 (.54) n = 26	.51 (.49) n = 41	$F(1, 65) = 1.16$, $p = .29$, $\eta^2 = .02$, 95% CI [.00, .12]
Feelings of warmth (whites - blacks)	-.08 (1.81) n = 67	.04 (1.18) n = 26	-.15 (2.13) n = 41	$F(1, 65) = .16$, $p = .69$, $\eta^2 = .00$, 95% CI [.00, .07]
Agreeableness	4.56 (1.1) n = 87	4.83 (1.02) n = 30	4.42 (1.13) n = 57	$F(1, 85) = 2.78$, $p = .10$, $\eta^2 = .03$, 95% CI [.00, .13]
Conscientiousness	5.94 (.95) n = 87	6.07 (.94) n = 30	5.86 (.95) n = 57	$F(1, 85) = .86$, $p = .36$, $\eta^2 = .01$, 95% CI [.00, .09]
Extraversion	4.30 (1.42) n = 87	4.30 (1.40) n = 30	4.20 (1.40) n = 57	$F(1, 85) = .02$, $p = .89$, $\eta^2 = .00$, 95% CI [.00, .01]
Openness	5.26 (1.10) n = 87	5.30 (.96) n = 30	5.23 (1.19) n = 57	$F(1, 85) = .06$, $p = .80$, $\eta^2 = .00$, 95% CI [.00, .03]
Emotional Stability	5.01 (1.43) n = 87	5.17 (1.43) n = 30	4.93 (1.44) n = 57	$F(1, 85) = .53$, $p = .48$, $\eta^2 = .01$, 95% CI [.00, .08]
Procedural Justice in the work environment	4.19 (.76) n = 89	4.40 (.66) n = 31	4.05 (.78) n = 58	$F(1, 87) = 4.59$, $p = .04$, $\eta^2 = .05$, 95% CI [.01, .14]
PCI score	20.84 (6.30) n = 86	18.10 (6.37) n = 29	22.24 (5.85) n = 57	$F(1, 84) = 9.07$, $p < .01$, $\eta^2 = .10$, 95% CI [.02, .23]

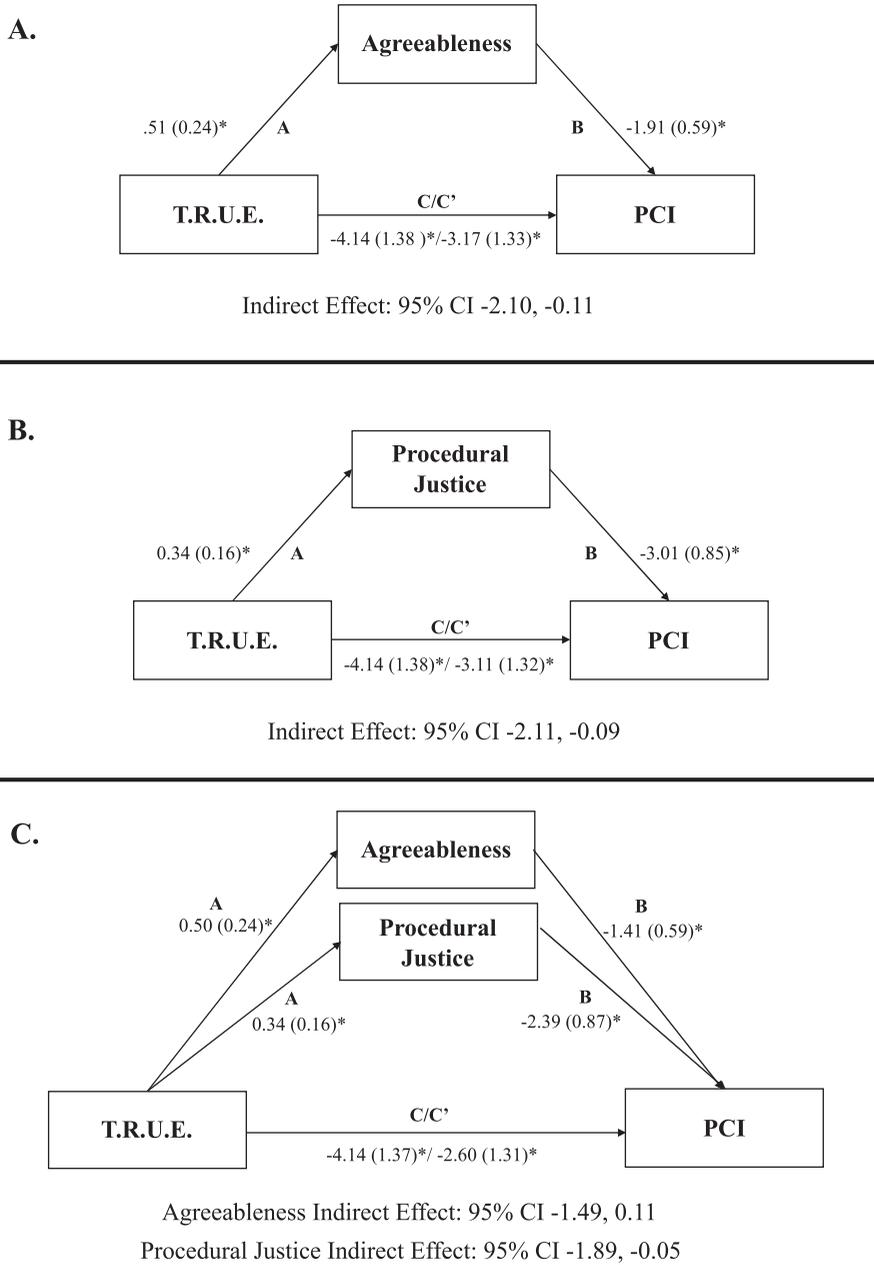


Figure 1. Mediation models.

Note: PCI = PCI score; Procedural justice = procedural justice in the work environment. T.R.U.E. was coded as a dichotomous variable (0 = General Population units; 1 = T.R.U.E. unit).

Second, results indicated that T.R.U.E. was not a significant predictor of racial bias (a path = -0.08 , $SE = 0.21$, $p = .69$, 95% CI $[-0.49, 0.33]$), but, consistent with the effect reported above, racial bias was a significant predictor of PCI score (b path = 2.13 , $SE = 0.93$, $p = .03$, 95% CI $[0.28, 4.00]$). The indirect effect was tested using a bootstrap estimation approach with 5000 samples. The indirect effect indicated that racial bias did

not have a significant effect on the relationship between T.R.U.E. and PCI score (indirect effect = -0.17 , $SE = 0.46$, 95% CI [$-1.36, 0.47$], R^2 for the indirect effect = .08).

Third, results indicated that T.R.U.E. was a significant predictor of procedural justice in work environment (a path = 0.34 , $SE = 0.16$, $p = .04$, 95% CI [$.01, .67$]) and procedural justice in work environment was a significant predictor of PCI score (b path = -3.01 , $SE = 0.85$, $p < .01$, 95% CI [$-4.71, -1.31$]). The indirect effect was tested using a bootstrap estimation approach with 5000 samples. The indirect effect indicated that procedural justice in work environment had a significant effect on the relationship between T.R.U.E. and PCI score (indirect effect = -1.03 , $SE = 0.52$, 95% CI [$-2.11, -0.09$], R^2 for the indirect effect = .16), and T.R.U.E. unit status score remained a significant predictor of PCI score after procedural justice in work environment was accounted for (direct effect = -3.11 , $SE = 1.32$, $p = .02$, 95% CI [$-5.74, -0.48$]). Overall, officers in the T.R.U.E. unit had, on average, higher perceptions of procedural justice in the work environment, which was associated with lower punishment-oriented attitudes (see [Figure 1b](#)).

Finally, given that the indirect effects for both Agreeableness and procedural justice impacted the association between T.R.U.E. and PCI score, we ran a simultaneous mediator model including both as mediators using PROCESS (model 4) with bootstrap estimation (5000 samples) for the indirect effects. These results indicated that procedural justice had the only significant indirect effect on the association between T.R.U.E. and PCI score (agreeableness indirect effect: indirect effect = -0.50 , $SE = 0.42$, 95% CI [$-1.49, .11$], R^2 for the indirect effect = .07; procedural justice indirect effect: indirect effect = -0.81 , $SE = 0.47$, 95% CI [$-1.89, -0.05$], R^2 for the indirect effect = .11; see [Figure 1c](#)). Thus, there appears to be particularly strong evidence for procedural justice in the work environment impacting the relationship between T.R.U.E. and PCI score.

Supplemental analysis

To ascertain whether officers' attitudes translate to their behavior, we examined inmates' perceptions of how they perceived their treatment. We ran a univariate analysis of covariance (ANCOVA) comparing the procedural justice scores for inmates in the T.R.U.E. unit to those in general population units. [Note: All inmates in the present study were first housed in the T.R.U.E. unit in early 2017 and were part of the initial cohort of T.R.U.E. inmates] We entered age as a covariate since inmates in the T.R.U.E. unit were younger than those in general population units. We found that the mean score for perceptions of procedural justice were significantly higher in the T.R.U.E. unit ($M = 3.48$, $SD = .96$) compared to general population units ($M = 2.73$, $SD = .79$), $F(1, 81) = 8.37$, $p = .01$, $\eta_p^2 = .09$ (see [Figure 2](#)). While this represented an imperfect proxy for officer behavior, and we cannot draw a direct connection between officers' perceptions of procedural justice and their behavior toward inmates, these results indicated that on the unit where officers reported higher procedural justice and lower punishment-oriented attitudes, inmates reported more positive experiences in dealing with officers. This result suggested that officers' attitudes toward punishment related to how they interacted with inmates.

Discussion

Results from the present study provided preliminary evidence that correctional officers' attitudes toward inmates related to both individual factors, including personality traits

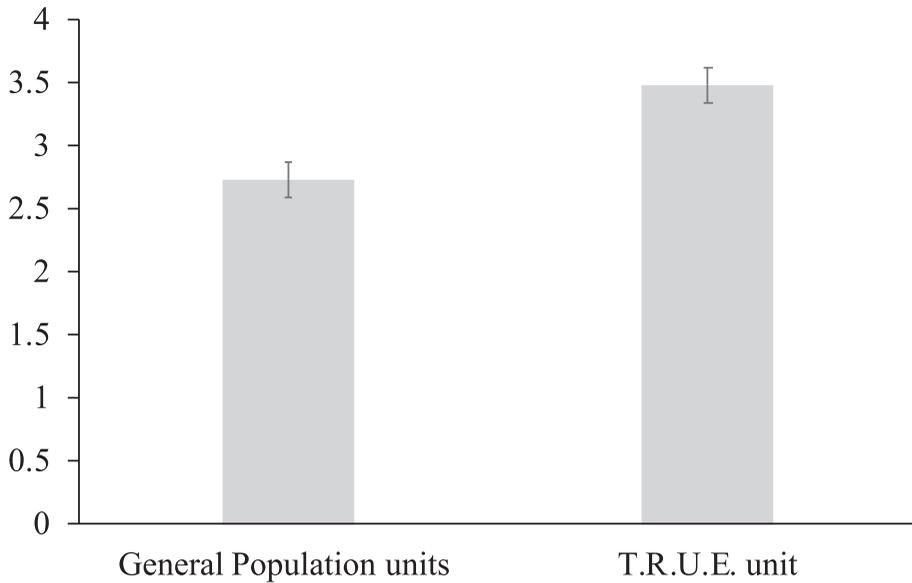


Figure 2. Inmates' procedural justice scores for T.R.U.E. unit versus General Population units.

Note: Error bars represent ± 1 standard error.

and racial bias, and organizational factors, such as procedural justice in the work environment. Moreover, officers on a unit focused more on rehabilitation (the T.R.U.E. unit) had lower punishment-oriented attitudes toward inmates. Finally, higher levels of procedural justice in the work environment accounted for the association between working on the T.R.U.E. unit and lower punishment-oriented attitudes. Together these findings suggest several ways that the prison environment could be altered to promote pro-inmate attitudes in correctional officers.

Personality

At the individual level, this study highlighted the importance of recruiting correctional officers that have high potential to abide by rehabilitative and fair principles. In conjunction with other studies performed outside the prison setting (O'Neill et al., 2011; Shi et al., 2009; Van Hiel et al., 2008), results from the present study indicated that personality traits of the correctional officer are important, often overlooked, predictors of attitudes toward inmates. Agreeableness, in particular, was an important factor in punishment-oriented attitudes. More agreeable individuals tend to be more flexible, sympathetic, trusting, and generous (Bye & Sandal, 2016). It follows that people with these characteristics would be more inclined to treat others, including inmates, in a more understanding, less punitive manner. Consistent with this interpretation, prior research showed that agreeableness was associated with support for restorative justice approaches, as well as more humane sentencing, treatment, and management of sex offenders (Olver & Barlow, 2010; Scheuerman & Matthews, 2014). Thus, more systematic screening and selection of correctional officers based on such personality traits

will benefit the overall prison environment (Simmers et al., 2003), particularly related to attitudes towards inmates.

Racial bias

Additionally, the positive association between racial bias and punishment-oriented attitudes was consistent with documented associations between racial bias and more negative beliefs about individuals involved in the criminal justice system (Eberhardt, 2019). Racial bias has not only been considered a bias within the individual but also resulting from structural and social contexts that reinforce the development and maintenance of racial biases (Daumeyer et al., 2017). Therefore, hiring practices that promote a racially diverse staff of correctional officers will help to counter stereotypical beliefs that reinforce racial biases, and extend to more positive attitudes to inmates.

Procedural justice

From an organizational level, procedural justice was a particularly important variable. We found that higher perceptions of procedural justice in the work environment were negatively associated with punishment-oriented attitudes. It also impacted the association between T.R.U.E. and punishment-oriented attitudes, above and beyond agreeableness. These findings indicated that two organizational strategies could be effective for achieving lower punishment-oriented attitudes among officers: (1) shifting officers' work environment so that officers themselves experience voice, fairness, dignity, respect; and (2) training in procedural justice.

In terms of shifting the work environment toward a more procedurally just climate, institutions could create avenues for officers to voice their opinions and concerns, and to participate in setting policies; make decisions concerning employees (i.e. work assignments, vacation time, promotions) in a fair and even-handed manner; treat line officers with respect and dignity (e.g. ask employees to do things, rather than issuing orders; consider employees' needs and interests by accommodating requests for personal time or schedule modifications); offer support for physical and emotional wellbeing; and demonstrate trustworthy motives by explaining the basis for decisions and policies, and—when possible—explain how they are in the best interest of the agency. These practices translate the tenets of procedural justice into practical steps institutions could take to promote more positive relations among staff and with inmates.

Moreover, specific training that reinforces this interactional style has the potential to enhance procedural justice in work culture. Training focused on procedural justice has been shown to reduce bias, disrespect, inconsistency, and poor communication among law enforcement officers (Owens et al., 2018; Skogan et al., 2015; Wheller et al., 2013). Though procedural justice was not an explicit part of training for the T.R.U.E. unit, tenets of this approach were infused in the officer training. Officers were trained to treat inmates with respect and autonomy. For example, inmates were encouraged to express themselves in group discussions, were given personal responsibilities (doing chores, paying rent), and were held accountable for actions by their peers. Officers were taught only to step in to deescalate a situation and avoid hands-on force when possible. Officers and inmates in this unit also worked together to develop unit rules and set the

climate. All of these aspects of T.R.U.E. were consistent with procedural justice. Even with this more subdued procedural justice training and practice, officers on this unit tended to view their supervisors as more procedurally just and to have better attitudes and behaviors towards inmates. Furthermore, these attitudes appeared to translate to interactions with inmates, with inmates on the T.R.U.E. unit reporting their experiences with prison authorities as being higher in procedural justice relative to inmates in the general population (see Beijersbergen et al., 2015 for a similar effect Dutch prisons). Therefore, procedural justice training offers a promising method of promoting less punitive, more supportive, styles of authority within an institution.

Limitations

It is important to note several limitations of this study. First, our ability to draw causal inferences was limited by the lack of random assignment of correctional officers and inmates to T.R.U.E. Officers elected to join the T.R.U.E. unit. We did not have longitudinal measures reflecting changes in officers' attitudes before and after they began working in T.R.U.E. Hence, we were unable to conclude if T.R.U.E. caused a change in officers' attitudes or if officers who were more inclined toward the values of T.R.U.E. self-selected to join T.R.U.E. Regardless of which way the relationship worked, our findings suggested that units like T.R.U.E. and other measures that enhanced procedural justice in a work environment were associated with offices who held less punitive, and more supportive attitudes—either by inculcating values associated with procedural justice or by attracting officers who were more inclined toward them.

A second limitation was the sample size. With a sample of 89 officers (only 31 within the T.R.U.E. unit) this limitation restricted our ability to detect smaller effects or make comparisons based on categories like T.R.U.E. unit assignment, gender, and different racial groups other than Whites and non-Whites. Our estimates of the effect of racial bias were even more limited in terms of sample size. Out of the 89 officers, we had racial bias measures for only 67 officers. Furthermore, challenges for measuring racial bias accurately (Plant & Devine, 1998; Richeson & Sommers, 2016) and small effect sizes (Greenwald et al., 2015) often plagued this type of work on racial bias. Despite these limitations, we found a significant negative association between racial bias and PCI score. We did not detect that racial bias affected the association between unit and punishment-oriented attitudes, which could be due to sample size or that this variable did not meaningfully account for the association between being on T.R.U.E. versus a general population unit and lower punishment-oriented attitudes. Future research on the role of racial bias impacting attitudes, and behaviors, in correctional settings, is needed.

A final limitation was the fact that most of our assessments relied on self-report. While self-reports have certain limitations (e.g. potential biases in the self-evaluation and reporting), they remain the most commonly used measures in psychology (Paulhus & Vazire, 2007), particularly for questions around personality, implicit bias, individual perceptions, and attitudes.

Conclusion

The debate over whether prisons should focus on rehabilitation or punishment of inmates is central to defining policy for this part of the United States criminal justice system. Whether

leaders in the correctional system realize the potential for rehabilitation depends upon the attitudes of correctional officers, who manage the lives of those incarcerated. Increasingly, research suggests that institutional design, and the social climate it creates, influences both staff and inmates. Shifting prison culture to promote a rehabilitative and just view requires purposeful creation (e.g. the T.R.U.E. unit discussed here and Psychologically Informed Planned Environments, see Akerman et al., 2018). Moreover, Liebling and Arnold (2004) suggests that prisons should be evaluated in terms of their 'moral performance', and that implementing quantitative indicators to assess the quality of prison cultures (e.g. Measuring the Quality of Prison Life) is essential for promoting a more rehabilitative and just climate. Continuing to explore and characterize individual and organizational factors is crucial for understanding how to most effectively shape correctional environments.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability

De-identified data can be accessed by sending a request to the corresponding author.

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