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Victimization, Fear of Crime, Procedural Injustice and Inmate Misconduct: An Application of General Strain Theory in South Korea

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Abstract

Purpose: While a wealth of research on Agnew's general strain theory has shown that strains can promote the likelihood of crime and deviant behavior, the application of general strain theory towards a prison setting remains understudied. This study aims to expand the knowledge base for

our understanding of the roles that unique strains play within prisons that may pressure inmates to engage in inmate misconduct.

Methods: Drawing on data from a sample of South Korean inmates, the present paper examines the impact of prison-based strains on violent and nonviolent misconduct.

Results: Findings suggest that experienced strain (i.e., violent criminal victimization), anticipated strain (i.e., fear of crime), and perceived procedural injustice adversely affected inmate misconduct; however, the magnitude of the effects varied across different types of inmate misconduct.

Conclusions: Prevention/intervention efforts to diminish strains that inmates encounter in institutional corrections are necessary to decrease inmate misconduct.

Highlights

- The current study examined the impact of prison-based strains on violent and nonviolent misconduct.
- Findings suggest that experienced strain (i.e., violent criminal victimization), anticipated strain (i.e., fear of crime), and perceived procedural injustice promoted inmate misconduct.
- Agnew's general strain theory can serve as a useful integrative theoretical model to explain prison misconduct.

Keywords: strain, general strain theory, inmate misconduct, prison violence

1. Introduction

Inmate adjustment to prison life has long been of interest to criminologists (Irwin and Cressey, 1962; Sykes, 1958). Much has been learned about the adjustment and behavior of

prison inmates. Researchers appear to be narrowing down their focus by studying the prisonization process in which inmates learn the cultural norms and values in prison or conditions that cause the pains of imprisonment. Key findings from this line of research suggest that the prison environment influences inmate attitudes, adjustment to prison, and behavior while imprisoned and after they are released (e.g., Listwan et al., 2013; Morris and Worrall, 2014).

Some researchers suggest that Agnew's (1992) general strain theory (GST) can serve as a theoretical framework that can help to better understand an inmate's adaptation to prison and prison misconduct (Blevins et al., 2010). According to the GST framework, individuals engage in crime and deviant behaviors because a range of stressors pressures them to do so. Building on GST, Blevins and colleagues (2010) integrate several dominant theoretical perspectives in the study of prison misconduct; they point out that inmates possess individual characteristics associated with criminal coping even before they were incarcerated (i.e., the importation model) and that prison environments present situations that induce strains (i.e., the deprivation model).

While empirical research has shown extensive support for the GST's core argument that strain increases crime (Agnew, 2009, 2012), many researchers examining the validity of the theory have relied on data from younger populations and college students (e.g., Broidy, 2001; Choi et al., 2019; Mazerolle et al., 2003; Moon et al., 2012) rather than individuals embedded in criminal lifestyle and at a high risk for recidivism. Additionally, Blevins and colleagues' (2010) theoretical application of GST to prison misconduct remains understudied. A small number of studies have been conducted to examine strain and its impact on subsequent behaviors within the correctional context, but these studies provided evidence in favor of GST (see Beijersbergen et al., 2015; McGrath et al., 2012; Morris et al., 2012). However, the existing research has failed to

consider some key strain variables that can be most conducive to crime (e.g., perceived injustice or anticipated strain).

Our study builds upon the previous research on the strain in prison settings and extends their research in important ways. First, large nationwide data from a sample of South Korean inmates are used. The generalizability of GST can be expanded by examining its empirical utility in different sociopolitical settings (Agnew, 2015). Second, the following three key strains are included in statistical models: victimization in prison, anticipated strain (i.e., fear of crime), and procedural injustice. These strains are unique to the prison environment and are likely to cause prison misconduct (Agnew, 2007). Finally, the current study examines the distinctive impact of strains on different types of prison misconduct: violent misconduct and non-violent misconduct.

2. Literature review

2.1. Agnew's general strain theory

The fundamental assumption of GST aligns with all other strain theories: crime and deviant behavior take place in response to negative stimuli. Agnew (1992) focuses on events and conditions that can induce strains to individuals, which in turn can result in negative emotions. These emotions lead individuals to take corrective action, and some of them turn to criminal behavior to cope with the strain created by their situations.

Agnew (1992, 2001, 2007) has devoted his attention to relational strains. Relational strains are aroused when "others are not treating the individual as he or she would like to be treated" (Agnew, 1992, p. 48). Specifically, Agnew proposes two types of relational factors. The first factor is the removal of positively valued stimulus, which involves the loss of positive resources (e.g., the deprivation of autonomy). The second relational strain is associated with a presentation of the negative or noxious stimulus. People sometimes face negative events and

conditions that they do not want to confront (e.g., victimization experiences). Agnew also specifies the characteristics of strains that are more or less likely to cause crime; those strains are perceived as high in magnitude, are perceived as unjust, are related to low social control, and present pressure or incentive to become involved in crime.

In addition to the types of strains, Agnew (2007) groups coping strategies into three broad categories since most individuals cope with their strains in a noncriminal manner. First, behavioral coping involves criminal or noncriminal behavior that helps individuals to protect those things they value, to escape from aversive situations, or to achieve their valued goals. Second, cognitive coping strategies can be employed to downplay or eliminate aversive stimuli. Cognitive dissonance is one such cognitive function (Festinger, 1957). Lastly, emotional coping strategies are more focused on solving the problems of emotion rather than the origin of the problem.

2.2. Experienced strain, anticipated strain, and procedural injustice

Previous researchers underlined the importance of criminal victimization as a noxious stimulus (Agnew, 2002; Choi et al., 2019; McGrath et al., 2012). Since physical victimization is often viewed as a severe strain that is unjust and high in magnitude (Agnew, 2001, 2007), criminologists have investigated the role of physical victimization in predicting delinquency and criminal behavior (Choi et al., 2019; Hay and Evans, 2006; Kort-Butler, 2010; McGrath et al., 2012). Both Kort-Butler (2010) and Hay and Evans (2006) found that experiencing violent victimization predicted later involvement in general delinquency. Other researchers have found that victimization can provoke violent offending (Baron, 2009; Lee and Kim, 2018).

While the majority of empirical research focuses on the direct experience of victimization, Agnew (2002) illuminates the significance of anticipated strain by stating that “the

actual or anticipated loss of positively valued stimuli may lead to delinquency" (p. 57). Agnew defines anticipated strain as "the individual's expectation that current strains will continue into the future or that new strains will be experienced" (p. 603). Using a national sample of 734 high school students, Agnew (2002) examined the effects of anticipated strains and found support for both the impacts of anticipated victimization and experienced victimization on delinquency. Kort-Butler (2010) used data from the National Longitudinal Study of Adolescent Health and examined the proposed effects of anticipated strains on general delinquency and violent delinquency. She found that the perception of an unsafe neighborhood was associated with violent delinquency among juveniles who had lower levels of social support and self-esteem. Similarly, Baron (2009) found evidence in favor of anticipated victimization risk on violent offending among 300 youths in Toronto, Canada.

Some researchers focused on the impact of perceived injustice on crime and deviant behavior within the context of GST (James et al., 2015; Mazerolle et al., 2003; Rebellon et al., 2012; Scheuerman, 2013). Mazerolle and colleagues (2003) conducted a vignette study and found that strain through distributive justice was predictive of aggressive behavior. Participants who felt that the grades at school in the previous year were not fair exhibited more anger when they read the scenario in the vignette involving someone's girlfriend being harassed, and they were more likely to report the intention to retaliate against the man who harassed the girl. Rebellon and colleagues (2012) tested whether perceived injustice influenced juvenile delinquency. Their study revealed that students who felt that they were not fairly treated at the hands of authority figures such as parents and teachers tended to express more anger in comparison to those who perceived unfairness among their friends or other peers. Increased anger was subsequently associated with delinquency.

The impact of different types and combinations of injustice on anger and the likelihood of criminal coping was also investigated. For example, Scheuerman (2013) considered three forms of injustice (distributive, procedural, and interactional) in relation to criminal and deviant behavior. His vignette study yielded partial support for GST showing that interactional and procedural injustice is predictive of the likelihood of the intention to engage in violence and drinking behavior.

2.3. GST as an integrative theoretical model of inmate misconduct

To explain inmate misconduct, three major explanations have long prevailed: the deprivation model, the importation model, and the coping model (Blevins et al., 2010; Listwan et al., 2013; Morris et al., 2012). The deprivation model posits that inmates suffer from multiple types of pains from the carceral state (Clemmer, 1940; Sykes, 1958). In *The Society of Captives*, Sykes (1958) observed various types of pains unique to institutional prison setting: the deprivation of goods and services, the deprivation of heterosexual relationships, the deprivation of autonomy, the deprivation of liberty, and the deprivation of security. Sykes linked the pains of imprisonment to the ways inmates responded to them, which, in turn, affected prison administration. According to Sykes, some inmates responded to pains with "alienative" responses which maximized their benefits at the expense of other inmates (p. 106). A wealth of empirical research provided some evidence of the deprivation model (e.g., Reisig and Lee, 2000; Steiner et al., 2014; Worrall and Morris, 2011).

On the other hand, the importation model hypothesizes that prison misconduct can be explained with characteristics that an individual possesses before imprisonment (Irwin and Cressey, 1962; Jacobs, 1977). In this regard, individual characteristics such as marital status, age and educational attainment have been considered when examining factors that influence inmate

misconduct (Beijersbergen et al., 2015; Cao et al., 1997; Jiang and Winfree, 2006; Reisig and Meško, 2009; Steiner and Wooldredge, 2008). Prior research shows that uneducated, single, and younger inmates tend to engage in misconduct more frequently (Morris et al., 2012; Steiner et al., 2014). High rates of misconduct have been reported among inmates imprisoned for a violent offense and inmates who have a history of prior incarceration or prior conviction (Steiner et al., 2014; Wooldredge et al., 2001).

The third model that has been linked to inmate behavior is the coping model (Toch, 1977). Toch (1977) did not see inmates as passive victims of institutional corrections; rather, they actively seek out sources to cope with prison strains. Toch proposed that there are different types of mechanisms through which inmates adjust to institutional life. He underlined the importance of programs and services in prison (e.g., education programs, vocational programs, and psychological treatment) as well as work assignments. Research suggests that various prison programs such as drug treatment programs, vocational programs, education programs, and work programs can effectively reduce inmate misconduct (Colvin, 2007; Lahm, 2008; Piehl and Useem, 2011).

Blevins and colleagues (2010) argue that GST can serve as a more comprehensive theoretical framework regarding inmate behavior than each model mentioned above. First, they suggest that the deprivation model could be encapsulated with the concepts from GST. For example, a distinct prison environment that inmates encounter can present aversive stimuli to inmates. In a prison setting, desired goals are often thwarted due to “the erratic and coercive nature of relationships in prison” (Blevins et al., 2010, p. 150). Removal of positively valued stimuli is also inevitably accompanied by prison life because inmates are deprived of various comforts of private life (e.g., liberty and autonomy).

Additionally, Blevins and colleagues (2010) contend that the importation model can be combined within the context of GST because GST does not hypothesize that inmates will react to the strains of prison life in the same way. Instead, the adaptation to institutional life is largely dependent on the individual's characteristics such as age, marital status, and the personality that an individual possesses. The coping model is consistent with the essential tenets of GST in that GST stresses the role of available coping strategies when individuals respond to strains. The coping model under GST includes various legal coping strategies including cognitive and emotional copings (e.g., self-esteem) as well as social support. Agnew (2012, 2013) also notes the possibility of social support conditioning the effect of strain on delinquency and crime. That is, GST can be a useful criminological framework to understand the way inmates adapt to prison.

While a substantial amount of empirical research has been conducted based on GST (Agnew, 2007, 2009, 2012), there had been much less research investigating inmate population using GST as a theoretical framework (cf. Beijersbergen et al., 2015; Erzar et al., 2019; Grosholz and Semenza, 2018; McGrath et al., 2012; Morris et al., 2012; Semenza and Grosholz, 2019; Sharp et al., 2012). Some criminologists used inmate sample to examine the effect of strains on crime, but they focused on whether strains generated from conditions in prison influenced a probability of arrest and reincarceration, not inmate misconduct while they were incarcerated (Daquin et al., 2016; Listwan et al., 2013).

Other researchers sought to examine whether experiences and living conditions were associated with inmate misconduct (e.g., Beijersbergen et al., 2015; Grosholz and Semenza, 2018; McGrath et al., 2012; Morris et al., 2012; Semenza and Grosholz, 2019). Morris and colleagues (2012) were interested in inmates' violent misconduct trajectories. Their longitudinal latent class analysis with 6,328 inmates suggested that there were three distinct misconduct

trajectory profiles. They then ran multilevel-multinomial logistic regression to estimate the effect of individual-level variables (e.g., age, race, or IQ) and prison level environmental stressors (e.g., the age of unit or the proportion of prisoners committed to high-security custody and the proportion of prison gang members in the unit) on class membership. They also performed a within-class multilevel model to estimate the effects of environmental strains on misconduct within three trajectories. Their study showed that environmental strains measured at the prison level were linked to violent inmate misconduct. While providing an important insight regarding the effects of macro-level strains on inmates, the limited range of individual-level variables diminishes the contribution of their findings especially given that GST has been popularized and developed within the context of micro-level strain theory focusing on "subjective strain" (Agnew, 2007, 2013).

Several recent studies have shown that physical health problems are associated with institutional misconduct using the GST framework (Grosholz and Semenza, 2018; Semenza and Grosholz, 2019). Grosholz and Semenza (2018) used data from the Bureau of Justice Statistics' 2004 Survey of Inmates in State Correctional Facilities to examine the effects of two different types of physical ailments (i.e., acute conditions and chronic conditions) on inmate misconduct. Most notably, their negative binomial regression models showed that inmates suffering from acute physical conditions are more likely to engage in misconduct compared to healthy inmates. In a second study, Semenza and Grosholz (2019) investigated how co-occurring health conditions (i.e., mental and physical conditions) influence the risk of inmate misconduct. Their findings indicated that concurrent mental and physical health conditions lead to a heightened risk for inmate misconduct. They argue that negative physical and mental conditions can be viewed

as strains that are unjust and high in magnitude, creating pressure for inmates to engage in misconduct to alleviate their strains.

Two recent studies are particularly relevant to the present study because these studies focus on the relationship between inmate prison experience and misconduct. McGrath and colleagues (2012) used data from over two hundred male parolees of a work-release facility to examine whether experienced, vicarious and anticipated strains (i.e., fear of crime and perceived risk) were associated with inmates' engagement in violence and substance abuse. Their findings lent some support for GST; experienced and vicarious strains were associated with higher levels of violent behavior and drug/alcohol use by inmates. However, they did not find a significant association between anticipated strain and inmates' violent behavior and drug/alcohol use. While their work offers an important first step, their study had several limiting features, especially in terms of their data. Not only was their data a convenience sample, but respondents had to rely on their limited memory of their prison lives when responding to the survey questionnaire ("Generally, I was in more danger than the average prisoner.") since they had already been released when they asked to participate in the survey.

Beijersbergen and colleagues (2015) examined whether perceived procedural fairness had any influence on prisoner misconduct in the correctional context using longitudinal data collected from Dutch correctional facilities. Their findings showed that prisoners who felt treated fairly in the correctional facility were less likely to receive a disciplinary report. This study is important in documenting the lack of the procedural justice/inmate misconduct association within the GST framework. However, they did not include other key strain variables that are unique to the prison setting and conducive to inmate misconduct. Taken together, some researchers studied adult inmates, but their collection of data was made after inmates were

released, which limits the accuracy of information regarding prison life (Daquin et al., 2016; Listwan et al., 2013; McGrath et al., 2012). Others failed to consider key strain variables generated from prison life (e.g., Grosholz and Semenza, 2018; Neff and Waite, 2007; Piquero and Sealock, 2000, 2004; Semenza and Grosholz, 2019; Sharp et al., 2012).

The Current Study

The present study builds upon and extends previous research in important ways. First, the applicability of GST to inmate misconduct is explored by examining the effect of strains originated from prison experiences on violent and non-violent inmate misconduct. Specifically, inmate victimization experience, perceived procedural injustice, and fear of crime are identified as key strains conducive to inmate misconduct. Second, the current study also examines the external validity of GST, drawing on data from a nationwide sample of inmates from South Korea (Agnew, 2015).

The purpose of this paper is two-fold. First, the role of the anticipated strain in shaping inmate behavior is investigated. Although scholars have documented the effects of different types of strain (i.e., vicarious and anticipated strain) on criminal and deviant behavior (Baron, 2009; Kort-Butler, 2010; Lee and Kim, 2018), the utility of GST concerning inmate misconduct remains understudied (cf. McGrath et al., 2012). Second, the impact of perceived procedural injustice on inmate misconduct is examined. Agnew (1992, 2001, 2007) stressed the role of unjust strains in causing anger and related emotion, which then can create pressure for inmates to take corrective action. Inmates may consider that they do not deserve procedurally unfair treatment, and they are likely to believe that procedural unfairness violates their values in society (Lind and Tyler, 1988; Tyler, 1990). Most prior studies on perceived injustice have been conducted to examine the models proposed by social psychologists (e.g., group-value model or

process-based model) (Bradford, 2014; Tyler et al., 2015). Given that GST can serve as the theoretical frame that explains why perceived injustice can promote crime, the efficacy of perceived injustice should be empirically examined based on GST. Hence, our research questions are as follows:

Research Question 1: Does victimization experience influence inmate misconduct?

Research Question 2: Does anticipated strain (i.e., fear of crime) influence inmate misconduct?

Research Question 3: Does perceived procedural injustice influence inmate misconduct?

3. Methods

3.1. Sample

The current study used the secondary data available from the Korean Social Science Data Archive (data code: A1-2009-0190), which is a non-profit social science data archive created to function as an Asian research hub. Several researchers have used this dataset to examine correlates of inmate misconduct (Choi and Dulisse, 2019; Reyns et al., 2018), but their investigations were based on different theoretical frameworks (e.g., Gottfredson and Hirschi's self-control theory or Anderson's code of the street thesis) than GST. Data for this study were collected from 986 male inmates in 20 Korean correctional facilities in 2009. This project was approved by the institutional review boards of the Korea Correctional Service (KCS) and Kyonngi University. Inmates were sampled based on a two-stage process. For the first stage, three characteristics of the prison were considered to choose correctional facilities: regional distribution of prison in South Korea, prison type, and prisoner capacity. Thirteen prisons that held more than 1,000 inmates and seven prisons that held less than 1,000 inmates were chosen. For the second stage, different numbers of inmates were randomly selected from each of the

institutions considering prisoner capacity. From the facilities with higher prisoner capacity (i.e., more than 1,000 inmates), 60 adult male inmates were drawn, while 40 adult male inmates were drawn from the facilities with lower prisoner capacity (i.e., less than 1,000 inmates). The group-administered survey was implemented by the researcher from Kyonngi University within each facility from July 27th to August 13th in 2009. Inmates who served a year or longer were included in the study, and the study was voluntary. Cases with missing values were dropped from the analyses, which resulted in a final sample of 951 respondents.

3.2. Measurement

3.2.1. Dependent variables

This article examines the distinctive effects of key strains on two different types of inmate misconduct since previous studies reported that strains had unique effects on different types of crime and deviant behavior (Mazerolle and Piquero, 1998; Moon et al., 2009). Researchers who investigated inmate misconduct have noted the importance of modeling effects on violent misconduct separately because violent and non-violent misconduct have different sets of correlates (e.g., Harer and Steffensmeier, 1996; McCorkle et al., 1995; Steiner and Wooldredge, 2009). The first dependent variable is violent inmate misconduct that was made up of five items. Considering that researchers have typically operationalized violent misconduct with the measures of assault, fights, threats, and violent behaviors (Camp et al., 2003; Griffin and Hepburn, 2006), the current study employed the following items to measure violent misconduct. The inmates were asked how many times in the previous year they had: fought against fellow inmates (fighting each other), assaulted correctional officers, assaulted fellow inmates (one party physically attacking another party that is refusing to retaliate), extorted money from a fellow

inmate, and destroyed public facilities. All answer choices ranged from 0 (never) to 4 (10 or more times).

We first created the violent misconduct measure by summing, but the sum score of these items was positively skewed (the skewness coefficient was 7.994). Thus, we created the weighted factor score following Reisig and Meško's (2009) method (see also, Tabachnick and Fidell, 2013). A constant (+ 1) was added to the weighted factor scores of the measure, and these values were transformed by taking the natural log to reduce their skewness. This process achieved the normalized distribution of the violent misconduct measure (the skewness coefficient fell below 2.00) (Gravetter and Wallnau, 2014). The internal reliability estimate for this scale was very good (Cronbach's $\alpha = .74$, mean inter-item $r = .36$), and the scale conformed well to a one-factor solution. Descriptive statistics indicated that 32.2% of respondents had engaged in at least one violent misconduct in the past year.

The second dependent variable is non-violent inmate misconduct. Inmates were asked how often in the past year they refused to participate in the educational program or vocational training, possessed a prohibited item, broke away from the designated area, refused to return to the cell, gambled, participated in the transaction of products that are prohibited in prison, and engaged in drinking or smoking. Initially, we created the nonviolent misconduct scale by summing seven items, but even after the transformation of the weighted scale, the scale was not normally distributed. Thus, we constructed a dichotomous variable (0 = no to all seven items, 1 = yes to one or more items). As shown in Table 1, 35.87% of inmates reported that they had engaged in at least one non-violent misconduct in the previous year.

3.2.2. Strain measures

Three types of key strains were hypothesized to influence inmate misconduct: violent crime victimization, fear of crime (anticipated strain), and procedural injustice. The violent crime victimization scale consisted of seven items; the questions used asked how often respondents had been verbally abused, had been hit by fist or foot, had been immersed in water, had been hit by garbage, had been hurt by weapon, had been robbed, and had been bullied by fellow inmates. The response options ranged from 0 (never) to 4 (10 or more times), and the scale was coded so that higher scores indicated more violent crime victimization experiences (Cronbach's $\alpha = .86$, mean inter-item $r = .46$).

The anticipated strain was measured as fear (McGrath et al., 2012). This scale consisted of four items, which asked respondents the degree to which they agree with the following four statements: "I am always afraid that someone will hit or harass me"; "I am always afraid that fellow inmates will bully me"; "I am always afraid that I will be sexually assaulted by fellow inmates"; "I am always afraid that fellow inmates will take my stuff without telling me." The response options for each statement ranged from 0 (strongly disagree) to 4 (strongly agree). The four items were coded such that a higher score indicated a higher level of fear of crime (Cronbach's $\alpha = .87$, mean inter-item $r = .63$).

Procedural injustice was measured as a two-item summated scale that asked inmates to rate their agreement or disagreement with the following statements: "*Prison officers are trying to help us*" and "*Prison officers treat inmates in a respectful and fair manner*." These items capture two criteria of procedural justice discussed in Jackson, Tyler, Bradford, Taylor, and Shiner (2010): trustworthiness and respect. Trust in legal authorities and their motivations to do their job has been identified as an essential element in procedural justice theory (Sunshine and Tyler, 2003; Tyler, 1990). Simultaneously, treating inmates with respect can affect their normative

perceptions of the prison institution because it signals the positive social standing of inmates. Responses were rated on a scale from 1 (strongly disagree) to 4 (strongly agree). However, we attempted to reconceptualize procedural injustice within the context of GST by considering perceived injustice as a strong strain of negative emotion. Thus, these two items were recoded and added to construct a composite scale so that a higher score indicated lower procedural justice judgments. The internal reliability estimate for this scale was very good (Cronbach's $\alpha = .83$, inter-item $r = .71$). The scale conformed well to a one-factor solution.

3.2.3. Individual characteristics

Several inmate characteristics are included as control variables: age, education, marital status, convicted of a violent offense, length of time served, low self-control, and self-esteem. These control variables were included in previous studies to prevent potential spuriousness of the relationships between strains and inmate misconduct (Choi and Dulisse, 2019; Reyns et al., 2018). First, the demographic variables include age ($M = 39.25$, $SD = 10.28$), education (1 = elementary school, 2 = middle school, 3 = high school, 4 = college or university, and 5 = graduate school), and marital status (1 = single, divorced, and bereaved; 0 = married and cohabiting. Also, the following three control variables are more directly related to the criminal justice system: length of time served (logged), convicted of a violent offense (violent offense = 1), and the number of times the person has been sent to prison ($M = 1.64$). Two of our control variables reflect inmates' traits.

Given that individual characteristics are important considerations regarding the likelihood of criminal coping (Agnew, 2007; Gottfredson and Hirschi, 1990), these variables should be included to estimate the impact of strains. The low self-control scale was created to capture six dimensions of self-control: preference for physical activity, preference for simple tasks, temper,

risk-taking, self-centeredness, and impulsivity. The six items used for this scale are comparable to the items used for Grasmick, Tittle, Bursik, and Arneklev's (1993) scale: "I prefer to do physical things rather than verbal," "When I encounter some difficult or complicated tasks, I usually give up," "I lose my temper easily," "I sometimes like to do things that are a little exciting," "I often enjoy teasing others," and "I do whatever brings me instant pleasure." The scale exhibited an acceptable level of internal consistency (Cronbach's $\alpha = .84$, mean inter-item $r = .48$). This scale was coded so that a higher score represented a lower level of self-control.

Agnew (2007) suggests that individuals may respond to stressful events differently depending on their availability of coping mechanisms. If individuals possess some internal coping mechanisms such as self-esteem, they may avoid using deviant coping strategies. The self-esteem scale was measured on a four-point scale of agreement/disagreement with the following five items: "similar to other people, I am a person of worth as well," "I am aware of my good qualities," "similar to other people, I can do work well," "I like myself," and "I am satisfied with myself" (1= *strongly disagree*, 4 = *strongly agree*). The self-esteem scale conformed well to a one-factor solution and had high reliability (Cronbach's $\alpha = .84$, mean inter-item $r = .52$).

3.2.4. Social support variables

The literature on inmate adjustment provided mixed evidence regarding social support as informal social control in reducing inmate misconduct (e.g., Blevins et al., 2010; Jiang and Winfree, 2006; Toch, 1977). The informal expressive social support scale was measured using items asking inmates about their correspondence with other people. Specifically, respondents were asked to identify "the person who you most frequently corresponded with through letters in the last year," "the person you most frequently corresponded with by phone in the last year," and

"the person who most frequently visited you in the last year." Response options for each item included 1 (spouse), 2 (sons/daughters), 3 (parents/brothers/sisters), 4 (fellow inmates), 5 (friends/classmates), 6 (voluntary workers), 7 (other), and 8 (never). Each item was dichotomized. For instance, if respondents had never corresponded with other people through a letter in the past year, they were recoded as 0, and if they had corresponded with anyone through a letter, they were recoded as 1. Responses to these items were summated so that higher scores reflect higher levels of support from family and friends (range 0 – 3). Also, a scale of supportive fellow inmates was measured using a single four-point scale asking inmates to indicate the number of fellow inmates with whom they can share concerns and worries. The response options ranged from 1 (no one) to 4 (more than five).

To measure formal instrumental social support, respondents were asked if they had participated in the four types of institutional programs (i.e., academic education, vocational training, psychological training, and working in prison). These types of programs constitute formal social support that can help inmates adjust to prison life (Blevins et al., 2010; Piehl and Useem, 2011). Inmates were asked if they had participated in four types of institutional programs during the last twelve months, including academic education, vocational training, psychological training, and working in prison. The response options for each item were 0 (never), and 1 (yes) (Reyns et al., 2018). Table 1 shows the descriptive statistics of the independent and dependent variables.

[Table 1 here]

3.3. Analytic Plan

We proceed in three steps. First, bivariate analysis was used to examine the association between key strains and other variables. This analysis is meant to provide a descriptive portrait

of the relationship between variables (e.g., significance and direction of the association). Second, we ran multivariate ordinary least-squares (OLS) regression models to examine the relationships between strain variables and self-reported violent misconduct. Third, we employed multivariate logistic regression models to explain nonviolent misconduct using a mixture of correlates since nonviolent misconduct was dichotomous[1]. It should be noted that we tested the applicability of GST to inmate misconduct using individual-level data (self-report data) as the dataset did not have any institutional-level data.

4. Results

Table 2 shows the results of zero-order correlations among key strains, individual characteristics, environmental characteristics, and dependent variables. The results show that the majority of the three strains (i.e., experienced strain, anticipated strain, and perceived injustice) were significantly related to both violent misconduct and nonviolent misconduct in the expected positive direction. Only one strain variable, anticipated strain, was not significantly related to nonviolent misconduct. The results also indicated that there were some individual characteristics that were significantly associated with inmate misconduct. Being convicted of a violent offense was positively correlated with violent misconduct, but not with nonviolent misconduct. The length of time served was positively and significantly related to both violent and nonviolent misconduct.

Similarly, the number of times admitted to prison was positively associated with both violent and nonviolent misconduct. Consistent with Agnew's (2007) proposition, low self-control was positively related to both misconduct, and it indicated the strongest associations with the dependent variables. Strikingly, social support variables were weakly correlated with inmate

misconduct. Furthermore, only working in prison was correlated with nonviolent misconduct, and the direction of this relationship was positive, not negative.

[Table 2 here]

Tables 3 and 4 show the results from estimating two models with each form of inmate misconduct regressed on strain variables, inmate characteristics, social support variables. The first model includes only key strain variables. The second model adds the individual characteristics of inmates to the baseline model. Finally, in the final model, social support variables are entered in addition to the previous model.

Table 3 shows the results of OLS regression of violent misconduct on three key strains in addition to the control variables. The results in Model 1 support the GST proposition that strains increase deviant behavior. The impact of victimization experience on inmate misconduct was significant (b = .012), explaining 2.82% of the total variance of violent misconduct. The anticipated strain was positively associated with violent misconduct, but this relationship was only marginally significant (b = .005, p < .10). Perceived procedural injustice had a significant effect on violent misconduct. Inmates who perceived more injustice were more likely to become involved in violent misconduct. In Model 2, experienced strain and procedural injustice remained statistically significant. Some individual characteristics were predictive of violent misconduct. Inmates who served more time in prison were more likely to engage in violent misconduct, and the number of times admitted to prison was also positively and significantly associated with violent misconduct. Inmates with low self-control were more likely to commit violent misconduct in prison. Model 3 in Table 3 provides the OLS regression estimates of social support variables on violent misconduct. In this final model, victimization experience was the strongest correlate (β = 0.173, not shown in the table). Perceived procedural injustice was also

significant in predicting violent misconduct. However, none of the remaining newly added variables were statistically significant.

In Table 4, the results from logistic regression are presented. Nonviolent misconduct was regressed onto key strain variables and control variables. Model 1 shows that all three key variables were statistically significant. The strongest predictor of reporting nonviolent misconduct was perceived procedural injustice, which was recorded as an odds ratio of 1.27. This indicated that inmates with higher perceptions of procedural injustice were more likely to engage in nonviolent misconduct. These key strains remained statistically significant even after controlling for individual characteristics.

Older inmates were slightly more likely to engage in nonviolent misconduct. The prisoners' length of time in prison was positively associated with their nonviolent misconduct. The number of times admitted to prison was one of the strongest correlates in predicting nonviolent misconduct. Inmates with low self-control tended to engage in more nonviolent misconduct. One social support variable was significantly related to a higher level of nonviolent involvement; inmates who participated in psychological treatment were significantly more likely to commit nonviolent misconduct.

[Table 3 here]

[Table 4 here]

5. Discussion and conclusion

Some researchers have called for using GST as an integrative theoretical framework to integrate different perspectives (e.g., importation model or deprivation model) that have been used to explain inmate adjustment in prison (Blevins et al., 2010). While several scholars have undertaken this task (e.g., Listwan et al., 2013), the efficacy of GST within the correctional

context remains understudied (cf. Morris et al., 2012). Despite its popularity of GST, few criminologists drew on GST to explain inmate misconduct (e.g., Beijersbergen et al., 2015; McGrath et al., 2012). While some researchers examined strain variables in predicting inmate misconduct, they often failed to include strain variables that were unique to prison settings (e.g., Neff and Waite, 2007; Piquero and Sealock, 2000, 2004). This paper was intended to extend the study of prison misconduct by applying GST to South Korean inmates. In particular, three key strains were considered in the current study: experienced strain (violent crime victimization), anticipated strain (fear of crime), and perceived injustice. These key strains were used to predict two different types of deviant behaviors: violent misconduct and nonviolent misconduct.

The results of the study yielded three key findings. First, the utility of GST for explaining institutional misconduct among incarcerated male inmates was significant. Inmates who experienced violent crime victimization were more likely to report violent misconduct, and inmates fearful of crimes were more prone to engage in violent misconduct. However, fear of crime was only marginally significant when predicting violent misconduct. Perceived procedural injustice was predictive of violent misconduct. These key strains also provided strong evidence in favor of GST when predicting nonviolent misconduct. Results from logistic regression showed that the three strains are statistically significant even after controlling for individual characteristics and social support variables. That said, given that the inclusion of other variables (e.g., low self-control) attenuated the effects of key strains, our results highlight the importance of continued research on inmate misconduct from different criminological perspectives (Choi and Dulisse, 2019; Reyns et al., 2018; Steiner et al., 2014).

Second, some strains were more predictive of misconduct than others were. Despite the observed general efficacy of GST, strain variables did not equally serve to increase misconduct.

For example, in the violent misconduct model, victimization experience played a critical role in predicting if inmates would report their violent misconduct. However, the anticipated strain was not as strong as experienced strain in this model. The standardized beta coefficient of procedural injustice was comparable to that of experienced strain. As Agnew (1992, 2001, 2007) notes, some strains may be more likely to promote crime than other strains. In his discussion about the set of strains that are more conducive to criminal coping, Agnew (2007) argues that criminal victimization is one of the most severe types of strains (Baron, 2004; Eitle and Turner, 2002). Considering that victimization experiences are often considered unjust and perceived as high in magnitude (Agnew, 2007), the strong impact of the experienced strain found in the current study is in line with the GST proposition.

Nonetheless, the effects of strain variables differed depending on the type of misconduct. When comparing the standardized beta coefficients of strain variables, the experienced strain was the strongest and most robust predictor in the violent misconduct model, while perceived procedural justice exerted the strongest influence on nonviolent misconduct among all of the strain variables. The impact of anticipated strain (i.e., fear of crime) was more applicable to the nonviolent misconduct model. Notably, our findings showed that anticipated strain significantly predicts nonviolent inmate misconduct but not violent misconduct. Agnew (2007) notes that the likelihood of criminal coping is not just dependent on strains but also on certain skills and resources associated with criminal coping. Specifically, he lists several conditions as necessary skills and resources to facilitate violent crime, including “physical size, physical strength, fighting ability, and the possession of an ‘aggressive demeanor’” (p. 97). The current findings may suggest that inmates with strains were more easily facilitated to engage in nonviolent

misconduct in comparison to violent misconduct that requires certain skills and resources that are not available to all inmates.

Another noteworthy finding is that the marginally significant relationship between anticipated strain and violent misconduct disappeared when social support variables were added into the model for violent misconduct. Although social support variables did not exert statistically significant effects, it is possible that the adaptations to key strains were conditioned by social support variables. While some researchers have examined conditioning factors by using an interaction term, Agnew (2013) states that this methodology is too crude to capture the dynamics in which strain is conditioned by individual and social factors. Thus, it is possible that the conditioning factors may have had direct effects on violent inmate misconduct.

Agnew (2001, 2007) proposes that criminal coping may have different goals depending on the type of strain. For example, some people may adopt criminal coping to reduce or escape from unfavorable events or conditions, but other people may take criminal coping to seek revenge against those who have wronged them. Criminal coping may also allow individuals to reduce their negative emotions. In short, criminal coping may have different purposes depending on the type of strain.

While these results reflect one study, if additional studies replicate our findings, it will be critical for correctional policy to incorporate attempts not only to reduce strains but also to focus on improving inmates' coping strategies from the GST framework (Agnew, 2007). Specifically, our results highlight the importance of reducing the victimization rate of inmates in prison and enhancing inmates' sense of safety, specifically the extent to which they are safe from the prison setting. A number of studies have shown that using a validated risk/need assessment tool such as the Level of Service Inventory-Revised can help determine an inmate's programming needs and

provide service delivery in line with relevant criminogenic needs (e.g., Andrews and Bonta, 1995; Gendreau et al., 1996). If inmates are classified effectively based on an empirical assessment instrument and are assigned to necessary treatment programs or other managerial programs, violent victimization within the prison can be reduced (Gendreau et al., 1997). Our results from a sample of incarcerated felony offenders also suggest that attempts to improve the quality of procedural justice may serve to reduce their likelihood of misconduct by reducing negative emotions associated with strains (Beijersbergen et al., 2015).

The current study contributes to the study of prison behavior by showing that GST can be a useful theoretical lens through which we can understand inmate misconduct. Especially given that international research on misconduct remains scarce (e.g., Beijersbergen et al., 2015; Choi and Dulisse, 2019; Winfree et al., 2002), our study extends this line of research by testing the empirical validity of GST within the South Korean context. Our findings support the contention of GST that strains can cause deviant behaviors, which is consistent with previous research (e.g., Beijersbergen et al., 2015; McGrath et al., 2012). That said, it is not without its limitations. First, this study was conducted using data from a cross-sectional survey, which does not ensure the causality of the proposed relationship between variables. Although it is hard to draw causal inference from our study, given that there is some evidence from longitudinal studies that experienced and anticipated strains, as well as perceived injustice, can cause criminal coping (Beijersbergen et al., 2015; Hay and Evans, 2006; Rebellon et al., 2012), the present study suggests that future research can benefit from examining the utility of GST based on longitudinal data.

Second, it should be noted that our dataset was clustered, which limits the external validity of our findings. Replication of our findings with more diverse settings would yield

further insight into how strains can influence inmate misconduct and how the adaptation to strains can be conditioned by a range of other factors. Third, the present analyses leave the role of anger in mediating the relationship between strain variables and inmate misconduct unexamined. One of the most critical components of GST is the role of emotional states linking strains to crime (Agnew, 1992, 2007, 2009). Agnew argues that strains promote the likelihood of a criminal response because they provoke a range of negative emotions, and these emotions, in turn, create pressure for corrective action. Some researchers have shown that individuals with negative emotions can feel better after engaging in a criminal coping method although this effect tends to be short-term (Brezina, 1996; Simons et al., 2003). When applying GST to inmate misconduct, future research can consider situational anger in relation to the strains that an inmate may experience. As Agnew (2007) notes, the majority of the research on GST has focused on emotional traits rather than emotional states (cf. Moon and Morash, 2017), and the neglect of emotional states remains "the largest gap in the research on GST" (p. 36).

Finally, this study was conducted solely relying on data from male inmates. As such, the adequacy of GST in explaining nonviolent and violent misconduct should be investigated using female samples. Given that females may have different sources of strains compared to males and that females may cope differently with strains, empirical examinations of GST with a female inmate population may provide the knowledge base that is necessary to help understand the gender differences in crime and prison adjustment (Broidy, 2001; Jennings et al., 2009; Piquero et al., 2004). Future research should be pursued to yield further insight into how female prisoners adjust to correctional settings.

The current preliminary investigation into the extent to which different types of strains predict inmate nonviolent and violent misconduct in a large sample of inmates has provided

support for the view that GST can be an integrative theoretical framework that adequately accounts for inmates' adjustment. Our findings highlight that the role of strains should continue to be the subject of research on inmate misconduct, as should the findings gleaned from other theoretical work regarding the importance of individual differences (e.g., low self-control or adherence to the code of the street) and institutional level factors (e.g., facility size or crowding) (Choi and Dulisse, 2019; Reyns et al., 2018; Steiner et al., 2014). Given the importance of strains generated from institutional correctional settings, policymakers and researchers should devote as much time and attention to issues related to strains because it would be difficult to decrease inmate misconduct without proper prevention/intervention efforts that can reduce strains that inmates encounter.

Notes

1. Listwise deletion of cases with missing values was used in logistic regression models, while pairwise deletion was used in OLS regression models.

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Table 1
Study Sample Descriptive Statistics (n=986)

Variable	M or %	SD	Minimum	Maximum
Dependent Variable				
Violent misconduct	32.20%	—	0	1
Nonviolent misconduct	35.87%	—	0	1
Strain Variables				
Experienced strain (victimization)	2.12	6.89	0	63
Anticipated strain (fear of crime)	5.89	2.06	3	12
Procedural injustice	5.10	1.55	2	8
Individual Characteristics				
Age	39.25	10.28	19	74
Education	2.85	0.91	1	5
Marital status (single, bereaved, divorced = 1)	70.05%	—	0	1
Convicted of violent offense (violent offense = 1)	55.62%	—	0	1
Length of time served (logged)	3.25	0.96	.51	6.18
Number of times in prison	1.64	2.16	0	15
Low constraint/negative emotionality	10.17	3.37	6	24
Self–esteem	15.19	2.92	5	20
Social Support Controls				
Supportive friends and family	2.42	0.71	0	3
Supportive fellow inmates	1.95	0.85	1	4
Academic education	26.55%	—	0	1
Vocational training	25.77%	—	0	1
Psychological treatment	12.89%	—	0	1
Work in prison	62.65%	—	0	1

Note: Abbreviation: M = Mean, SD = standard deviation

Table 2

Correlation Matrix for Independent, Control, and Dependent Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)	1																		
(2)	.37*	1																	
(3)	.19*	.12*	1																
(4)	.10*	.06	.11*	1															
(5)	.18*	.16*	.12*	.10*	1														
(6)	-.08*	-.11*	.02	.11*	-.17*	1													
(7)	-.05	-.07*	-.02	-.13*	-.04	-.10*	1												
(8)	.03	.02	.02	.03	.07*	-.22*	-.11*	1											
(9)	.08*	.05	.03	-.02	.04	-.07*	-.05	.19*	1										
(10)	.14*	.10*	.06	.01	.14*	.10*	-.002	.13*	.48*	1									
(11)	.10*	.11*	-.05	.03	.05	.14*	-.23*	.003	-.19*	-.10*	1								
(12)	.22*	.20*	.03	.12*	.14*	-.18*	-.03	.07*	.09*	.11*	.07*	1							
(13)	-.04	-.02	-.09*	-.19*	-.11*	-.10*	.21*	-.13*	-.05	-.02	-.17*	-.22*	1						
(14)	-.04	-.04	-.01	.003	-.01	.03	.09*	-.15*	-.11*	.03	-.11*	-.09*	.10	1					
(15)	-.03	-.04	-.06	-.13*	-.14*	-.09*	.03	.01	.10*	.11*	-.10*	-.02	.12*	.07	1				
(16)	.04	-.02	.03	-.03	-.06	.01	.10*	.03	.16*	.29*	-.06	-.01	.07*	.10*	.05	1			
(17)	.03	.03	-.01	-.05	.02	-.03	-.04	.07*	.13*	.32*	.05	-.002	.01	.17*	.05	.46*	1		
(18)	.06	.06	.02	.03	-.03	-.04	.01	.000	.08*	.11*	.01	.04	.02	.06	.02	.21*	.19*	1	
(19)	-.01	.07*	.05	-.06	.05	.04	-.03	-.02	.17*	.22*	-.10*	.01	-.03	.08*	.08*	.07*	.14*	.06*	1

Note 1: * = $p < .05$ (two-tailed test)

Note 2: (1) Violent misconduct, (2) Nonviolent misconduct, (3) Experienced strain (victimization), (4) anticipated strain (fear of crime), (5) perceived procedural injustice (6) Age, (7) Education, (8) Marital status, (9) Convicted of violent offense, (10) Length of time served, (11) Number of times in prison, (12) Low constraint/negative emotionality, (13) Self–esteem, (14) Supportive friends and family, (15) Supportive fellow inmates, (16) Academic education, (17) Vocational training, (18) Psychological treatment, and (19) Work in prison

Table 3

OLS Regression Predicting Violent Inmate Misconduct

	Model 1		Model 2		Model 3	
	b	(*SE*)	*b*	(*SE*)	*b*	(*SE*)
Strain Variables						
Experienced strain	.012***	(.003)	.012***	(.003)	.012***	(.003)
Anticipated strain	.005†	(.003)	.005†	(.003)	.004	(.003)
Procedural injustice	.051***	(.011)	.035**	(.012)	.036**	(.012)
Individual Characteristics	—	—				
Age	—	—	–.003†	(.002)	–.003	(.002)
Education	—	—	–.009	(.020)	–.012	(.020)
Marital status	—	—	–.023	(.040)	–.025	(.040)
Convicted of violent offense			.034	(.040)	.033	(.041)
Length of time served (logged)	—	—	.053*	(.021)	.055	(.023)
Number of times in prison	—	—	.028**	(.008)	.027**	(.009)
Low constraint/negative emotion	—	—	.025***	(.005)	.024***	(.005)
Self–esteem			.009	(.006)	.009	(.006)
Social Support Controls						
Supportive friends and family	—	—	—	—	–.002	(.025)
Supportive fellow inmates	—	—	—	—	–.001	(.021)
Academic education	—	—	—	—	.030	(.045)
Vocational training	—	—	—	—	–.029	(.047)
Psychological treatment	—	—	—	—	.050	(.053)
Work in prison	—	—	—	—	–.035	(.037)
R^2	.067		.126		.129	

Note. $N = 951$. *SE* = standard error.

† $p < .10$, *$p < .05$. **$p < .01$. ***$p < .001$ (two-tailed tests).

Table 4

Logistic Regression Predicting Nonviolent Inmate Misconduct

	Model 1		Model 2		Model 3	
	Odds Ratio	(*SE*)	Odds Ratio	(*SE*)	Odds Ratio	(*SE*)
Strain Variables						
Experienced strain	1.065*	(.028)	1.070*	(.028)	1.066*	(.027)
Anticipated strain	1.081*	(.039)	1.105*	(.043)	1.101*	(.044)
Procedural injustice	1.270***	(.055)	1.166**	(.059)	1.174**	(.061)
Individual Characteristics						
Age	—	—	1.066**	(.010)	.972**	(.011)
Education	—	—	1.101	(.107)	.861	(.109)
Marital status	—	—	1.174	(.207)	.836	(.211)
Convicted of violent offense			1.066	(.203)	1.075	(.207)
Length of time served (logged)	—	—	1.101*	(.113)	1.360*	(.121)
Number of times in prison	—	—	1.174***	(.046)	1.175***	(.048)
Low constraint/negative emotion	—	—	1.066***	(.029)	1.107***	(.029)
Self–esteem			1.089*	(.037)	1.089*	
Social Support Controls						
Supportive friends and family	—	—	—	—	.994	(.128)
Supportive fellow inmates	—	—	—	—	1.004	(.108)
Academic education	—	—	—	—	.713	(.227)
Vocational training	—	—	—	—	.967	(.229)
Psychological treatment	—	—	—	—	1.697*	(.263)
Work in prison	—	—	—	—	1.314	(.192)
Nagelkerke R^2	.080		.172		.186	

Note. $N = 951$. *SE* = standard error.

*$p < .05$. **$p < .01$. ***$p < .001$ (two-tailed tests).