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Does Self-Regulatory Efficacy Matter? Effects of Punishment Certainty and Punishment Severity on Organizational Deviance

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Abstract

Extant empirical research has reported conflicting findings with respect to the effects of punishment certainty and punishment severity on organizational deviance, suggesting the need to introduce a moderator. The present study tested whether self-regulatory efficacy matters on the relationships among punishment certainty, punishment severity, and organizational deviance. Drawing on deterrence and self-efficacy theories, this study examined the effects of punishment certainty, punishment severity, and self-regulatory efficacy on organizational deviance among 197 employed postgraduate students who enrolled in the Master of Business Administration program at two large universities located in the north-west geopolitical zone of Nigeria. We used self-administered questionnaires to collect data. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), we found a significant negative relationship between punishment certainty and organizational deviance. Similarly, the results indicated that punishment severity had a significant negative relationship with organizational deviance. The study also found a significant negative relationship between self-regulatory efficacy and organizational deviance. As expected, self-regulatory efficacy was found to moderate the relationship between punishment certainty and organizational deviance. On the contrary, no significant interaction effect was found between self-regulatory efficacy and punishment severity. Implications of the study in the Nigerian context have been discussed.

Keywords

punishment certainty, punishment severity, organizational deviance, self-regulatory efficacy, deterrence theory, self-efficacy theory

Introduction

Workplace deviance has been reported to be a pervasive phenomenon and costly to organizations (Aquino, Galperin, & Bennett, 2004; Lawrence & Robinson, 2007). For example, approximately 45% of the American retailers attributed their inventory shortage to employee theft in 2010 (Hollinger & Adams, 2010). Organizational deviance is also potentially destructive to both organization and its members (Lawrence & Robinson, 2007; Spector & Fox, 2002). For example, in the United States, the use of drugs and alcohol at the workplace is related to increased workplace injuries, higher rate of turnover and absenteeism as well as decreased worker productivity (U.S. Department of Health and Human Services, 2008). In Nigeria, deviant behaviors at work such as employee theft, fraudulent acts, sabotage, and rude behavior are reported to be prevalent among white-collar workers in recent times (Fagbohungbe, Akinbode, & Ayodeji, 2012).

In Nigeria, creating strong, efficient, and effective public service organizations is the main focus of Nigeria's Transformation Agenda (2011-2015). This agenda, which is drawn from the Nigeria's Vision 20: 2020, is aimed at transforming the Nigerian economy to meet the future needs of the Nigerian citizens (National Planning Commission, 2010). The Nigeria's Vision 20: 2020 emphasizes that public servants should carry out their official assignments with discipline, integrity, transparency, and loyalty (National

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Planning Commission, 2010). The Independent Corrupt Practices Commission (ICPC) and the Economic and Financial Crimes Commission (EFCC) were established in 2000 and 2003, respectively, by the Federal Government in response to an increase in corrupt practices in Nigeria. In the absence of discipline, integrity, and transparency, it would be difficult for Nigeria to achieve the goals of Transformation Agenda and Vision 20: 2020. Thus, given the significant costs of deviant behaviors at work, more studies are needed to understand the underlying causes of these behaviors.

Extant empirical studies on the determinants of organizational deviance have largely focused on organizational and personality factors such as perceptions of organizational justice (de Lara & Tacoronte, 2007; Devonish & Greenidge, 2010), organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Ferris, Brown, & Heller, 2009), leadership style (Chullen, Dunford, Angermeier, Boss, & Boss, 2010), and personality traits including Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (HEXACO) and Big Five personality models (Bolton, Becker, & Barber, 2010; Lee, Ashton, & de Vries, 2005). In general, these studies have found that organizational and personality factors are likely to have a significant effect on organizational deviance.

However, despite these noteworthy studies, less attention has been paid to the effects of punishment-related factors on organizational deviance. Even if any, the findings of such studies are inconclusive, suggesting a possible moderator variable (Baron & Kenny, 1986). In this study, we propose self-efficacy as a moderator because, according to Bandura (1992), self-efficacy is able to shape the way individuals feel, think, and behave. Hence, we theorize that individuals with high self-efficacy will consistently regulate their actions over a period of time (Prasad, Lim, & Chen, 2010). The examination of self-efficacy as a possible moderator is yet to be investigated, and such consideration could increase our theoretical understanding and provide empirical evidence on how self-efficacy buffers the effect on the relationship between perceived severity, perceived certainty, and organizational deviance among employees in the context of Nigerian organizations.

Toward meeting the above objective, the remainder of this article is organized as follows. In the next section, we review the relevant literatures related to workplace deviance, punishment certainty, and punishment severity leading toward hypotheses development. Next, we describe the methodology used in the present study. We then present the results and discuss them in greater detail by linking them with theory and past studies. We also highlight several implications in the context of Nigeria.

Theory and Hypotheses

Conceptualization of Workplace Deviance

Workplace deviance, as conceptualized by Robinson and Bennett (1995), refers to "voluntary behaviour that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both" (p. 556). According to Robinson and Bennett, workplace deviance is a multifaceted construct that is composed of two dimensions: interpersonal deviance and organizational deviance. Interpersonal deviance refers to acts that are directly harmful to individuals, such as embarrassing colleague or customer at work, and making an ethnic, religious, or racial remark at work (Bennett & Robinson, 2000). On the other hand, organizational deviance reflects acts that are directly harmful for an organization, including damaging the property of an organization and coming late to work or leaving early without permission (Bennett & Robinson, 2000). Although workplace deviance has been conceptualized as a multidimensional construct, we specifically focus on one set of behaviors directed at an organization because it would allow us to achieve parsimony in concept development and measurement (Arthur, 2011; Berry, Ones, & Sackett, 2007; Glomb & Liao, 2003). However, we believe that there are trade-offs regarding this approach. Blalock (1979), for instance, argued that one cannot achieve generality, accuracy, and simplicity simultaneously. Therefore, we unavoidably opted for simplicity at the expense of generality and accuracy. In addition, focusing on organizational deviance would provide opportunities for future research on deviant behaviors directed toward individuals within the organization.

Punishment Severity, Punishment Certainty, and Organizational Deviance

As indicated earlier, we attempt to investigate the effect of punishment-related factors on organizational deviance. In this study, punishment-related factors refer to punishment severity and punishment certainty. Drawing from deterrence literature (Hollinger & Clark, 1983), we refer to punishment severity as the nature and extent of punishment for committing deviant behavior at work (Tittle, 1980), whereas punishment certainty is defined as making sure that punishment takes place whenever an individual engages in deviant behavior at work (Onwudiwe, Odo, & Onyeozili, 2005).

Past research has linked punishment severity and punishment certainty with different types of deviant behaviors including employee theft, software piracy, and information security policy violations (Cheng, Li, Li, Holm, & Zhai, 2013; D'Arcy, Hovav, & Galletta, 2009; Nagin & Pogarsky, 2003). However, these studies have reported mixed findings. For instance, Hollinger and Clark (1983) found that perceived severity and perceived certainty were negatively associated with employee theft. Cole (1989) also showed that punishment certainty was negatively related to consumer fraudulent behavior, such as shop lifting, returning worn clothes, and using an expired coupon. In a recent study, Ugrin and Michael Pearson (2013) observed that perceived severity of sanctions were effective deterrents against an individual's tendency to engage in cyberloafing including

viewing personal emailing, social networking, and viewing pornography at the workplace.

However, D'Arcy et al. (2009) reported mixed findings when they tested the effect of perceived severity and perceived certainty of formal sanctions on organizational deviance, defined as unethical behaviors such as sending and receiving unauthorized email at work and accessing company's confidential information, among 269 employees from 8 different organizations in the United States. While perceived severity of formal sanctions was negatively related to organizational deviance, perceived certainty of formal sanctions was not found to be a significant predictor of organizational deviance. Recently, Cheng et al. (2013) also demonstrated that perceived severity of sanction was found to be significantly related to information systems security violation behaviors among 185 employees working in Dalian, China, but not perceived certainty of sanction.

Other studies, such as Siponen and Vance (2010), indicated no significant relations between perceived severity, perceived certainty, and intention to violate Information System (IS) security policy. Similarly, Skinner and Fream (1997) found no significant relationship between perceived certainty of apprehension and software piracy among college students. A nonsignificant finding between punishment severity, punishment certainty, and employees' Internet misuse intentions was also reported by Liao, Luo, Gurung, and Li (2009) who examined the effect of punishment-related policy on employees' Internet misuse intentions among 205 employees in China.

Despite the mixed findings reported in the literature, we argue that punishment certainty and punishment severity could reduce employees' tendency to engage in deviant behavior in organizations. We draw our argument from general deterrence theory (GDT; Beccaria, 1764/1963; Gibbs, 1968, 1975). Although this theory is one of the most prominent theories used in criminological studies, it has also been applied quite extensively in industrial and organizational psychology (Alabede, Ariffin, & Idris, 2011; Cheng et al., 2013; Hollinger & Clark, 1983; Hu, Xu, Dinev, & Ling, 2011; Nagin & Pogarsky, 2003). GDT essentially posits that when the punishment for an illicit act is certain and severe, individuals will be deterred from engaging in such act because of the unpleasant experience and/or pains associated with such punishment. As individuals tend to be hedonistic in nature (Higgins, 1997, 1998), they are likely to be discouraged from committing the illicit act. In view of the above, the following hypotheses are advanced:

Hypothesis 1: Punishment certainty will be negatively related to organizational deviance.

Hypothesis 2: Punishment severity will be negatively related to organizational deviance.

Self-Regulatory Efficacy as a Moderator

Self-regulatory efficacy refers to the perceived capability of individuals to resist temptation and stay away from high-risk activities that can get them into difficult situations (Caprara et al., 1998). Self-regulatory efficacy is a well-established factor that exerts a significant influence on a variety of behaviors including technology adoption behavior (Igbaria & Iivari, 1995; Stajkovic & Luthans, 1998), career choice behavior (Betz & Hackett, 2006; Mau, 2000), newcomers' adjustments to organizations (Saks, 1995), and group performance (Hoyt, Murphy, Halverson, & Watson, 2003; Katz-Navon & Erez, 2005).

Research also suggests that perceived self-regulatory efficacy is negatively related to deviant behaviors at work. For example, self-regulatory efficacy has been linked with antisocial conduct, a specific form of deviant behavior (Caprara et al., 1998). A longitudinal study of Caprara, Regalia, and Bandura (2002) revealed that students who possessed higher levels of self-regulatory efficacy were less likely to engage in deviant behaviors, such as fighting, vandalism, and use of weapons. In a longitudinal study, Bandura, Caprara, Barbaranelli, Pastorelli, and Regalia (2001) found a significant and negative relationship between perceived self-regulatory efficacy and interpersonal deviance (i.e., transgressive conduct). Recently, Kura, Shamsudin, and Chauhan (2013) found that self-regulatory efficacy was negatively associated with both organizational deviance and interpersonal deviance.

In addition to being directly related to deviant behaviors, we propose that self-regulatory efficacy moderates the relationships among punishment certainty, punishment severity, and organizational deviance because, according to Bandura (1992), perceived self-efficacy is an important consideration in understanding the levels of motivation and performance accomplishments of individuals. Individuals with high efficacy beliefs perceive themselves as being able to consistently regulate their actions over a period of time (Prasad et al., 2010). The present study draws on Bandura's (1986) self-efficacy theory to advance the argument that self-regulatory efficacy might moderate the relationships among punishment certainty, punishment severity, and organizational deviance. The core tenet of the self-efficacy theory is that individuals low in self-regulatory efficacy are more likely to engage in deviant behavior whenever they get opportunity to do so. Theoretically, self-regulatory efficacy might moderate the relationships among punishment certainty, punishment severity, and organizational deviance in several ways. First, effortful control abilities such as self-regulatory efficacy may be able to override individuals' automatic tendencies toward deviant behavior at work (Wilkowski & Robinson, 2008), because individuals with high levels of self-regulatory efficacy think positively and are hedonistic in nature than those with low levels of self-regulatory efficacy (Caprara & Steca, 2005).

Second, research suggests that individuals low in self-regulatory efficacy tend to be aggressive, and they find it hard to internalize their negative feelings or behaviors (Caprara, Vecchione, Barbaranelli, & Alessandri, 2013; Eisenberg et al., 2001). They also tend to resist organizational rules and regulations and find it hard to conform (Henle, 2005). As such, their disregard of organizational

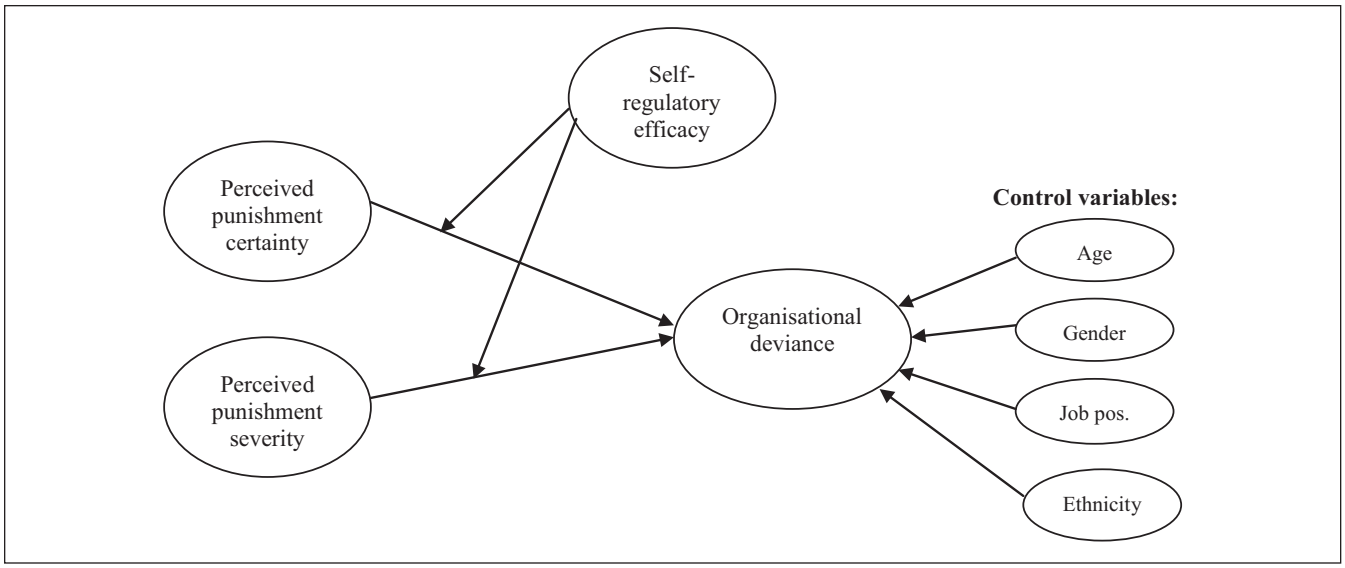

Figure 1. Conceptual model.

rules and regulations, make deviant behavior a viable response to formal control instituted by their organizations. Hence, if self-regulatory efficacy interacted with punishment-related factors, it may strengthen the relationships among punishment certainty, punishment severity, and organizational deviance, such that these relationships would be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy. Consistent with the foregoing empirical evidence and theoretical perspective, it is expected that self-regulatory efficacy may buffer the relationships among punishment certainty, punishment severity, and organizational deviance. Thus, the following hypotheses are advanced:

Hypothesis 3: Self-regulatory efficacy will be negatively related to organizational deviance.

Hypothesis 4: Self-regulatory efficacy will moderate the relationship between punishment certainty and organizational deviance, such that the relationship between punishment certainty and organizational deviance will be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy.

Hypothesis 5: Self-regulatory efficacy will moderate the relationship between punishment severity and organizational deviance, such that the relationship between punishment severity and organizational deviance will be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy.

Based on the theoretical stance and empirical evidence discussed above, the conceptual model for the present study is depicted in Figure 1. As shown in Figure 1, organizational deviance is the criterion variable with perceived punishment certainty and perceived punishment severity as the predictor variables. In addition, the conceptual model shows that self-regulatory efficacy moderates the effects of punishment certainty and punishment severity on organizational deviance, after controlling for age, gender, job position, and ethnicity.

Method

Data Collection and Sample

Data were collected from 197 employed postgraduate students who enrolled in the Master of Business Administration program at two large universities located in the north-west geopolitical zone of Nigeria. We chose this group of students because of their accessibility, and they typically possess some work experiences (Bello, Leung, Radebaugh, Tung, & Van Witteloostuijn, 2009). Self-reported questionnaires were administered personally during class. The students were initially explained about the purpose of research, and they were also informed that participation in the present study was voluntary before the survey was administered.

To minimize the effects of common method variance (CMV), we adopted several procedural remedies, as suggested by Podsakoff and Organ (1986). First, to reduce evaluation apprehension, the participants were informed that there was no right or wrong answer to questions asked, that it would take them about 10 to 15 min to complete the survey, that their answers were treated with confidentiality, and that their responses would be aggregated so that they would not be identified. Second, scale items were improved to reduce method biases. This was achieved by avoiding vague concepts in the questionnaire, and when such concepts were used, simple examples were provided. Finally, to further improve scale items, all questions in the survey were written in a simple, specific, and concise language.

Of the 197 participants, 65.5% were male. The participants were predominantly of Yorubas ethnic group (53.8%), followed by Hausa/Fulani (33.5%). The remaining were Igbos (6.1%) and from other minority groups (6.6%). In terms of job position, 66.5% were managerial employees and the rest were non-managerial employees. Most participants worked in the public sector (66%). On average, the participants were 38 years old (standard deviation of 5.93).

Measures

For each of the measure used in the present study, a summated score (i.e., latent variable score) was calculated automatically by the Smart PLS 2.0 M3 software (Ringle, Wende, & Will, 2005). Technically, the latent variable score is calculated by adding the raw scores obtained from the completed questionnaires for each variable, and then standardized it by dividing the summated value by the number of items.

Organizational Deviance

We used Aquino, Lewis, and Bradfield's (1999) eight-item Organizational Deviance Scale to measure organizational deviance. We asked participants to indicate their responses on a 4-point scale, ranging from "1" "*never*" to "4" "*several times*" on items such as "How often do you work on a personal matter on the job instead of working for your employer?"

Punishment Certainty

We used Grasmick and Bursik's (1990) four items from Punishment Certainty Scale (PCS) to measure punishment certainty. Responses were given on a 4-point scale, ranging from "1" "*definitely would not*" to "4" "*definitely would*." A sample of PCS item was "Do you think you would get punished if you intentionally arrived late for work?"

Punishment Severity

We measured punishment severity with five items from Grasmick and Bursik's (1990) Punishment Severity Scale (PSS). In all cases, we asked participants to indicate their responses on a 4-point scale, ranging from "1" "*no problem at all*" to "4" "*a very big problem*." A sample of PSS item was "If you were caught and the management of your organization had decided what your punishment would be for . . ., how big of a problem would it create for you?"

Self-Regulatory Efficacy

We assessed self-regulatory efficacy based on Bandura's (1990) Multidimensional Scales of Perceived Self-Efficacy. All items used were rated on a 4-point scale, ranging from "1" "*not well at all*" to "4" "*extremely well*." A sample self-regulatory efficacy item was "How well can you personally prevent yourself from taking undeserved breaks to avoid work?"

Control Variables

To ensure that the relationships between the antecedents and organizational deviance are not confounded, we controlled for the demographic variables of age (continuous variable), gender (1 = *male*; 2 = *female*), job position (1 = *managerial*; 2 = *non-managerial*), and ethnic group (1 = *Yoruba*; 2 = *Hausa*; 3 = *Igbo*; 4 = *Minority*).

Analysis and Results

Prior to the main analysis, several assumptions of linearity, normality, and multicollinearity were checked (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2007). Once these assumptions were satisfied, we used partial least square (PLS) path modeling (Wold, 1974, 1985) using Smart PLS 2.0 M3 software (Ringle et al., 2005) to test the theoretical model. The PLS path modeling is defined as a statistical technique "meant to estimate a network of causal relationships, defined according to a theoretical model, linking two or more latent complex concepts, each measured through a number of observable indicators" (Vinzi, Trinchera, & Amato, 2010, p. 47).

The PLS path modeling is considered the most suitable technique in this study for several reasons: First, PLS path modeling has the advantage of estimating the relationships between constructs (structural model) and the relationships between indicators and their corresponding latent constructs (measurement model) simultaneously (Chin, Marcolin, & Newsted, 2003; Duarte & Raposo, 2010; Gerlach, Kowalski, & Wold, 1979; Lohmöller, 1989). Second, PLS path modeling is considered ideal because we aim to predict organizational deviance, which is the endogenous latent variable (Fornell & Bookstein, 1982; Hair, Ringle, & Sarstedt, 2011; Hulland, 1999; Ringle, Sarstedt, & Straub, 2012). Third, PLS path modeling has been established as a useful and preferred multivariate analysis technique in social and psychological research such as in accounting, management, marketing, information systems, and operations management (Hair et al., 2011; Hair, Ringle, & Sarstedt, 2013; Hair, Sarstedt, Pieper, & Ringle, 2012; Peng & Lai, 2012).

Measurement Model Results

To assess the psychometric properties of the scales adopted in the present study, individual item reliability, internal consistency reliability, and discriminant validity were ascertained. First, individual item reliability was assessed by examining the outer loadings of each construct's measure (Hair, Hult, Ringle, & Sarstedt, 2014; Hulland, 1999). Following the rule

Table 1. Factor Loadings and Reliability.

Latent variables	Items	Standardized loadings	Composite reliability	Average variance extracted
Organizational deviance	OD01	.820	.906	.584
	OD02	.895		
	OD04	.596		
	OD05	.671		
	OD06	.727		
	OD07	.802		
	OD08	.801		
Punishment certainty	PC01	.767	.868	.689
	PC02	.905		
	PC03	.811		
Punishment severity	PS01	.786	.836	.632
	PS02	.698		
	PS05	.890		
Self-regulatory efficacy	SR01	.743	.902	.572
	SR02	.800		
	SR03	.724		
	SR04	.880		
	SR05	.727		
	SR06	.564		
	SR09	.816		

Table 2. Descriptive Statistics and Correlations Among Latent Variables.

Latent variables	*M*	*SD*	1	2	3	4
1. Organizational deviance	2.253	.591	**.764**			
2. Punishment certainty	3.811	.673	−.634	**.830**		
3. Punishment severity	3.477	.607	−.304	.039	**.795**	
4. Self-regulatory efficacy	3.698	.595	−.396	.245	.248	**.756**

Note. Entries shown in bold face represent the square root of the average variance extracted.

of thumb for retaining items with loadings of .50 and above (Barclay, Thompson, & Higgins, 1995; Chin, 1998), we deleted 6 out of 26 items because they had loadings below the threshold of .50. Thus, in the whole model, only 20 items were retained as they showed loadings between .564 and .905 (see Table 1).

Next, the composite reliability coefficient was used to ascertain the internal consistency reliability of measures. The interpretation of internal consistency reliability using composite reliability coefficient was based on the rule of thumb provided by Bagozzi and Yi (1988) as well as Hair et al. (2011), who suggested that the composite reliability coefficient should be at least .70 or more. Table 1 shows the composite reliability coefficients of the latent constructs. As shown in Table 1, the composite reliability coefficient of each latent construct ranged from .836 to .906. As each latent construct exceeded the minimum acceptable level of .70, the internal consistency reliability of the measures used in this study was deemed adequate (Bagozzi & Yi, 1988; Hair et al., 2011).

Third, discriminant validity was ascertained using Average Variance Extracted (AVE) as suggested by Fornell and Larcker (1981). This was achieved by comparing the correlations among the latent constructs with square roots of AVE (Fornell & Larcker, 1981). To achieve adequate discriminant validity, Fornell and Larcker further suggested that the square root of the AVE should be greater than the correlations among latent constructs. As indicated in Table 2, the correlations among the latent constructs were compared with the square root of the AVEs (values in bold face). Table 2 also shows that the square roots of the AVEs were all greater than the correlations among latent constructs, suggesting adequate discriminant validity.

Structural Model Results

To assess significance of the path coefficients for the main model, we applied a standard bootstrapping procedure with a number of 5,000 bootstrap samples and 197 cases (Hair, Sarstedt, Ringle, & Mena, 2012; Henseler, Ringle, &

Table 3. Path Coefficients.

	Model 1 (main effects)	Model 2 (interaction effects)
Punishment certainty	−.570**	−.389**
Punishment severity	−.226**	−.169**
Self-regulatory efficacy	−.199**	−.159**
Punishment certainty × Self-regulatory efficacy		−.231**
Punishment severity × Self-regulatory efficacy		−.148
Age	−.038	−.040
Gender	.011	.003
Job position	−.072	−.076
Ethnic group	−.051	−.041
R^2	.520	.566

Note. Dependent variable: organizational deviance.
*Significant at .05 (1-tailed). **Significant at .01 (1-tailed).

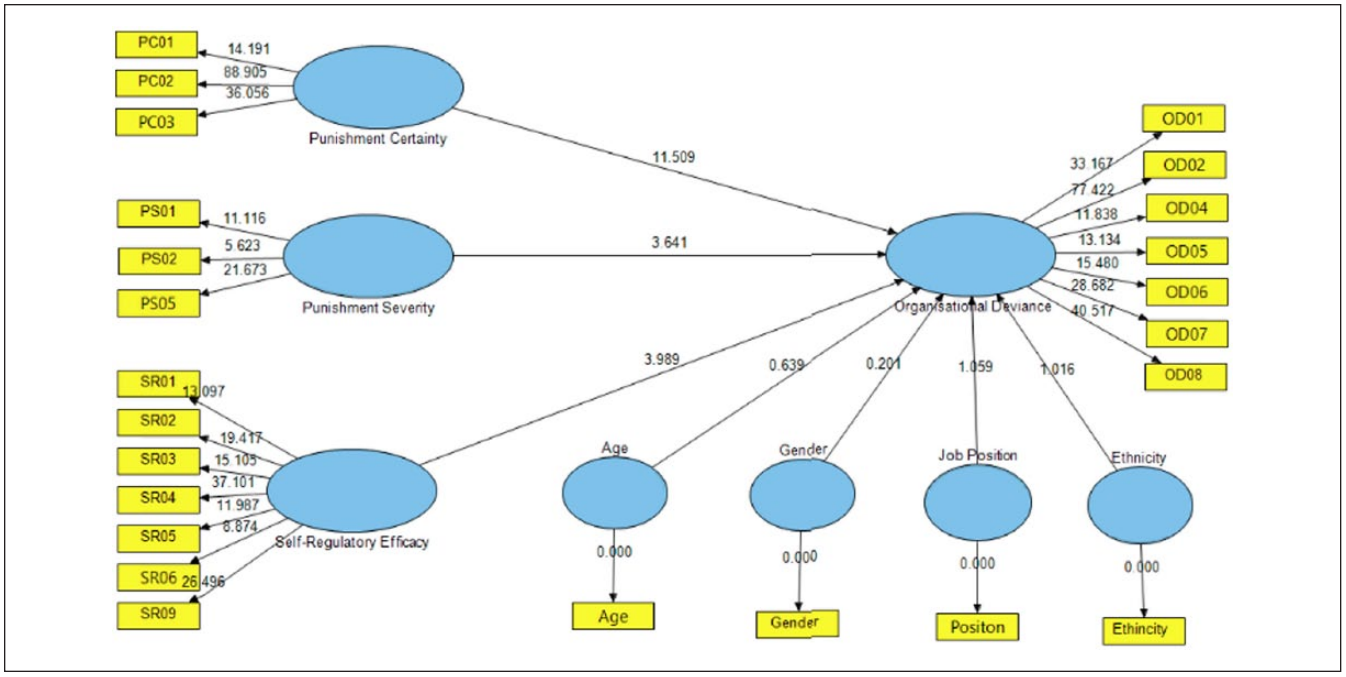

Figure 2. Structural model.
Note. PC = punishment certainty; PS = punishment severity; SR = self-regulatory; OD = organizational deviance.

Sinkovics, 2009). Table 3 and Figure 2 present the significant paths for our research model.

Figure 2 is a diagrammatical representation of the results of the structural modeling analysis aimed at testing the hypothesized causal relationship between the latent variables. The effects of age, gender, job position, and ethnic group were also incorporated into the structural model. As depicted in Figure 2, numbers shown near the arrows are the *t* values. Given that our hypotheses are stated in a directional form and the power of one-tailed test is greater than for two-tailed test, we opted for a one-tailed test (Kimm, 1957; Zar, 1999). Those values suggest that relationships were significant at one-tailed test 0.05 level with critical *t*-value of ±1.645. However, we are not proposing the elimination of two-tailed testing in the context of theory testing because we recognize that there are some situations where two-tailed testing is appropriate (Cho & Abe, 2013). Zikmund, Babin, Carr, and Griffin (2009), for example, noted that two-tailed test is most appropriate when the researcher is not certain about directionality of the research hypotheses.

Hypothesis 1 predicted that punishment certainty would be negatively related to organizational deviance. Result (Table 3, Model 1) revealed that punishment certainty had a significant negative relationship with organizational deviance, regardless of age, gender, job position, and ethnic group ($\beta = -.570$, $p < .01$). As such, Hypothesis 1 was strongly supported. Similarly,

Hypothesis 2 predicted that punishment severity would be negatively related to organizational deviance. Result indicated punishment severity affected organizational deviance negatively, regardless of age, gender, job position, and ethnic group ($\beta = -.226$, $p < .01$). The result provides empirical support for Hypothesis 2. In examining the direct effect of self-regulatory efficacy on organizational deviance, result indicated that self-regulatory efficacy showed a significant negative relationship with organizational deviance, regardless age, gender, job position, and ethnic group ($\beta = -.199$, $p < .01$), suggesting support for Hypothesis 3.

Having ascertained the significance of the path coefficients for the main model, next, we assessed the level of the *R*-squared values, effect size, and predictive relevance of the research model. Table 3 presents the *R*-squared values of the endogenous latent variable. As shown in Table 3, the research model explained 56.6% of the total variance in organizational deviance, after controlling for the demographic variables. This suggests that the three sets of exogenous latent variables (i.e., punishment severity, punishment certainty, and self-regulatory efficacy) collectively explained 56.6% of the variance in organizational deviance, after controlling for the demographic variables. Falk and Miller (1992) proposed an *R*-squared value of .10 as a minimum acceptable level. Following Falk and Miller's recommendation, it can be said that the endogenous latent variable had an acceptable level of *R*-squared values.

Effect Size and Predictive Relevance

Effect size indicates the relative effect of a particular exogenous latent variable on endogenous latent variable(s) by means of changes in the *R* square (Chin, 1998). It is calculated as the increase in *R* square of the latent variable to which the path is connected, relative to the latent variable's proportion of unexplained variance (Chin, 1998). Thus, the effect size could be expressed using the following formula (Cohen, 1988; Selya, Rose, Dierker, Hedeker, & Mermelstein, 2012; Wilson, Callaghan, Ringle, & Henseler, 2007):

$$\text{Effect size: } f^2 = \frac{R^2_{\text{Included}} - R^2_{\text{Excluded}}}{1 - R^2_{\text{Included}}} \quad (1)$$

Cohen (1988) described f^2 values of 0.02, 0.15, and 0.35 as having small, medium, and large effects, respectively. Result showed that the effect size for punishment certainty was 0.59, 0.06 for punishment severity, and 0.05 for self-regulatory efficacy. Thus, the effect size for punishment certainty may be regarded as large, whereas the effect sizes for punishment severity and self-regulatory efficacy may be considered as small (Cohen, 1988). The present study also applied Stone–Geisser test of predictive relevance of the research model using blindfolding procedures (Geisser, 1974; Stone, 1974). In particular, a cross-validated redundancy measure (Q^2) was applied to assess the predictive relevance of the research model (Chin, 2010; Geisser, 1974; Hair et al., 2013; Ringle et al., 2012; Stone, 1974). The Q^2 is a criterion to a measure how well a model predicts the data of omitted cases (Hair et al., 2014). According to Henseler et al. (2009), a research model with Q^2 statistic(s) greater than zero is considered to have predictive relevance. In other words, a research model with higher positive Q^2 values has more predictive relevance. Result revealed Q^2 statistic of 0.264 for the endogenous latent variable, which is above zero, suggesting predictive relevance of the model (Chin, 1998; Henseler et al., 2009).

Testing Moderating Effect

We applied a product-indicator approach using Partial Least Squares Structural Equation Modeling to detect and estimate the strength of the moderating effect of self-regulatory efficacy on the relationship between punishment severity and punishment certainty and organizational deviance (Chin et al., 2003; Helm, Eggert, & Garnefeld, 2010; Henseler & Fassott, 2010). To apply the product-indicator approach, the first step requires the examination of direct effects by incorporating all the exogenous latent variables and considering the moderating variable as the independent latent variables in the model. The second step requires the latent interaction term to be created by multiplying the products of each indicator of the exogenous latent variables with each indicator of the moderating variable (Henseler & Fassott, 2010). The third step requires the estimation of the standardized path coefficients to confirm whether the interaction effects are significant (see Table 3, Model 2). The final step requires ascertaining the strength of the moderating effects using Cohen's (1988) effect size formula.

Recall that Hypothesis 4 predicted that self-regulatory efficacy would moderate the relationship between punishment certainty and organizational deviance, such that the relationship between punishment certainty and organizational deviance would be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy. As shown in Table 3, Model 2, there was a significant interaction effect between punishment certainty and self-regulatory efficacy ($\beta = -.231$, $p > .01$). Thus, Hypothesis 4 was supported. Figure 3 depicts the pattern of interaction between punishment certainty and self-regulatory efficacy in predicting organizational deviance. This figure shows that the effect of punishment certainty is stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy.

Hypothesis 5 posited that self-regulatory efficacy would moderate the relationship between punishment severity and organizational deviance, such that the relationship between punishment severity and organizational deviance would be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy. This hypothesis was not supported because there was no significant interaction effect between self-regulatory efficacy and punishment

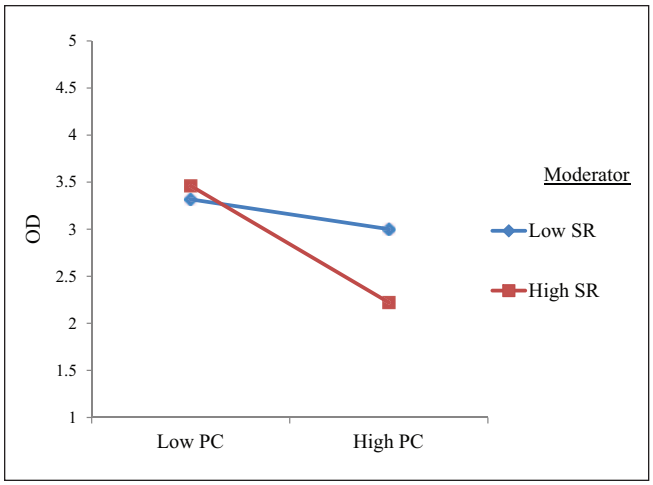

Figure 3. The interaction between punishment certainty and self-regulatory efficacy in predicting organizational deviance.
Note. PC = punishment certainty; SR = self-regulatory; OD = organizational deviance.

certainty ($\beta = -.148$, $p > .05$), as indicated in Table 3, Model 2. Regarding the strength of the moderating effects, the results showed the effect size of 0.11, thus, suggesting a small effect based on Cohen's (1988) effect size determination criterion.

Discussion

The main objective of this study was to examine whether self-regulatory efficacy matters on the relationships among punishment certainty, punishment severity, and organizational deviance. First, consistent with Hypothesis 1, results revealed a significant negative relationship between punishment certainty and organizational deviance, suggesting that the more employees are certain of punishment for deviating from organizational norms, the less likely they will engage in that act (Gibbs, 1975). This result is consistent with Hollinger and Clark (1983) who reported a significant and negative relationship between punishment certainty and employee theft. Similar result was also reported regarding the negative relationship between punishment certainty and information systems misuse (D'Arcy et al., 2009).

Second, we hypothesized that punishment severity would be negatively related to organizational deviance (Hypothesis 2). As expected, the finding revealed a significant negative relationship between punishment severity and organizational deviance. This indicates that the more employees perceive the degree of punishment to be greater, the less likely they will exhibit deviant behavior at work (D'Arcy et al., 2009). In addition, this finding is also consistent with Hollinger and Clark (1983) who found a significant negative association between punishment severity and employee theft.

Third, with respect to Hypothesis 3, the results showed a significant and negative relationship between self-regulatory efficacy and organizational deviance. This finding suggests that an individual who possesses higher levels of self-regulatory efficacy is less likely to engage in organizational deviance (Caprara et al., 1998). In a recent study, Kura et al. (2013) also found that self-regulatory efficacy minimized the likelihood of employees to engage in organizational deviance.

Fourth, we conjectured that self-regulatory efficacy would moderate the relationship between punishment certainty and organizational deviance, such that the relationship between punishment certainty and organizational deviance would be stronger (i.e., more negative) for individuals who are high in self-regulatory efficacy than those who are low in self-regulatory efficacy (Hypothesis 4). As expected, the findings revealed a significant interaction effect between self-regulatory efficacy and punishment certainty. This finding suggests that employees who perceive high punishment certainty are more likely to accept direction and thus exhibit less organizational deviance at work (Gibbs, 1975). The result is also consistent with general deterrence theory (e.g., Beccaria, 1764/1963; Gibbs, 1968, 1975) that postulates that the greater the certainty of punishment for a deviant act, the less likely individuals will engage in that act.

However, contrary to expectation, self-regulatory efficacy did not buffer the relationship between punishment severity and organizational deviance. This lack of significant moderating effects is worth discussing. A possible explanation for the non-significant moderating effect could be that severity in punishment is an effective deterrent compared with certainty of punishment because people in general are more deterred by the severity of the punishment.

Implications for Theory and Practice

Taken together, the results of the current study have important theoretical and practical implications. First, this study has provided a theoretical implication by giving additional empirical evidence in the domain of general deterrence theory (Beccaria, 1764/1963; Gibbs, 1968, 1975), which posits that both punishment certainty and punishment severity instituted by an organization should theoretically be able to regulate individual's behavior in the workplace through unpleasant experience and/or pains associated with deterrence mechanisms. Instead of focusing on the relationships among punishment certainty, punishment severity, and specific forms of deviant behaviors, such as theft, workplace substance use, and cyberloafing, among others, this study has extended the theory by examining a broad range of organizational deviance. This is crucial because focusing on narrow forms of organizational deviance provides incomplete view of deviant behaviors at work (Bennett & Robinson, 2000; Robinson & Bennett, 1995). Second, this study has also tested the moderating role of self-regulatory efficacy on the relationships among punishment certainty, punishment severity, and organizational deviance. Extant empirical studies regarding the relationships among

punishment certainty, punishment severity, and organizational deviance reported inconsistent findings (e.g., Hollinger & Clark, 1983; Siponen & Vance, 2010). Hence, this strongly presents a theoretical gap in the deterrence literature. The present study has attended to this gap by incorporating self-regulatory efficacy as a moderating variable to enhance the understanding on the influence of both punishment certainty and punishment severity on organizational deviance.

Finally, our results indicated that self-regulatory efficacy was a significant moderator of punishment-related effects. The results suggest that organizational interventions aimed at minimizing workplace deviance should consider the "effects of the bad apples on the barrel". For example, managers can minimize the likelihood of individuals to engage in organizational deviance through personality inventory test during recruitment and selection process. This can be achieved by recruiting those employees with higher level of self-regulatory efficacy, because their values accord with organizational norms.

Limitations and Future Research Directions

The non-significant moderating effect of self-regulatory efficacy on the relationship between punishment severity and organizational deviance suggests the possible operation of other moderating variables. Future research may want to consider other personality traits such as conscientiousness. Conscientiousness has been defined by Roberts, Jackson, Fayard, Edmonds, and Meints (2009) as "the tendency of an individual to follow socially prescribed norms for impulse control, to be goal directed, to plan, and to be able to delay gratification and to follow norms and rules" (p. 369). Research indicates that individuals with high level of conscientiousness are less likely to engage in deviant behavior at work than those with low level of conscientiousness (e.g., Bowling & Eschleman, 2010; Marcus, Lee, & Ashton, 2007). Second, this study needs to be replicated in different contexts and settings with different samples to further validate the findings.

Although the study has provided some insight into the role of punishment and personality trait of self-efficacy in organizational deviance, it is not without limitations. First, because the present study adopted a cross-sectional design, causal inferences could not be made to the population. Therefore, a longitudinal design should be used in future studies to detect changes over time. Second, organizational deviance was assessed using self-report measures. Although Bennett and Robinson (2000) noted the validity of self-report measures in assessing organizational deviance, particularly when anonymity is assured during data collection, the use of self-report measures is associated with CMV (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and social desirability bias (Dodaj, 2012; Podsakoff & Organ, 1986; Randall & Fernandes, 1991). Although this study attempted to reduce these problems by ensuring anonymity and improving scale items (Podsakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012), it is possible that the participants might have under-reported their deviance on the survey questionnaires. Therefore, in the future, researchers may wish to use other strategies to assess organizational deviance. More specifically, supervisor ratings of organizational deviance and peers reporting of organizational deviance should be used to control for the CMV and social desirability bias. To further reduce the possibility of common method bias, different measures should be assessed at different times in the future studies.

As noted earlier, the results of this study show that the research model explained 56.6% of the total variance in organizational deviance. Although 56.6% of the variance in organizational deviance is acceptable based on Falk and Miller's (1992) recommendation, 43.4% remains unexplained indicating that there are other variables not incorporated in our research model. Thus, given the multicultural and multiethnic nature of our research context (Odia, 2014; Udebunu, 2011), there is a strong need to move beyond analytical interaction by testing cross-level interaction effects. Cross-level interaction effects could be included in the future studies to assess whether the nature or strength of the relationship between two lower-level variables (e.g., punishment certainty and organizational deviance) change as a function of a higher level moderator variable (see Aguinis, Gottfredson, & Culpepper, 2013, for an empirical demonstration). Specifically, future research could test the hypothesis that the effects of punishment certainty and punishment severity on organizational deviance will be moderated by organizational culture. This potential evaluation could provide "ample opportunities for cross-fertilization of theories originating from different disciplines" (Andersson, Cuervo-Cazurra, & Nielsen, 2014, p. 1067).

Conclusion

Despite its limitations, the present study is able to show the moderating effect of self-regulatory efficacy on relationship between punishment-related factors and organizational deviance. Findings of the study underscore the importance of punishment certainty and punishment severity in reducing organizational deviance. However, organizational deviance is affected negatively by perceived certainty when self-regulatory efficacy is taken into account. The finding also suggests a strategy toward reducing organizational deviance through personality inventory test during recruitment and selection process. Taken together, the findings suggest that punishment certainty, punishment severity, and self-regulatory efficacy are effective in minimizing the tendency of employees to engage in organizational deviance. In particular, results suggest that the effect of punishment certainty on organizational deviance depends on employees' level of self-regulatory efficacy. Thus, employees with high level of self-regulatory efficacy are restrained from engaging in organizational deviance regardless of their perceptions of punishment certainty.

Declaration of Conflicting Interests

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