Am J Crim Just (2016) 41:498–521
DOI 10.1007/s12103-015-9307-5

Maximum Security Correctional Officers: An Exploratory Investigation into Their Social Bases of Power

Frank Valentino Ferdik[1] · **Hayden P. Smith**[2]

Received: 25 July 2015 / Accepted: 15 September 2015 /
Published online: 23 September 2015

Abstract Correctional officers are responsible for maintaining prison order, establishing institutional security and managing inmate behavior. To accomplish these goals, officers are sometimes required to deploy available bases of power, which are mechanisms of behavioral control used to achieve certain objectives, and include reward, referent, legitimate, coercive and expert. While power bases have been researched at length across numerous organizational settings, they have received comparatively less attention within corrections. Using questionnaire data from a statewide population of maximum security correctional officers (N=559), several ordered logistic regression models were estimated in order to explore the power bases upon which officers rely the most, as well as the antecedents to this decision. Referent and legitimate power ranked highest concerning their ability to control inmates, while measures of officer risk perceptions and work-related attitudes significantly predicted their power base reliance. To ensure inmate compliance with institutional regulations, it is recommended that correctional officers utilize softer forms of power such as referent and legitimate.

Keywords Bases of power · Correctional officer · Decision-making · Risk perceptions · Work attitudes

✉ Frank Valentino Ferdik
fferdik@uwf.edu

Hayden P. Smith
smithhp@mailbox.sc.edu

[1] Department of Criminology and Criminal Justice, University of West Florida, Pensacola, FL 32514, USA

[2] Department of Criminology and Criminal Justice, University of South Carolina, Columbia, SC 29208, USA

Introduction

Correctional facilities serve to remove offenders from society, reform their behavior, and in turn, enhance the safety of communities (McKelvey, 1977). Whether these objectives can be satisfied, however, is largely contingent upon the level of order and control achieved within institutional settings. Failure to maintain order can have wide-reaching implications for prison violence and even the general security afforded to both correctional officers and inmates (Stichman, 2002). When inmates misbehave, furthermore, they disrupt the daily operations of prisons to the point that the facility becomes poorly managed (Steiner, 2008; Stichman, 2002). To counteract these consequences, correctional officers are called upon to supervise offender behavior and control potentially violent situations. Some scholars have noted that in order for correctional officers to successfully accomplish these tasks, they must assert their authority over inmates through the exercise of power (Sykes, 1958; Sykes & Messinger, 1960; Cloward, 1968; Stojkovic, 1984, 1986; Hepburn, 1985). Although the discretionary authority afforded to officers was curtailed considerably following a number of post-1960's legislative reforms (Jacobs, 1977), officers still wield enormous power over the activities of offenders (Hepburn, 1985).

French and Raven (1959) were among the first to address power dynamics operating within organizational settings. They identified five different bases of social power, including reward, referent, legitimate, coercive and expert. Results from various fields of study found that these particular power bases were invoked when individuals desired to influence the conduct of others, and specifically, when superiors required compliance on behalf of subordinates (Etzioni, 1961; Warren, 1968; McDonald, 1979; Rahim, 1986, 1988). Social power bases have been researched at length across a number of academic disciplines and within a variety of organizational contexts, including probation (Smith, Applegate, Sitren, & Springer, 2009) and parole (Steiner, Hester, Makarios, & Travis, 2012). However, taken as a whole, the assessment of power bases within prison systems specifically has received little attention, with only six studies to date having investigated this particular topic (Gordon & Stichman, 2015; Hepburn, 1985; Stichman, 2002; Stichman & Gordon, 2014; Stojkovic, 1984, 1986). This dearth of research is surprising when one considers that negotiations of power are an inherent component of the wider correctional system (Etzioni, 1961), and that officers utilize power in order regulate the behavior of inmates.

With these points in mind then, the present study relied upon cross-sectional survey data collected from a statewide population of maximum security corrections officers in order to investigate officer power base rankings and the variables associated with their preferred base of power. Arguably the most important responsibility of correctional officers is ensuring inmate obedience to institutional regulations (Crawley, 2004). As bases of social power represent potential resources through which this duty can be accomplished, and given the limited attention directed at exploring correctional officer power base reliance, findings from the present analysis not only provide insight into officer work-based decision-making, but also inform us of the power bases they rate most effective in handling offenders. Below we begin with an overview of the broader literature on power bases, followed then by a discussion of power negotiations within the correctional environment.

Literature Review

Bases of Power

Dahl (1957) described power as a "relation between social actors in which actor A can get actor B to do something B would not otherwise have done" (p. 202). French and Raven (1959) identified five different bases of social power that actor A can exert over B, and they include reward power, or the ability of A to offer perquisites to B; referent power, which is based upon A's fair and neutral treatment of B and the identification each side has with one another; legitimate power, which is contingent upon B's perception that A has the inherent right to proscribe certain actions; coercive power, or A's ability to mediate and apply punishments or threats of punishments over B; and finally expert power, which is predicated upon the perception that A has some special knowledge that B either desires or needs (French & Raven, 1959). Perrow (1970) commented that the actual act of power base deployment constitutes a decision-making strategy individuals exercise in an effort to achieve a particular objective. When a person possesses a desire, certain decisions may be invoked that are directly aimed at satisfying that need, with the utilization of a power base constituting one such decision (Salancik & Pfeffer, 1974).

Research on power has primarily been interested in exploring which of the five bases are preferred in terms of their ability to accomplish predetermined goals. Across a number of studies within diverse settings such as the military, educational institutions as well as marketing and consumer psychology, it has consistently been found that referent and legitimate power, in comparison to the other three bases, ranked highest concerning their ability to diffuse interpersonal conflicts, increase worker productivity and ensure subordinate compliance with institutional mandates (Warren, 1968; Raven & Kruglanski, 1970; Jamieson & Thomas, 1974; Katz & Kahn, 1978; Dunne, Stahl, & Melhart, 1978; Katz & Kahn, 1978; McDonald, 1980; Hepburn, 1985; Gaski, 1986; Raven, 1988; Erchul & Raven, 1997; Steiner et al., 2012). Pierro, Kruglanski, and Raven (2012) offered a backdrop to these findings when explaining how referent and legitimate power, contrary to the coercive and reward bases in particular, constitute softer forms of social power. Whereas hard power bases such as reward and coercive rely upon the exchanging of goods or even application of violence in order to achieve certain ends, soft power relies upon fair, equitable and neutral treatment of power recipients by power holders. Power recipients here are treated with dignity, fairness and feel as if they are being valued by power holders (Hepburn, 1985; Pierro et al., 2012). This translates into power recipients being provided a degree of freedom in deciding whether to accept requested demands. As a result, receivers of softer forms of power will respond more favorably because rather than being treated with physical aggression, for example, they are being treated with respect and neutrality. Although French and Raven's (1959) power typology has been researched across numerous settings for several decades now, only until recently have scholars begun applying it to the correctional system. Below we provide a discussion of power within prison industries, followed then by reference to the various studies that have explored power bases in correctional contexts.

Overview of the Prison Facility

Punishment against law violators has for many years been a staple of human society and is often relied upon as a means of behavioral control. Prior to the mid-17th century,

traditional forms of punishment consisted of forced exiles, banishment, mutilation and other rapacious forms of treatment (McKelvey, 1977). Following from here, prisons were introduced as more contemporary forms of punishment, but not so much to humanize these past practices as to more evenly distribute the state's control over an offender and his/her body (Foucault, 1977). Whereas previous forms of punishment were ineffective because they were disproportionately applied, according to Foucault (1977), prisons would offer a more generalized punishment scheme that could provide the state additional control over its citizens through the exercise of power. Total control then is achieved when an authority exerts its complete power and domination over subordinates. Much like schools, hospitals and military installations control the behavior of their constituents through the exercise of power, prisons are yet another institutional feature of modern-day society designed to control offender behavior through the application of power (Foucault, 1977; McKelvey, 1977).

Correctional officers, as the front-line bureaucrats of the prison system (Lipsky, 2010), are the main prison workforce elements tasked with the successful management and total control of the inmate population. This is accomplished by monitoring the daily activities of offenders, restricting their every movement and performing constant surveillance of the wider prison facility (Crawley, 2004). As such, and according to Etzioni (1961), prisons and correctional officers rely upon the application of power over inmates in order to control their behavior and ensure their compliance with institutional mandates. French and Raven's (1959) five different bases of social power are instruments of behavioral regulation correctional officers can use in order to accomplish the wider prison goal of controlling offender conduct. Each power base has received empirical attention as of late and been studied from a variety of different viewpoints, including from the correctional officer, correctional administrative official and even inmate perspectives. These studies have mostly been interested in exploring power base preference among these social actors, and reference to each is provided below.

Bases of Power Within Corrections

Hepburn (1985) was one of the first researchers to explore power bases within the prison system. He discovered that within five prisons across two states, a sample of 360 correctional officers ranked "legitimate and expert power as the most important two reasons prisoners comply…while reward and coercive were ranked as the least important two reasons" (p. 159). Stojkovic (1984) also examined power bases within the correctional environment, yet focused his efforts on inmates. Following a series of semi-structured interviews with over 60 offenders housed in a Mid-Western maximum security facility, he discovered how respondents rated referent, legitimate and expert power as the most effective bases used for manipulating the conduct of other inmates and satisfying certain desires. Stichman (2002) surveyed a group of Ohio inmates regarding their perceptions of their correctional officer's preferred power base. Findings here revealed how "legitimate…and referent power were the most prevalent bases that inmates saw officers as having" (Stichman, 2002, p. 133), whereas expert, reward and coercive were deemed as being inadequate.

Although Smith et al. (2009) and Steiner et al. (2012) evaluated power bases in the probation and parole settings and not the prison, reference to their studies is still provided due to probation and parole representing community-based forms of corrections (McKelvey, 1977). Similar to Stichman (2002), Smith and colleagues (2009) examined probationer

perceptions of their associated officer's preferred base of power and discovered how study participants ranked legitimate and expert power highest in terms of their ability to control offender behavior. Among a sample of 372 parole officers, Steiner et al. (2012) found that over 70 % ranked legitimate power as a predominant reason parolees follow their orders, while only 25 % expressed the same sentiment for coercive power.

Both Gordon and Stichman (2015) as well as Stichman and Gordon (2014) also investigated power bases within the correctional context. Within the first of these studies, referent power outranked all remaining bases with a comparatively higher mean rating of approval, while in the second study referent and legitimate power ranked second and third respectively among all five bases. One final study that explored power base preference within the correctional system comes from Stojkovic (1986). Contrary to the findings reported thus far, Stojkovic (1986) discovered that among a sample of eleven correctional administrators that included prison wardens and unit managers, coercive and reward power were valued above all other bases. Stojkovic (1986) explained that given administrator's detachment from the inmate population and lack of knowledge concerning their specific needs and desires, they may have believed that offering rewards and using physical aggression were sound ways of monitoring offender conduct.

With the exception of Stojkovic (1986), studies on power within the correctional system largely support findings from other power-based research performed in other settings. Specifically regarding correctional officer power base reliance, it appears that they do in fact place greater preference on softer forms of power such as referent and legitimate. As explained by Pierro et al. (2012), this may be the result of officers understanding that inmates desire respect and will not respond favorably to harsher and more aggressive forms of treatment. Even Liebling (2011a) commented on this point when writing that "the moral quality of prison life…and control of offender behavior is enacted and embodied by the attitudes and conduct of prison officers" (p. 485). If correctional officers mistreat and abuse offenders and arbitrarily exert their power over them, then total control and order within the prison facility is greatly jeopardized. For correctional officers to effectively perform their tasks of controlling offender behavior, they need to be perceived as legitimate authority figures who have the moral right and obligation to enforce prison regulations (Liebling, 2011b). This can be achieved by officers utilizing softer and more justifiable forms of power such as referent and legitimate. Application of these bases in particular allow for officers to forge friendly relationships with the inmates they supervise, who in turn, will respect officers and voluntarily submit to their authority (Liebling, 2011a).

With only a limited amount of studies though that have examined power bases within the prison system, and from the correctional officer perspective more specifically, additional investigations into this area are needed. Therefore, not only is this study interested in exploring officer power base reliance, but also the variables connected to this decision-making strategy. Currently the Hepburn (1985) and Gordon and Stichman (2015) analyses stand as the only studies to have explored officer power preference and the variables connected to this outcome. We thereby replicate and expand upon this research by including in multivariate models measures of officer attitudes towards work, as well as a composite scale of officer perceptions of harmful risk from their workplace. Provided below is a brief review of the literature on these variables.

Risk Perceptions

Researchers within business and economics (Floud, 1982), public health (Lee, 2007) and even criminal justice (Gonsalves, Walsh, & Scalora, 2012) have conducted extensive research on the topic of risk perceptions. Rohrmann and Renn (2000) defined a risk perception as a judgment concerning "the possibility that…actions, situations or events might lead to outcomes that affect aspects of what humans value" (p. 14). Reichman (1986) further clarified the meaning of this term when writing that "the concept of risk should not be confused with that of danger as dangers are the causes of risk" (p. 151). She further referenced how risk perceptions regard "the probability that loss will occur" and that "dangers are those conditions which contribute to the probability of loss" (p. 152). This is an important distinction as some researchers have treated these terms interchangeably, leading to biased research findings (see Garcia, 2008).

Studies on risk perceptions have not only found a number of variables to significantly predict this outcome, but have also found judgments of risk to predict subsequent decision-making, and specifically, self-protective decisions (Slovic & Manahan, 1995; Sitkin & Weingart, 1995; Slovic, Peters, Finucane, & MacGregor, 2005; Kim, Ferrin, & Rao, 2008). According to this research, when individuals feel that their well-being and safety are in jeopardy, they pursue courses of action that mediate potential threats. This is because, generally, human beings desire safe and protective environments void of any harm that may place them in a precarious state of well-being. Slovic and Monahan (1995) noted that since human beings oftentimes place a high degree of value on their life and wish to experience what it has to offer in the future, any danger that threatens these desires will be responded to accordingly with protective measures. The actual taking of precautionary measures represents a harm avoidance decision-making process used to defeat dangers and eliminate risks (Kim et al., 2008). While several studies have explored risk perceptions and decision-making and found evidence supportive of a link between these concepts (Powell & Ansic, 1997; Paulus, Rogalsky, Simmons, Feinstein, & Stein, 2003; Slovic et al., 2005), this line of research has yet to be applied to the correctional environment.

Officers of the correctional system are employed under dangerous conditions where there is a constant threat of harm (Ferdik, Smith, & Applegate, 2014). Dangers frequently encountered by correctional line staff include working alongside inmates with infectious diseases (Macalino et al., 2004), the presence of gang activity, contraband and disruptive inmates (Park, 1976; Kalinich, 1980; Fleisher & Decker, 2001), working alongside mentally ill inmates (Adams & Ferrandino, 2008), riots (Useem, 1985) and physical retaliation from inmates released back into the community (Kinnard, 2010). Researchers have now noted that especially within maximum security correctional institutions, there is a higher presence and salience of these dangers when compared to lower level security facilities. Largely this is because of the nature of the maximum security penitentiary that is populated by violent offenders who either are inflicted with infectious diseases or mental illnesses, part of a gang or resort to tactics such as smuggling contraband in order to escape from the prison (Nacci & Kane, 1984; Mullings, Marquart, & Brewer, 2000; Binswanger et al., 2007). Although these activities and inmates are present within minimum level facilities, the sheer higher volume of them in higher security penitentiaries create for a much more dangerous correctional environment (Mullings et al., 2000). For these reasons, we concentrate our efforts at exploring risk perceptions from dangers and their connection to decision-making with maximum security correctional officers only.

As each of the above dangers can pose a grave risk of harm to both inmates and correctional officers, and with it being the latter's responsibility to ensure that risks are mediated within their work environment, they are required to employ certain decision-making strategies aimed at protecting all individuals housed within the prison (Hepburn, 1985). One possible strategy includes the deployment of the five power bases discussed thus far. Bases of social power, as previously argued, represent decision-making instruments through which inmate behavior and correctional-based dangers can be controlled, thereby leading to the management of injurious risk (Salancik & Pfeffer, 1974). Salancik and Pfeffer (1974) further noted that individuals may invoke a particular power base when they are faced with uncertainty. When people feel unclear about the future, they may deploy the most appropriate power base available in an effort to claim some sense of confidence about future outcomes. The authors here cited the example of an employer being uncertain of an employee's future performance with an organization. Should feelings of uncertainty surface, s/he may invoke a power base designed to control the employee's behavior and affirm satisfactory worker productivity.

In this particular scenario, the employer has subjectively applied a risk profile to the employee and utilized a decision-making framework in accordance with this profile. Beck (1992) remarked that individuals tend to behave according to their personal interpretations of the world, which includes making assessments of the various risks that confront us. Throughout the daily course of our lives, we encounter a variety of risks, but it is our personal and relative interpretation of them that largely dictate our behavioral responses to them. If we perceive a person or entity as posing risk, such as the employer judging the employee as one who may not perform according to certain standards, then we will respond in a way that mediates this personal assessment of risk. Given this backdrop, and the uncertainty posed by offenders incarcerated in maximum security facilities, this paper tests whether a relationship exists between correctional officer risk perceptions and their power base reliance. Power bases in this context may be used to control offender behavior, thereby undoing the risk and uncertainty perceived by correctional officers.

Correctional Officer Work-Related Attitudes

Variance in officer power base reliance may also be the result of their attitudes towards work (Poole & Regoli, 1980). Partly this is because the attitudes, feelings and perceptions individuals hold of environments are strong determinants of their subsequent behavior. How people behave, according to several behavioral scholars, is often a direct reflection of how they feel (Schein, 1990; Konovsky & Pugh, 1994). Since human beings desire to act in accordance with their internal emotions and feelings, their actions may be a direct reflection of what they are sensing at a given moment. For instance, if a certain individual is feeling irritated by another, s/he may demonstrate that irritability by being hostile with that specific person (Tyagi, 1982). Parker et al. (2003), when commenting on the specific connection between work-related behaviors and attitudes, wrote that "perceptions are a fundamental determinant of employee behavior…because employees tend to work according to their personal beliefs, expectations and feelings" (p. 394). If an employee is disgruntled or even dissatisfied with his/her work environment, this can have a direct effect on the individual's work-related behavior. This individual may make the decision to treat others poorly, be disrespectful towards supervisors, or purposely perform inadequately on designated tasks (Schein, 1990; Konovsky & Pugh, 1994).

To date, only two studies have examined whether any associations exist between correctional officer work-related attitudes and their power base deployment (Gordon & Stichman, 2015; Hepburn, 1985). In Hepburn's (1985) study, several statistically significant relationships surfaced, including correlations between greater job satisfaction and reward power, as well as a connection between officer's punitive custodial orientation and their reliance on coercive power. Similar to Hepburn (1985), Gordon and Stichman (2015) examined whether certain work-related attitudes of officers, namely, their custodial orientations towards inmates, shared a connected with power base deployment. It was found that greater support for rehabilitation positively predicted each of the legitimate, expert and referent power bases. To expand these investigations, the current study will test whether additional officer work-related attitudes in the name of co-worker evaluations, role conflict and ambiguity, officer stress and job involvement each predict their decision to employ a particular power base. Such analyses will refine our understanding of the factors associated with correctional officers and their preferred bases of social power.

Current Focus

Findings from the present study contribute to the broader correctional literature in a number of ways. First, given the limited knowledge surrounding social bases of power within prison systems, and specifically, the power bases of correctional officers, this study extends this research by exploring power base rankings among a population of maximum security correctional officers. Presently, and as referenced, only two studies (Gordon & Stichman, 2015; Hepburn, 1985) have examined the various bases of power as dependent variables and from the perspective of the officer. As power bases represent instruments through which inmate behavior can be regulated, it is important to understand how officers perceive this decision-making strategy. Second, we replicate but also expand upon the methods of both Hepburn (1985) and Gordon and Stichman (2015) by utilizing more sophisticated statistical modeling and by analyzing a wider assortment of predictor variables. Aside from including various work attitude variables of correctional officers in multivariate models, we also regress each power base on officer risk perceptions. Given the limited amount of studies that have explored each of these issues, exploratory findings from this investigation should prove relevant to those interested in understanding correctional officer power base deployment and the factors connected to this decision-making strategy.

Methods

Data

These data originated through meetings between corrections administrative officials of the South Carolina Department of Corrections and research team members. Meetings included discussions of data collection procedures, a development of the survey instrument, as well as a pilot-test of the survey. Electronic versions of the questionnaire were then distributed to a statewide population of maximum security correctional

officers.[1] Every survey was accompanied by a cover letter that addressed the voluntary and anonymous nature of the study, the identity of the investigators, confirmation that human subjects review approval had been granted, and assurances that individual survey responses would remain confidential.[2] To increase response rates, all eight maximum security facilities throughout the state were visited by researchers. Respondents were briefed that they could complete the survey at either workplace computer stations within the prison or any internet-connected computer outside work, that between 10 and 15 min of their time would be required for the study, and that their aggregated responses would be used to improve prison safety. To further promote a high response rate, during the data collection period weekly follow-up e-mails were submitted to wardens who later explained that during every roll call meeting officers were reminded to complete one questionnaire. At the time of the study, 1,079[3] maximum security officers were employed throughout the state, with 559 successfully completing and returning usable questionnaires (a response rate of 51.9 %).

Survey Construction and Measures

Variables included in the present study were extracted from prior literature within different domains. As the outcomes, measures of correctional officer power bases were borrowed and amended from Smith et al. (2009) and Steiner et al. (2012). Included as a predictor was a composite scale of correctional officer risk perceptions of harm from select workplace dangers (Slovic, Fischhoff, Lichtenstein, Corrigan, & Combs, 2000). Additional predictors included officer ratings for job involvement, stress and co-worker support (Garcia, 2008), as well as role conflict and role ambiguity (Lambert, Hogan, Paoline, & Clarke, 2005). To assess the measurement validity of individual items used to operationalize conceptual variables, principal axis factor analysis using promax rotation was employed. Common factor methods such as principal axis are preferred over principal components analyses as they do not rely upon the oftentimes untenable assumptions that variance is common and perfectly reliable (Pett, Lackey, & Sullivan, 2003). Principal axis methods account more precisely for measurement error and thereby produce more conservative score reliability estimates. Previous researchers have recommended that only those items displaying a factor

[1] There are a total of 28 state-operated correctional institutions within South Carolina, eight of which are maximum level security. Of these eight, 2 are female only facilities and the remainder are male only. South Carolina's prison facilities adopt one of three different security level classifications, and they include level-I (minimum), level-II (medium) and level-III (maximum). Lower level security facilities are either community-based pre-release work centers designed to house non-violent offenders serving sentences of 36 months or less, or institutions with double-bunk cubicles surrounded by high perimeter fences that house offenders serving sentences of between 12 and 60 months. High level security facilities (Level-III), instead, house violent offenders who are serving extended sentences of greater than 60 months and who may be exhibiting certain behavioral, mental or cognitive problems that require medical attention. Offenders here are often isolated from one another, have their activities constantly supervised and restricted and are enclosed within single-celled structures that are surrounded by 20' high perimeter fences with extensive electronic monitoring (SCDC, 2014).

[2] An electronic survey account was purchased using the services of QuestionPro.com. The survey was made available between January 22, 2014 and February 22, 2014. Correctional administrative officials uploaded the survey to computers at all eight maximum security facilities throughout the state via their intranet service, which permitted officers the opportunity to complete the survey during their shift. Completed surveys were submitted through QuestionPro.com, with no identifying information contained within them.

[3] Updated records as of January, 2014 regarding the total number of employed officers were provided by the Research and Development team of the South Carolina Department of Corrections.

loading of .40 or above should be retained for analytical purposes, which was the strategy adopted here (Hair, Black, Babin, & Anderson, 2010) (see Appendix for promax rotated pattern matrix table). Control variables, finally, included measures of officer race, gender, age, education, employment tenure and shift. Each variable is described in more detail below, with Table 1 providing a descriptive summary of these measures.

Correctional Officer Bases of Power As previously referenced, French and Raven (1959) identified five social forms of power within organizational settings, including reward, referent, legitimate, coercive and expert power. Items used to operationalize each of these outcomes were amended from Smith et al. (2009) and Steiner et al. (2012). On scales ranging from Strongly Agree=4 to Strongly Disagree=1, with higher values denoting a stronger base of power reliance, respondents were asked to rate their level of agreement to the following statements:

1. I get inmates to do what I ask because I can give them special help or benefits (Reward power).
2. I get inmates to do what I ask because they respect me (Referent power).
3. I get inmates to do what I ask because they believe I have the authority to tell them what to do (Legitimate power).
4. I get inmates to do what I ask because they fear sanctions (Coercive power).
5. I get inmates to do what I ask because they think I know what is best for them (Expert power).

Correctional Officer Risk Perceptions To capture officer perceptions of injurious risk, respondents rated on 5-point scales ranging from 1=Very Low to 5=Very High the probability of becoming seriously injured as a result of seven workplace dangers (see Table 1 for the list of dangers). Each hazard was selected from an array of literature attesting to the perilous and oftentimes unpredictable nature of correctional settings (Park, 1976; Kalinich, 1980; Useem, 1985; Fleisher & Decker, 2001; Adams & Ferrandino, 2008; Kinnard, 2010). Injurious ratings for each of the seven dangers were summed to create a composite risk perception scale, with greater values indicative of heightened risk evaluations (α=.871).

Correctional Officer Work-Related Attitudes and Control Variables Consistent with Hepburn (1985), a number of variables designed to assess work environment characteristics of correctional officers were included in regression models. Regarding the first of these measures, officers were asked to rate three items measuring their degree of involvement with the job on 4-point Likert scales ranging from Strongly Agree=4 to Strongly Disagree=1, with higher values reflecting greater enthusiasm for the occupation (*Job Involvement*; α=.771). These scale items were borrowed from Lambert et al., (2011). Survey-takers were then asked to rate 5 items on similar 4-point Likert scales designed to assess their degree of job-related stress (*Stress*; α=.875). All items were borrowed from Garcia (2008), with greater values reflective of heightened stress levels. Measures of role conflict and role ambiguity were borrowed from Lambert et al., (2005) and each consisted of four separate items. These items were rated

Table 1 Descriptive statistics for variables used in analysis

Variables and items	Code or Min-Max	Mean or N	S.D. or Percent
Reward power	1–4	1.575	0.680
Referent power	1–4	3.215	0.647
Legitimate power	1–4	2.684	0.767
Coercive power	1–4	2.111	0.827
Expert power	1–4	2.406	0.809
Officer risk perceptions	7–35	24.760	6.682
Working alongside inmates with diseases	1–5	3.387	1.315
Presence of gangs	1–5	3.648	1.271
Presence of disruptive inmates	1–5	3.590	1.197
Working alongside mentally ill inmates	1–5	3.606	1.252
Presence of contraband	1–5	3.693	1.263
Riots	1–5	4.543	1.209
Community retaliation from inmates	1–5	3.001	1.168
Officer stress	5–20	13.049	3.381
A lot of times my job makes me frustrated	1–4	2.838	0.878
I am under a lot of pressure when at work	1–4	2.611	0.847
When at work, I feel tense and uptight	1–4	2.485	0.812
I am usually calm and at ease when at work[a]	1–4	2.429	0.798
There are many aspects of my job that upset me	1–4	2.649	0.825
Role conflict	4–16	10.187	2.510
I receive conflicting requests from 2 or more people at work	1–4	2.552	0.823
When a problem comes up at work, people rarely agree on how it should be handled	1–4	2.581	0.839
I have to bend rules to get things done	1–4	2.195	0.815
I have to do things without adequate resources and materials	1–4	2.843	0.872
Role ambiguity	4–16	7.747	2.448
I clearly know what my work duties are[a]	1–4	1.721	0.760
The rules we have to follow are clear[a]	1–4	2.002	0.831
I am unclear who reports to me	1–4	1.940	0.808
I do not always understand what is expected of me at work	1–4	2.087	0.835
Job involvement	3–12	5.940	1.721
I live, eat and breathe my job	1–4	2.123	0.757
The major satisfaction in my life comes from work	1–4	2.045	0.711
The most important things that happen in my life occur at work	1–4	1.773	0.599
Co-worker support	4–24	15.504	4.096
A feeling that work-related opinions are valued by my co-workers	1–6	3.165	1.294
A feeling that opinions are misunderstood by my co-workers[a]	1–6	4.168	1.203
A feeling that you work well with co-workers	1–6	4.311	1.316
A feeling that there is open communication between you and your co-workers	1-6	3.856	1.417
Race[b]	0=White	191	34.48 %
	1=Non-White	363	65.52 %
Age[c]	1=18–23	39	7.07 %
	2=24–29	122	22.10 %

Table 1 (continued)

Variables and items	Code or Min-Max	Mean or N	S.D. or Percent
	3=30–35	92	16.67 %
	4=36–41	63	11.41 %
	5=42–47	73	13.22 %
	6=48–53	85	15.40 %
	7=54 or older	78	14.13 %
Gender	0=Male	332	59.93 %
	1=Female	222	40.07 %
Education	1=Less than H.S.	2	0.37 %
	2=H.S./GED	164	30.04 %
	3=Some College	207	37.91 %
	4=2 year/Associate's	93	17.03 %
	5=4 year/Bachelor's	64	11.72 %
	6=Master's and above	16	2.93 %
Employment tenure	1=Less than 1 year	70	12.75 %
	2=1–2 years	105	19.13 %
	3=3–6 years	151	27.50 %
	4=7–10 years	87	15.85 %
	5=11–15 years	46	8.38 %
	6=16–20 years	44	8.01 %
	7=21–25 years	27	4.92 %
	8=26–30 years	16	2.91 %
	9=31or more years	3	0.55 %
Officer shift	0=Day Shift	320	58.72 %
	1=Night Shift	225	41.28 %

Min = Minimum Value; Max = Maximum Value; N = Total in Category; S.D. = Standard Deviation. [a] Response options for these survey items were reverse coded so that higher values reflect increases in the associated construct being measured; [b] Of the 363 Non-White respondents, 360 self-reported being Black or African American, 2 self-reported being Hispanic and 1 self-reported being American Indian. Given the limited amount of variance among Non-White respondents, we decided to collapse this category. [c] Although we would have preferred to measure Age as a continuous variable, corrections department administrative officials requested that it be measured categorically

on 4-point Likert scales, with higher values reflecting greater work-related conflict and ambiguity (*Role Conflict*; α=.739 and *Role Ambiguity*; α=.752). Officers were also asked to consider the previous six months and respond to 4-items measuring the degree to which they had experienced any type of support from their colleagues. Borrowed from Garcia (2008), these items were measured on 6-point scales ranging from 1=Very Rarely to 6=All the Time, with higher values denoting greater support (*Co-Worker Support*; α=.790). Demographic controls, finally, included race, age, gender, employment tenure, education level and work shift.

Analytic Strategy

Various statistical techniques were undertaken to explore correctional officer bases of power. First, descriptive figures for each of the variables included in the present study were summarized and can be viewed in Table 1. Next, a frequency distribution of respondent's rankings of the five social power bases was generated, with these results reported in Table 2. Each of the five power bases was measured using ordered categories of placement, therefore

requiring ordered logistic regression modeling (OLM) for estimation purposes (Long, 1997). Positive coefficients in OLM models estimate the (log) odds of higher versus lower category placement within the criterion measure per every one unit change in the explanatory variable, holding constant all other considerations in the model. Instead negative coefficients estimate the (log) odds of being in the current or lower category of the dependent variable, given a unit change in the independent variable (Kaminski, Koons-Witt, Thompson, & Weiss, 2010).[4] For ease of interpretation, (log) odds were exponentiated and reported in proportional odds ratio format.[5] Output from the ordered and generalized ordered logit models is reported in Table 3.[6]

Results

Output from the Frequency Distribution

Table 2 displays the frequency distribution of correctional officer power base rankings. Over 90 % of respondents either agreed or strongly agreed that inmates comply with officer orders because inmates respect correctional line staff (i.e., referent power). This was coupled with strong support for legitimate power, with roughly 72 % of agreement for this base. Little support though was provided by officers for the utilization of either reward (91 % disagreement) or coercive power (71 % disagreement). While the majority of officers did not support the use of expert power (56 %), this category was somewhat divided with 44 % of officers expressing some degree of support. To further analyze power base ranking variance among the present sample of correctional officers, multivariate regression models were estimated.

[4] When estimating OLM models, it is important to examine whether the effects of explanatory measures are constant across all categories of the dependent variable, which is assessed by running an omnibus Brant test (Hoffmann, 2004; Long, 1997). None of the independent variables within the reward, referent and legitimate power models violated the proportional odds assumption, while instead risk perceptions in the coercive model and officer stress in the expert model were in violation. Under these conditions, it is recommended to employ a generalized ordered logistic regression modelling technique (GOLM) (Williams, 2006). GOLM relaxes the proportional odds assumption and allows the coefficients from "explanatory variables to vary with the level of response category thresholds" (Kaminski et al., 2010, p. 93).

[5] Variance inflation factors across all models ranged from 1.02 to 2.21, while tolerance levels never descended below .45, indicating few multi-collinearity concerns (Hair et al., 2010).

[6] When analyzing clustered data, such as are present here with officers nested within 8 prison facilities, it has been suggested that cluster robust standard errors be estimated as these account for correlated error and produce less biased statistical output (i.e., coefficients and standard errors) (Liang & Zeger, 1986; Rogers, 1993). Angrist and Pischke (2009) cautioned though that this procedure should only be adopted when the number of clusters is both greater than 40 and the total number of independent variables analyzed. Given the nature of the current data, more robust and alternative methods that can accommodate small numbers of clusters include the pairs cluster bootstrapped *t*-statistic, the wild cluster bootstrapped *t*-statistic and the cluster adjusted *t*-statistic standard errors as these each produce more reliable null hypothesis test statistics and standard errors (Horowitz, 1997; Ibragimov & Muller, 2010). However, even these procedures require that the number of clusters be greater than the number of explanatory variables, and in our analyses we have 12 variables to 8 clusters. With these warnings in mind, and to account for heteroskedasticity, robust standard error estimates only are reported (Hoffmann, 2004). It should be noted though that despite these cautionary notes, some comparative analyses between models estimated with robust standard errors and the suggested cluster robust standard error alternatives were conducted. Minimal differences in statistical output were detected between all estimated models.

Table 2 Frequency distribution of correctional officer power base rankings

Assigned rank	Reward power (*N*=551)	Referent power (*N*=552)	Legitimate power (*N*=549)	Coercive power (*N*=548)	Expert power (*N*=547)
Strongly agree	1.63 %	33.15 %	15.38 %	5.84 %	8.59 %
Agree	5.99 %	57.25 %	55.92 %	22.81 %	35.47 %
Disagree	40.65 %	7.25 %	20.50 %	47.99 %	43.88 %
Strongly disagree	51.73 %	2.35 %	8.20 %	23.36 %	12.06 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Valid Percentages are reported

Output from the Ordered and Generalized Ordered Logit Models

Contained within Table 3 are ordered, and where appropriate, generalized ordered logistic regression models for all five correctional officer power bases. Beginning with reward power, elevated risk perceptions and co-worker evaluations were each statistically significantly associated with reduced reliance on this particular power base. Instead for officers who recorded greater involvement with their profession, there was an increase in the odds of reward power reliance. While several of the main explanatory variables surfaced as statistically significant under the reward power model, the same cannot be said for legitimate and referent power. Here, only a handful of the demographic controls significantly predicted each of these power bases.

Due to the officer risk perception and stress scales violating the proportional odds assumption for coercive and expert power, generalized ordered logistic regression models were estimated for each outcome (Williams, 2006). Regarding the former, for officers who perceived greater workplace risk there was an increase in the odds of higher category placement for coercive power. It was further observed from this model that higher self-reported stress levels reduced officer reliance upon sanctions as mechanisms of behavioral control. For those officers who reported a lack of organizational clarity, they were statistically significantly more likely to rely upon punishments in order to control the behavior of inmates. Under the expert power model, finally, heightened risk perceptions, work-induced stress levels and co-worker evaluations were each statistically significantly related to decreases in the odds of expert power reliance. However for those officers who recorded greater degrees of job involvement, there was an increase in the odds of expert power usage.

Discussion

It is clear that in the prison context definitive power differentials exist between correctional officers and inmates, with the former frequently needing to exert their authority over offenders in order to control their behavior (Sykes, 1958; Cloward, 1968; Hepburn, 1985). Initially identified by French and Raven (1959),

correctional officers have at their disposal five distinct bases of social power they can use to regulate offender conduct and suppress risks within their work environment, which include reward, referent, legitimate, coercive and expert. While these power bases have been researched extensively across various academic disciplines and organizations, currently only a handful of such studies have been conducted within corrections (Gordon & Stichman, 2015; Hepburn, 1985; Smith et al., 2009; Steiner et al., 2012; Stichman, 2002; Stichman & Gordon, 2014; Stojkovic, 1984, 1986). To extend this body of research, questionnaire data were collected from a statewide population of maximum security correctional officers. Of particular interest were the power bases upon which correctional officers rely the most, as well as the variables associated within this decision-making strategy. Findings not only improve our understanding of this topic, but contribute to a number of important policy recommendations.

Before discussing this study's results, it is important to initially address several of its methodological shortcomings. First, data were collected from correctional officers employed within a single state. While this constitutes a population-based sample, there was no attempt to include samples of, or generalize to, correctional officers within other states. Second, self-report surveys that measure behavioral patterns have been criticized as invalid indicators of such outcomes as respondents may not always be forthright in their answers (Slovic et al., 2000; Steiner et al., 2012). An attempt to overcome this limitation was provided by visiting every institution and assuring respondents the highest level of study confidentiality. Third, officer power bases were measured using only single items, which may not have captured the full extent of this decision-making technique (Steiner et al., 2012). Finally, the cross-sectional nature of our data inhibit causal claims as the effects of our dependent variables may have preceded those of our explanatory measures. Future researchers, therefore, are encouraged to employ longitudinal research designs in order to assess whether one's base/s of power fluctuate over time. These limitations notwithstanding, our findings still offer some important discussion points.

Referent and legitimate power were the dominant bases identified among this sample of officers, indicating how they rated fair treatment and legitimacy to be effective means by which to ensure inmate compliance with institutional regulations. Regardless of setting (i.e., prison, probation, parole) or respondent status (i.e., officer or inmate, probationer, parolee), it appears these two power bases, especially that of legitimate, are accepted in contemporary correctional settings (Hepburn, 1985; Stichman, 2002; Smith et al., 2009; Steiner et al., 2012). These collective findings contradict early work by Sykes (1958) and Cloward (1968) who questioned the utility of legitimate power. One explanation for this may be the social context in which their research was conducted, with Sykes (1958) and Cloward (1968) writing during a time period in which the legitimacy of various social institutions was being scrutinized. However, when subjected to more recent empirical testing, referent and legitimate bases of power rank high, with this study providing additional support for this finding.

According to Mossholder, Kemery, and Wesolowski (1998), referent power denotes an ability to instill in another feelings of personal acceptance and self-worth. Officers who utilize referent power may be interacting with inmates in fair,

Table 3 Ordered and generalized ordered logistic regression models for correctional officer bases of power

Variables	Reward power		Referent power		Legitimate power		Coercive power		Expert power	
	e^B	Robust s.e.	e^B	Robust s.e.	e^B	Robust s.e.	e^B	Robust s.e.	e^B	Robust s.e.
Officer risk perceptions	0.976*	0.016	0.979	0.016	1.029	0.018	–	–	0.848***	0.015
S.D.	–	–	–	–	–	–	1.006	0.019	–	–
D	–	–	–	–	–	–	1.033†	0.019	–	–
A	–	–	–	–	–	–	1.974***	0.050	–	–
Officer stress	0.984	0.043	0.993	0.041	1.011	0.044	0.819*	0.035	–	–
S.D.	–	–	–	–	–	–	–	–	0.864**	0.048
D	–	–	–	–	–	–	–	–	1.083	0.046
A	–	–	–	–	–	–	–	–	1.093	0.068
Role conflict	1.035	0.067	1.100	0.075	0.949	0.062	1.179***	0.065	1.003	0.057
Role ambiguity	1.103†	0.058	0.949	0.052	0.955	0.057	0.994	0.047	0.995	0.047
Job involvement	1.397***	0.111	1.061	0.086	0.999	0.072	1.094	0.065	1.283***	0.080
Co-worker support	0.923**	0.027	1.012	0.033	1.044	0.035	0.962	0.026	0.867**	0.043
Race	1.443†	0.316	1.623*	0.370	1.019	0.231	0.698*	0.145	1.434†	0.297
Gender	0.656†	0.143	1.496†	0.323	0.810	0.183	1.131	0.231	1.462	0.303
Age	0.953	0.059	0.897†	0.055	1.165**	0.072	0.949	0.054	1.109†	0.065
Education	1.238*	0.117	1.184†	0.114	1.225*	0.107	1.071	0.097	1.100	0.099
Employment tenure	1.141*	0.074	1.153*	0.073	0.961	0.058	1.015	0.059	1.050	0.064
Officer shift	1.367	0.272	0.772	0.153	0.619*	0.118	1.075	0.199	0.759	0.144
Wald Chi^2	46.32; $p \leq 0.000$		25.22; $p=0.014$		32.13; $p=0.001$		37.73; $p=0.001$		76.94; $p \leq 0.000$	
Brant	20.85; $p=0.648$		25.00; $p=0.406$		32.18; $p=0.159$		48.83; $p=0.002$		48.55; $p=0.002$	
Pseudo R^2	0.092		0.043		0.049		0.070		0.148	
N	531		531		530		528		527	

e^B = exponentiated coefficients; Robust s.e. = robust standard error estimates; Pseudo R^2 = McFadden's pseudo R-squared; Wald Chi^2 = Wald chi-square test of overall model fit; Brant = omnibus test for proportional odds where a significant chi-square test signals a violation of the proportional odds assumption. The coefficients for the Officer Risk Perception and Stress scales under the Coercive and Expert Power models respectively correspond to the logits formed for the contrasts (1, 234), (12, 34), (123, 4). †=$p \leq .10$, *=$p \leq .05$, **=$p \leq .01$, ***=$p \leq .001$

neutral and friendly manners, thereby making inmates feel valued and respected by their superiors within the prison context. When less-powerful individuals receive "consideration from someone of higher status…this validates their self-identity and reinforces feelings…of deference towards authority" (Mossholder et al., 1998, p. 536). Mossholder and colleagues (1998) attributed this line of reasoning to the pioneering work of Tyler (1988), who explained how fair, respectful and unbiased treatment of the public by law enforcement can translate into private citizens perceiving the police as legitimate, and further, into their voluntary compliance with legal obligations. Reisig and Mesko (2009) tested this hypothesis using a sample of incarcerated males in Slovenia and found that offenders who perceived correctional officers as procedurally fair and respectful in their treatment of inmates, were charged with significantly fewer disciplinary infractions in comparison to their counterparts. It may be argued, therefore, that because correctional officers are responsible for maintaining prison order and ensuring inmate obedience, they view the practice of fair and respectful treatment of offenders (which can elicit respect in return) as a key component to fulfilling these tasks.

This argument is applied to officer's similarly high ranking of legitimate power. Legitimate power reflects the formal authority to command conferred upon the officer by virtue of the prison structure itself (Hepburn, 1985). Officers are to be obeyed simply because "the position confers the legitimate right to be obeyed" (Hepburn, 1985, p. 146). Stichman (2002) warned though that this power source does not originate from the "institutionalization of authority, but in the inmate's acceptance that the officer has the right to occupy that position" (p. 24). Orders will be obeyed only if they are perceived to derive from a legitimate foundation, which according Reisig and Mesko (2009), can be formed when officers interact with inmates in fair, respectful and friendly manners.

In addition to these findings, it was discovered that expert power occupied a midpoint position of preference, whereby ranking lower than legitimate/referent but higher than reward/coercive forms of power. When comparing this result to other research, it is evident that expert power displays significant variability in ranking, perhaps contingent upon the setting. For example, while Hepburn (1985) and Smith et al., (2009) found support for expert power, Steiner et al. (2012) and Stojkovic (1984) failed to replicate these results. More research then is needed on the topic of expert power to better understand this considerable variance.

This study also found that reward and coercive bases of power were clearly viewed as being unfeasible by correctional officers, with a mere 8 % of this sample providing support for reward power. This finding is similar to previous research and remains important for policy interpretation (Hepburn, 1985). The philosophical underpinning of the correctional system (and deterrence theory) is behavioral, with individuals basing their decisions according to a risk-benefit assessment (Stafford & Warr, 1993). This felicific calculus is assumed to be universal and applicable to both the power-holder and power-receiver. Yet officers in this and other studies, as well as inmates, rejected the notion that rewards and coercion are valuable bases of power. In fact in some studies, they outright dismissed them as inadequate or non-existent (Stichman, 2002). It appears then that softer forms of social power are favored over harder bases in situations where

a power holder desires changes in another person's behavior, or some other similar outcome.

Once again, power holders in a variety of contexts, as numerous studies have evidenced now, seem to prefer the application of soft power because it creates a mutual relationship of respect between the power holder and recipient. Power receivers feel valued and respected and will in turn respond more favorably to any demands placed upon them. Liebling (2011a), on this point, went so far as to state that:

> At the end of the day, nothing else that we say will be as important as the generalproposition that relations between staff and prisoners are at the heart of the wholeprison system and that control and security flow from getting the relationship right. Prisons cannot be run by coercion: they depend on staff having a firm, confident and humane approach that enables them to maintain close contact with prisoners without abrasive confrontation (p. 485).

In the end then, it appears that soft forms of power such as referent and legitimate allow for positive relationships to be forged between inmates and offenders, and that when these relationships come to fruition, control and order within the prison will follow.

Several officer characteristics accounted for variance in their power base reliance. Perceptions of injurious risk, for instance, were significantly associated with three power bases, namely, a reduced reliance upon expert and reward power and an increased reliance upon coercive expressions of power. These findings support research within the broader psychological discipline of risk perceptions that has routinely found a connection between risk assessments and decision-making (Slovic & Manahan, 1995; Sitkin & Weingart, 1995; Slovic et al., 2005). Specifically concerning the coercive power-risk perception finding, Slovic and Monahan (1995) found that when individuals in their study perceived high levels of injurious risk, they were significantly more likely to respond with physical tactics as defense mechanisms. When individuals are placed in threatening situations, according to the authors, they view aggression as a valuable method by which to protect themselves. Slovic and Monahan's (1995) argument, therefore, may also explain the lower importance ascribed to reward and expert power by officers who perceived high levels of risk. For these particular officers, offering rewards and utilizing knowledge may be perceived as inefficient means by which to control offender conduct. However, Hepburn (1985) admonished that a coercive base of power should only be used as a last resort option since threats of sanctions or aggression against inmates can sometime backfire (Sherman, 1993). In accordance with Gordon, Proulx and Grant (2013), it suggested then that correctional administrative officials reduce the perceptions of risk held by their officers in order to reduce the likelihood that violence and aggression escalate within their facilities.

Social power bases of correctional officers were regressed on several of their work-related attitudes. Higher self-reported stress levels were significantly associated with reduced reliance upon both coercive and expert expressions of power. Contrary to Hepburn (1985), who found role strain to display a non-significant relationship to all five power bases, role conflict in this study was associated with

increased reliance upon the coercive base. While greater job involvement was connected to increased support for reward and expert forms of power, stronger co-worker evaluations reduced the likelihood that these officers would favor these same forms of power. Organizational researchers have uncovered strong associations between employee perceptions of the work environment and their work-related decision-making (Tyagi, 1982; Schein, 1990; Konovsky & Pugh, 1994; Parker et al., 2003). Employees of various institutions and organizations will deploy certain decision-making strategies in accordance with their perceptions of the work environment. Given the extremely limited body of research that has investigated connections between correctional officer work attitudes and power base utilization, it is strongly suggested that future researchers explore this underdeveloped area of research. Power bases are instruments through which inmate behavior can be regulated, thus why it is vital to understand whether the officer's work environment influences their selection of this behavioral control strategy.

Conclusion

As a summary, we wish to highlight an important policy recommendation. Similar to our investigation, Pierro and associates (2012) discovered in their study that front-line power holders (who were similar in rank to correctional officers) displayed a greater preference towards "soft" forms of power. Although this finding is common in research on bases of power, there remains one exception. Stojkovic (1986) found that prison administrators favored reward and coercive power, which stands in contrast to the larger body of work on power bases. While correctional, parole and probation officers across several studies favor "soft" expressions of power to promote compliance, this discrepancy with administrative officials requires further empirical testing. This may reveal a disconnection between officer-inmate relations, and the perceptions of bases of power that administrators employ.

Due to the empirical support for legitimate and referent bases of power, it is recommended that correctional administrative officials tailor training to promote "soft" social exchanges with inmates. This may appear counterintuitive to the general public, who tend to define correctional officers through negative media images that display brutishness, physical conflicts and indifference to human suffering (Crawley, 2004). However, the reality is that the overwhelming majority of bases of power in prison are expressed linguistically (and with the associated expressions of body language). Since these officers evidently valued respectful treatment of offenders as a way to ensure rule acceptance, understanding ways to achieve this may promote greater institutional security. Thompson and Jenkins (1993) recommended a training regimen known as "verbal judo" that encourages "soft" forms of dialogue. Their recommendations have been widely accepted and implemented across diverse organizational settings. This approach utilizes soft expressions of power and other tactics in order to reduce aggression and conflict. This study finds utility in this approach and supports such training of correctional officers in order to promote compliance via dialogue rather than aggression.

Appendix

Table 4 Promax rotated pattern matrix table for variables and items used in analysis

	Pattern						h^2
Variables and items	1	2	3	4	5	6	
Risk perceptions							
Working alongside inmates with diseases	.150	**.490**	.041	.105	−.074	.005	.771
Presence of gangs	.092	**.753**	.007	.050	.032	−.015	.600
Presence of disruptive inmates	−.023	**.820**	−.007	−.013	−.014	−.150	.667
Working alongside mentally ill inmates	−.046	**.831**	−.031	−.022	.010	.030	.659
Presence of contraband	−.023	**.765**	−.031	−.009	.019	.019	.561
Riots	−.007	**.731**	−.010	.044	−.019	.019	.520
Community retaliation from inmates	−.084	**.588**	.077	−.138	.033	.055	.576
Officer Stress							
A lot of times my job makes me frustrated	**.709**	.002	.123	−.010	−.039	.154	.603
I am usually under much pressure when at work	**.907**	.015	.255	.041	.071	.026	.698
When at work, I usually feel tense or uptight	**.929**	−.038	−.063	.014	.088	.009	.725
I am usually calm and at ease when at work[a]	**.627**	.005	.189	−.055	−.060	−.045	.546
There are many aspects of my job that upset me	**.628**	.065	.015	−.054	−.097	−.078	.544
Role conflict							
I receive conflicting requests from 2 or more people when at work	.237	−.048	**.608**	.297	−.047	.023	.536
When a problem comes up, people rarely agree how it should be handled	.147	−.005	**.439**	.178	−.110	.001	.504
I have to bend rules to get things done	.198	−.011	**.426**	.005	.064	−.014	.527
I have to do things at work without adequate resources	.003	.027	**.535**	.301	.103	.001	.665
Role ambiguity							
I clearly know what my work duties are[a]	.249	−.145	.256	**.742**	.049	−.074	.560
The rules I have to follow are clear[a]	.299	.044	.200	**.729**	.004	−.062	.574
I am unclear to whom I report or who reports to me	.178	−.057	.135	**.575**	−.124	.075	.573
I do not understand what is expected of me	.196	.075	.022	**.680**	.018	.060	.695
Job Involvement							
I live, eat and breathe this job	.082	−.004	−.129	−.040	**.699**	.032	.683
The major satisfaction in my life comes from work	.003	.020	.018	.030	**.825**	.021	.679
The most important things in my life occur at work	−.049	−.014	.087	.016	**.698**	.066	.605
Co-worker support							
A feeling that work-related opinions are valued by co-workers	−.069	.003	.104	.159	−.046	**.612**	.556
A feeling that work-related opinions are misunderstood by co-workers[a]	−.231	−.050	−.035	.054	.077	**.426**	.508
A feeling that you work well with your co-workers	.068	.022	−.115	−.080	.007	**.761**	.585
A feeling that there is open communication between you and your co-workers	.015	.000	.014	−.042	.041	**.900**	.764

Pattern coefficients greater than an absolute value of .40 are displayed in boldface type; [a] Response options for these survey items were reverse coded so that higher values reflect increases in the associated construct being measured

References

Adams, K., & Ferrandino, J. (2008). Managing mentally ill inmates in prisons. *Criminal Justice and Behavior, 35*, 913–927.

Angrist, J. D., & Pischke, J. S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton, NJ: Princeton University Press.

Beck, U. (1992). *Risk society: Towards a new modernity*. London: Sage Publications.

Binswanger, I. A., et al. (2007). Release from prison—A high risk of death for former inmates. *The New England Journal of Medicine, 14*(1), 157–165.

Cloward, R. (1968). Social control in the prison. In L. Hazelrigg (Ed.), *Prison within society*. Garden City, NY: Doubleday Publishing.

Crawley, E. (2004). *Doing prison work: The public and private lives of prison officers*. Portland: Willan Publishing.

Dahl, R. (1957). The concept of power. *Behavioral Science, 2*, 201–215.

Dunne, E. J., Stahl, M. J., & Melhart, L. J. (1978). Influence sources of project and functional managers in matrix organizations. *Academy of Management Journal, 21*, 135–140.

Erchul, E. P., & Raven, B. H. (1997). Social power in school consultation: A contemporary view of French and Raven's bases of power model. *Journal of School Psychology, 35*, 137–171.

Etzioni, A. (1961). *A comparative analysis of complex organizations*. New York, NY: Free Press Publications.

Ferdik, F., Smith, H. P., & Applegate, B. (2014). The role of emotional dissonance and job desirability in predicting correctional officer turnover intentions. *Criminal Justice Studies*. doi:10.1080/1478601X.2014.938741.

Fleisher, M. S., & Decker, S. H. (2001). An overview of the challenge of prison gangs. *Corrections Management Quarterly, 5*(1), 1–9.

Floud, J. (1982). Dangerousness and criminal justice. *British Journal of Criminology, 22*, 213–228.

Foucault, M. (1977). *Discipline and punish: The birth of the prison*. New York, NY: Vintage Books.

French, J. R. P., & Raven, B. (1959). The bases of social power. In D. Cartwright & A. Zander (Eds.), *Group dynamics*. New York: Harper & Row.

Garcia, R. M. (2008). Individual and institutional demographic and organizational climate correlates of perceived danger among federal correctional officers. (Doctoral dissertation, Temple University, 2008). *Proquest Dissertation and Theses Abstracts*.

Gaski, J. F. (1986). Interrelations among channel entity's power sources: Impact of the exercise of the reward and coercion on expert referent and legitimate power sources. *Journal of Marketing Research, 23*, 62–77.

Gonsalves, V. M., Walsh, K., & Scalora, M. J. (2012). Staff perceptions of risk for prison rape perpetration and victimization. *The Prison Journal, 92*, 253–273.

Gordon, J. A., Proulx, B., & Grant, P. H. (2013). Trepidation among the "keepers": Gendered perceptions of fear and risk of victimization among corrections officers. *American Journal of Criminal Justice, 38*, 245–265.

Gordon, J. A., & Stichman, A. J. (2015). The influence of rehabilitative and punishment ideology on correctional officers' perceptions of informal bases of power. *International Journal of Offender Therapy and Comparative Criminology, 5*, 1–18.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. Upper Saddle River, NJ: Pearson Publishing.

Hepburn, J. R. (1985). The exercise of power in coercive organizations: A study of prison guards. *Criminology, 23*(1), 145–164.

Hoffmann, J. P. (2004). *Generalized linear models: An applied approach*. Boston, MA: Pearson Publications.

Horowitz, J. L. (1997). Bootstrap methods in econometrics: Theory and numerical performance. In D. Kreps and K. Wallis. *Advances in economics and econometrics: Theory and applications: Seventh World Congress*. Cambridge University Press. 189–222.

Ibragimov, R., & Muller, U. K. (2010). t-statistic based correlation and heterogeneity robust inference. *Journal of Business and Economic Statistics, 28*(4), 453–468.

Jacobs, J. (1977). *Statesville: The penitentiary in mass society*. Chicago, IL: University of Chicago Press.

Jamieson, D. W., & Thomas, K. W. (1974). Power and conflict in the student-teacher relationship. *Journal of Applied Behavioral Sciences, 10*, 321–336.

Kalinich, D. B. (1980). *The inmate economy*. Lexington, MA: Lexington Books.

Kaminski, R. J., Koons-Witt, B. A., Thompson, N. S., & Weiss, D. (2010). The impacts of the Virginia Tech and Northern Illinois University shootings on fear of crime on campus. *Journal of Criminal Justice, 38*, 88–98.

Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*. New York, NY: HR Folks Publishing.
Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk and their antecedents. *Decision Support Systems, 44*(2), 544–564.
Kinnard, M. (2010, September). Attack on SC prison guard renews phone-jam debate. *USA Today*. P. A1. Retrieved from: http://usatoday30.usatoday.com/tech/wireless/2010-09-13-prison-cellphone-jam_N.htm.
Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal, 37*, 656–669.
Lambert, E., Hogan, N., Paoline, E. A., & Clarke, A. (2005). The impact of role stressors on job stress, job satisfaction and organizational commitment among private prison staff. *Security Journal, 18*(4), 33–50.
Lambert, E., Hogan, N., & Dial, K. (2011). The effects of job involvement on private correctional staff: A preliminary study. *Journal of Applied Security Research, 6*, 158–183.
Lee, S. J. (2007). Risk perception, safe work behavior and work-related musculoskeletal disorders among critical care nurses. (Doctoral dissertation, University of California, San Francisco, 2007). *Proquest Dissertations and Theses Abstracts*.
Liang, K. Y., & Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika, 73*(1), 13–22.
Liebling, A. (2011a). Distinctions and distinctiveness in the work of prison officers: Legitimacy and authority revisited. *European Journal of Criminology, 8*(6), 484–499.
Liebling, A. (2011b). Moral performance, inhuman and degrading treatment and prison pain. *Punishment and Society, 13*(5), 530–550.
Lipsky, M. (2010). *Street-level bureaucracy: Dilemmas of the individual in public services*. New York: Russell Sage.
Long, J. S. (1997). *Regression models for categorical and limited dependent variables*. Thousand Oaks, CA: Sage Publications.
Macalino, G. E., et al. (2004). Prevalence and incidence of HIV, hepatitis b virus, and hepatitis c virus infections among males in Rhode Island prisons. *American Journal of Public Health, 94*(7), 1218–1223.
McDonald, G. W. (1979). Determinants of maternal and paternal power in the family. *Journal of Marriage and the Family, 41*, 775–790.
McDonald, G. W. (1980). Parental power and adolescent's parental identification: A reexamination. *Journal of Marriage and the Family, 42*, 289–296.
McKelvey, B. (1977). *American corrections*. Montclair: Patterson Smith Publishing Corp.
Mossholder, K. W., Kemery, E. R., & Wesolowski, M. A. (1998). Relationships between bases of power and work reactions: The mediational role of procedural justice. *Journal of Management, 24*(4), 533–552.
Mullings, J. L., Marquart, J. W., & Brewer, V. E. (2000). Assessing the relationship between child sexual abuse and marginal living conditions on HIV/AIDS-related risk behavior among women prisoners. *Child Abuse and Neglect, 24*(5), 677–688.
Nacci, P. L., & Kane, T. R. (1984). Sex and sexual aggression in federal prisons. *Federal Probation, 46*, 46–57.
Park, J. W. L. (1976). The organization of prison violence. In A. K. Cohen, G. F. Cole, & R. G. Bailey (Eds.), *Prison violence*. Lexington: D.C. Heath and Company.
Parker, C. P., et al. (2003). *Journal of Organizational Behavior, 24*, 389–416.
Paulus, M. P., Rogalsky, C., Simmons, A., Feinstein, J. S., & Stein, M. B. (2003). Increased activation in the right insula during risk-taking decision-making is related to harm avoidance and neuroticism. *Neurolmage, 19*(4), 1439–1448.
Perrow, C. (1970). Departmental power and perspectives in industrial firms. *Power in Organizations, 7*, 59–89.
Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. Thousand Oaks, CA: Sage Publications.
Pierro, A., Kruglanski, A. W., & Raven, B. H. (2012). Motivational underpinnings of social influence in work settings: Bases of social power and the need for cognitive closure. *European Journal of Social Psychology, 42*, 41–52.
Poole, E. D., & Regoli, R. M. (1980). Examining the impact of professionalism on cynicism, role conflict and work alienation among prison guards. *Criminal Justice Review, 5*, 57–65.
Powell, M., & Ansic, D. (1997). Gender differences in risk behavior in financial decision-making: An experimental analysis. *Journal of Economic Psychology, 18*(6), 605–628.
Rahim, M. A. (1986). Some psychometric properties of French and Raven bases of power. *Journal of Psychology, 120*, 465–472.
Rahim, M. A. (1988). The development of a leader power inventory. *Multivariate Behavioral Research, 33*, 491–503.

Raven, B. H. (1988). Power and compliance in health care. In C. C. Maess, P. B. Spielberger, & I. J. Sarason (Eds.), *Topics in health psychology* (pp. 119–244). New York, NY: John Siley & Sons.

Raven, B. H., & Kruglanski, A. W. (1970). Conflict and power. In P. G. Swingle (Ed.), *The structure of conflict* (pp. 69–109). New York, NY: Academy Press.

Reichman, N. (1986). Managing crime risks: Toward and insurance-based model of social control. *Research in Law, Deviance and Social Control, 8*, 151–172.

Reisig, M. D., & Mesko, G. (2009). Procedural justice, legitimacy and prisoner misconduct. *Psychology Crime and Law, 15*(1), 41–59.

Rogers, W. (1993). Regression standard errors in clustered samples. *State Technical Bulletin, 13*, 19–23.

Rohrman, B., & Renn, O. (2000). *Cross-cultural risk perception: A survey of empirical studies*. Boston: Kluwer Academic Publishers.

Salancik, G. R., & Pfeffer, J. (1974). The bases and use of power in organizational decision-making: The case of a university. *Administrative Science Quarterly, 19*(4), 453–473.

Schein, E. H. (1990). Organizational culture. *American Psychologist, 45*, 2109–2119.

Sherman, L. W. (1993). Defiance, deterrence and irrelevance: A theory of the criminal sanction. *Journal of Research in Crime and Delinquency, 30*, 445–473.

Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risk decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal, 38*(6), 1573–1592.

Slovic, P., Fischhoff, B., Lichtenstein, S., Corrigan, B., & Combs, B. (2000). Preference for insuring against probable small losses: Insurance implications. In P. Slovic (Ed.), *Perception of risk*. New York: Earthscan Publishing.

Slovic, P., & Manahan, J. (1995). Probability, danger and coercion: A study of risk perception and decision-making in mental health law. *Law and Human Behavior, 19*(1), 49–65.

Slovic, P., Peters, E., Finucane, M. L., & MacGregor, D. G. (2005). Affect, risk and decision-making. *Health Psychology, 24*(4), 35–40.

Smith, H. P., Applegate, B., Sitren, A. H., & Springer, N. F. (2009). The limits of individual control? Perceived officer power and probationer compliance. *Journal of Criminal Justice, 37*, 241–247.

South Carolina Department of Corrections. (2014). Agency Accountability Report. *Columbia, South Carolina, Department of Corrections*.

Stafford, M. C., & Warr, M. (1993). A reconceptualization of general and specific deterrence. *Journal of Research in Crime and Delinquency, 30*(2), 123–135.

Steiner, B. (2008). Maintaining prison order: Understanding causes of inmate misconduct within and across Ohio correctional institutions. (Doctoral dissertation, University of Cincinnati, 2008). *Proquest Dissertation and These Abstracts*.

Steiner, B., Hester, R., Makarios, M. D., & Travis, L. F. (2012). Examining the link between parole officers' bases of power and their exercise of power. *The Prison Journal, 92*(4), 435–459.

Stichman, A. J. (2002). The sources and impact of inmate perceptions of correctional officer's bases of power. (Doctoral dissertation. University of Cincinnati, 2002). *Proquest Dissertations and Theses Abstracts*.

Stichman, A. J., & Gordon, J. A. (2014). A preliminary investigation of the effect of correctional officer's bases of power on their fear and risk of victimization. *Journal of Crime and Justice*. doi:10.1080/0735648X.2014.929975.

Stojkovic, S. (1984). Social bases of power and control mechanisms among prisoners in a prison organization. *Justice Quarterly, 1*(4), 511–528.

Stojkovic, S. (1986). Social bases of power and control mechanisms among correctional administrators in a prison organization. *Journal of Criminal Justice., 14*, 157–166.

Sykes, G. M. (1958). *The society of captives: A study of a maximum security prison*. Princeton, NJ: Princeton University Press.

Sykes, G. M., & Messinger, S. (1960). The inmate social system: Theoretical studies in the organization of the prison. *Social Science Research Council Pamphlet., 15*, 1–30.

Thompson, G. J., & Jenkins, J. B. (1993). *Verbal judo: The gentle art of persuasion*. Colorado Springs, CO: Alive Communications Press.

Tyagi, P. K. (1982). Perceived organizational climate and the process of salesperson motivation. *Journal of Marketing Research, 19*, 240–254.

Tyler, T. (1988). What is procedural justice? Criteria used by citizens to assess the fairness of legal procedures. *Law & Society Review, 22*, 103–135.

Useem, B. (1985). Disorganization and the New Mexico prison riot. *American Sociological Review, 50*(5), 677–688.

Warren, D. I. (1968). Power, visibility and conformity in formal organizations. *American Sociological Review, 18*, 741–752.

Williams, R. (2006). Generalized ordered logit/partial proportional odds models for ordinal dependent variables. *The Stata Journal, 6*(1), 58–82.

Frank Valentino Ferdik is an Assistant Professor in the Department of Criminology and Criminal Justice at the University of West Florida. His research interests consist of criminal justice actor decision-making, criminal justice-based risk analyses, perceptions and tests of criminological theories. He has recently published in *Journal of Criminal Justice*.

Hayden P. Smith is an Associate Professor in the Department of Criminology and Criminal Justice at the University of South Carolina. His research interests consist of the intersection between mental health and criminal justice studies, self-injurious behaviors of inmates and risk-based analyses in criminal justice. He has recently published in *Justice Quarterly*.