



# The antecedents of job involvement: An exploratory study among Chinese prison staff

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## ABSTRACT

Staff are an obvious and important resource for correctional organizations across the globe. One important area that concerns staff is job involvement (i.e., the psychosocial bonds between staff members and their jobs). The majority of the limited research on how work environment factors affect correctional personnel has examined U.S. staff. To fill this void, the current study used the job demands-resource model to explore how various personal characteristics and work environment variables affected the job involvement of staff at two prisons in southern China. The specific personal characteristics were age, tenure, gender, educational level, and assigned prison. The job demand variables were fear of victimization and role overload, and the job resource variables were instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and supervision. Tenure, fear of victimization, transactional justice, distributive justice, job variety, and supervision had significant effects on job involvement in a multivariate regression analysis, while the other variables did not. Except for fear of victimization, which had a negative association, the other significant variables had positive associations with job involvement.

The successful operation of a prison is highly dependent on the attitudes and behavior of prison staff. An important staff attitude for the success of a prison is job involvement, which refers to the psychological bonds or personal identification that prison employees perceive regarding their jobs. Job involvement is considered one of the key factors affecting the quality of both individual and organizational outcomes (Zhang, 2014). Employees with high job involvement tend to be motivated and productive. These employees connect part of their self-esteem with their job effectiveness, and view their work as meaningful and fulfilling. Employees with high job involvement often feel competent and successful, become absorbed in their work, and find their work challenging (Saks, 2006). Furthermore, these workers perceive compatibility between their personal goals and those of the organization, and are less likely to leave (Saks, 2006). On the other hand, employees with low job involvement are less motivated and productive, and are more likely to experience chronic stress, burnout, loss of individuality, and separation of self from the work environment (Raymond and Mjoli, 2013).

Employees spend a large portion of their lives on the job. Quality of life can be greatly impacted by the degree to which staff members are involved with or alienated from their work (Brown, 1996). Improved job involvement enhances an employee's

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organizational commitment, job satisfaction, and productivity, reduces absenteeism and turnover intent, and increases organizational success (Lambert and Paoline, 2012). Prisons that can effectively promote job involvement have a sizable advantage over others who do not.

Most of the limited research regarding job involvement of prison staff has been carried out in Western prisons, especially in the U.S. These studies have provided important information; however, at present little is known about the antecedents and effects of job involvement in prisons in non-Western countries in general, and in China, in particular. The effects of specific workplace variables on job involvement may be universal or may vary across nations. Research in other countries is needed to determine whether results reported in past studies are similar to those in non-Western nations. Such research can help narrow the gap between nations and build bridges so that information flows more freely (Cao and Cullen, 2001). “The importance and utility to social science of rigorous cross-national measures is incontestable. They help to reveal not only intriguing differences between countries and cultures, but also aspects of one’s own country and culture that would be difficult or impossible to detect from domestic data alone” (Jowell, 1998, p. 168).

This exploratory study was therefore undertaken to examine the effects of the work environment variables of fear of victimization, role overload, instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and quality of supervision on the job involvement of staff at two prisons located in the province of Guangdong in southern China. The work environment variables of fear of victimization, role overload, instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and quality of supervision have been commonly studied among U.S. correctional staff. The job demands-resources model provided a theoretical foundation for our study. In addition to exploring the effects of these work environment variables on Chinese prison staff job involvement, the results of the current study can be compared to what has been observed for Western correctional staff.

## 1. Literature review

### 1.1. Prisons in China

Chinese prisons are closed institutions. Until recently, they did not allow outsiders, including both Chinese and foreign scholars, access to them. Imprisonment as a means of control and punishment has a long history in China, dating back to at least Tang Dynasty in the eighth century (Ancient Origins, 2017). The People’s Republic of China was founded in 1949. From 1949 to 1993, prisons in China were overseen by the Ministry of Public Security and focused on rehabilitation through forced labor (Mühlhahn, 2009). The Prison Law of the People’s Republic of China was enacted in 1994, which moved control of Chinese prisons to the Bureau of Prison Administration in the Ministry of Justice and changed the focus to the integration of punishment, treatment, education, and labor for inmates (Hill, 2006; Jin, 1997). Detention centers (i.e., jails) hold individuals awaiting trial, awaiting transfer to prison, and those sentenced to less than a year, and remain under control of the Ministry of Public Security (China.Org.Cn, 2016; Hill, 2006).

There are approximately 1.65 million inmates confined in 680 Chinese prisons, an incarceration rate of 119 inmates per 100,000 citizens (World Prison Brief, 2016a). About 300,000 staff work in Chinese prisons (Shao, 2014). For comparison, the U.S. employs approximately 430,000 correctional staff in nearly 1700 correctional institutions holding about 1.47 million inmates, an incarceration rate of 455 inmates per citizen (University of Albany, 2016; World Prison Brief, 2016b). China’s inmate to staff ratio of 5.5 to 1 is slightly higher than that found in the U.S. (3.4–1) (Hu et al., 2015). Unlike the U.S., which often classifies prisons based on security levels (e.g., minimum, medium, and maximum), Chinese prisons do not have a set security level but instead hold inmates with different custody levels and sentence lengths (Hill, 2006; Wu, 2003).

In the U.S., the term correctional staff is frequently used. In China, the preferred term is prison staff (Hill, 2006; Wu, 2003). Furthermore, most Western correctional staff can be broken into categories by their general positions, such as custody (e.g., uniformed and in charge of security), educational/vocational, treatment (e.g., counselors, case managers, psychological services, etc.), support staff (e.g., food service, industry, business office, etc.), and management/administrative (e.g., division directors, associate wardens, wardens, etc.). There is no such clear division of labor in Chinese prisons, however, Chinese prison staff do have specific assigned duties that often are decided on an individual level rather than by position (Hill, 2006; Wu, 2003). Hill (2006) noted that “in China, there is no distinction between custodial staff and other prison staff” (p. 24). This is not the case in the U.S.

The job duties and expectations of Chinese prison staff are often more complex and multifaceted than that of correctional staff in the U.S. (Hu et al., 2015). Interestingly, prison security outside the institution is not provided by prison staff but the Chinese People’s armed police, who are a separate entity under the Central Military and who coordinate their activities with the prison warden (Hill, 2006; Wu, 2003). As is the case in the U.S., Chinese prison staff are part of civil service and must pass the civil service exam and a background check. Similar to the U.S., Chinese prison staff have a more challenging work environment as compared to most other occupations. Also similar to the U.S., many Chinese inmates have a lower educational level, are generally more antisocial, and have higher rate of mental health and drug problems compared to the general population (Hill, 2006; Hu et al., 2015).

### 1.2. Job involvement

Lawler and Hall (1970) contended that job involvement was the “psychological identification with one’s work” and “the degree to which the job situation is central to the person and his identity” (pp. 310–311). Elloy, Everett, and Flynn (1992) defined job involvement as a “generalized cognitive state of psychological identification with the job” (p.162). Similarly, Paullay et al. (1994) defined job involvement as when an employee “is cognitively preoccupied with, engaged in, and concerned with one’s present job” (p.

224). Simply put, job involvement is psychological identification with the job (Brown and Leigh, 1996; Kanungo, 1982a, 1982b). Job involvement refers to how important the job is in an individual's life (Paullay et al., 1994). As pointed out by DeCarufel and Schaan (1990), “an individual with a high degree of job involvement would place the job at the center of his/her life's interests. The well-known phrase ‘I live, eat, and breathe my job’ would describe someone whose job involvement is very high” (p. 86). On the opposite continuum would be job alienation, the feeling of no cognitive connection to the job (i.e., being detached from the job) (Kanungo, 1982a, 1982b).

Hackman and Lawler (1971) argued that job involvement was an important variable in shaping the motivation of employees. Chen and Chiu (2009) postulated that employees with “high job involvement are more independent and self-confident – they not only conduct their work in accordance with the job duties required by the company but also are more likely to do their work in accordance with the employees’ perception of their own performance” (p. 478). DeCarufel and Schaan (1990) contended that job involvement raised higher work performance. Among U.S. jail correctional staff, job involvement had negative associations with turnover intent and job stress and positive associations with job satisfaction and organizational commitment (Lambert and Paoline, 2010; Paoline and Lambert, 2012). Among U.S. public prison staff, job involvement has been reported to be linked to higher support for rehabilitation, greater job satisfaction, and increased commitment to the organization (Lambert, 2008; Lambert, Hogan, Barton and Elechi, 2009a). Finally, job involvement has been reported to result in lower job stress, absenteeism, and turnover intent and increased job satisfaction and organizational commitment among U.S. private prison staff (Lambert et al., 2011; Lambert et al., 2015). Basically, job involvement is an important work concept for prisons, and the effect that different work environment variables have on job involvement needs to be studied.

### 1.3. Past prison staff job involvement research

Job involvement has been reported to be linked to various salient outcomes, at least for U.S. correctional staff; however, there has been less research on the effects of different work environment variable on job involvement. Lambert, Hogan, and Cheeseman (2013a) reported that perceptions of procedural justice (i.e., that fair processes are used for making important decisions that affect staff) were related to greater job involvement among staff at two U.S. prisons. Among U.S. private prison staff, role conflict and fear of being victimized on the job resulted in lower job involvement (Lambert, Hogan, Cheeseman and Barton-Bellesa, 2013b). Among staff at a southern U.S. jail, formalization (having written rules and manuals available for staff), input into decision-making, job variety, and administrative support had positive effects on job involvement (Lambert and Paoline, 2012). This limited research indicates that work environment variables play a role in helping shape the job involvement of prison staff, at least those in the U.S. There is a need not only to research the effects of work environment variables on U.S. prison staff, but prison staff in other nations. The effects of work environment variables could vary across different nations and cultures or they could be similar. As such, this exploratory study was undertaken to determine whether various work environment variables had significant effects on job involvement among staff at two prisons in the Guangdong province in South China.

## 2. Theoretical foundation

The job demands-resources model provides the theoretical framework for why work environment variables would have significant effects on prison staff job involvement. This model divides work environment variables into two broad categories of job demands and job resources (Bakker and Demerouti, 2007; Demerouti and Bakker, 2011; Schaufeli et al., 2009). As noted by Bakker et al. (2003), “At the heart of the job demands-resources (JD-R) model lies the assumption that whereas employees in different organizations may be confronted with different working environments, the characteristics of these environments can be always classified in two general categories – job demands and job resources – thus constituting an overarching model that may be applied to various occupational settings, irrespective of the particular demands and resources involved” (p. 344). The job demands-resources model was originally created to explain job burnout.

Job demands place strain on people, which, over time, can result in negative outcomes (Bakker et al., 2003; Schaufeli and Taris, 2014). Demerouti, Bakker, Nachreiner, and Schaufeli (2001) defined job demands as “those physical, social, or organizational aspects of the job that require sustained effort and are therefore associated with physiological or psychological costs” (p. 501). Similarly, Mauno et al. (2006) indicated that job “demands are physical, psychological, social, or organizational features of the job requiring physical and/or psychological costs (i.e., strain)” (p. 212). Job demands cause psychological strain for employees, which ultimately result in negative outcomes, such as job burnout, turnover, reduced job satisfaction, and lower job involvement (Schaufeli, 2017).

Job resources are basically work environment factors that help employees do their jobs and make work more pleasant (Hu et al., 2011; Mauno et al., 2006). As noted by Bakker et al. (2003), “job resources refer to those physical, psychological, social, or organizational aspects of the job that are either/or: • Functional in achieving work goals. • Reduce job demands and the physiological and psychological costs. • Stimulate personal growth and development” (p. 344). Job resources help employees be more successful in their work and feel respected and valued by the organization, which results in positive psychological feelings (Bakker et al., 2005; Schaufeli and Taris, 2014). In addition, job resources can help reduce the occurrence of job demands, as well as help buffer staff from such demands (Bakker et al., 2003; Bakker and Demerouti, 2007). Furthermore, a lack or reduction of job resources can itself become a job demand, adding strain on employees (Mauno et al., 2006; Schaufeli and Taris, 2014).

The job demands-resources model does not specify which specific work environment variables are demands and which are resources for specific outcomes, but rather categorizes work environment variables as either demands and resources. As pointed out by Schaufeli and Taris (2014), “the job demands-resources model does not restrict itself to specific job demands or job resources. It

assumes any demand and any resource may affect employee health and well-being” (p. 44). There can be a wide array of job demand and resource variables that affect the job involvement of prison staff. In our current study, to determine how job demands and job resources affected the job involvement of staff at two prisons in southern China, we explored the effects of the job demands of fear of victimization and role overload and the job resources of instrumental communication, job autonomy, organizational justice, job variety, and supervision.

## 2.1. Job demands

### 2.1.1. Fear of victimization

Fear of victimization refers to fearing for one's safety while at work (Cullen et al., 1985). While working in prison carries some inherent risk, interestingly, the perceived risk of harm varies among correctional officers, even at the same facility (Gordon et al., 2013). Having these possibilities on one's mind can create stress, fear, or anxiety. Some staff may fear victimization from certain inmates (Crawley, 2004). Being fearful of one's safety can be a job demand, placing psychological strain on a staff member. It is important to note that perceived danger is different from the actual probability of being victimized or actually being hurt. Awareness of risk or danger could be viewed as job resource variable. By better understanding (i.e., gaining heightened awareness) of where, who, why, and when the risk of victimization is greatest, prison staff may feel more in control of their circumstances and better able to prevent or cope with the likelihood of victimization. Thus their fear level would be expected to lessen. We view feeling at risk as a job demand, raising psychological strain. This strain raises the chances of lower job involvement. As such, we hypothesized that fear of victimization would have a negative effect on prison staff job involvement (*Hypothesis 1*).

### 2.1.2. Role overload

Role overload is a job demand that occurs when staff are required to handle too many duties and/or are not provided the necessary equipment to handle their assigned tasks (Triplett et al., 1996). Role overload reduces the likelihood of staff being successful in their jobs. Additionally, being overloaded can be frustrating, which raises the chances of psychological strain (Lambert et al., 2005). Past research has reported that role strain results in psychological strain, resulting in negative outcomes, such as job dissatisfaction, anxiety, illness, and decreased performance (Bolino and Turnley, 2005). On balance, role overload appears to be more strongly related to negative outcomes because of the demands it places on workers. In the end, the negative experiences from role overload should result in a reduction of job involvement. Staff may question why they should connect with a job causing them strain. As such, we hypothesized that role overload would have negative effects on job involvement among Chinese prison staff (*Hypothesis 2*).

## 2.2. Job resources

### 2.2.1. Instrumental communication

Instrumental communication is “the degree to which information about the job is formally transmitted by the employer to employees” (Mueller et al., 1994, p. 188). According to Lambert and Paoline (2012), instrumental communication refers to the perception by staff members that they have received adequate information to function effectively at work. Instrumental communication refers to more than information regarding an employee's specific job; it also refers to information regarding the processes, issues, and concerns of the organization (Lambert et al., 2002). We contend that the lack of meaningful organizational communication can become a job demand leaving employees feeling “in the dark” at work, which can create problems and frustration. As such, instrumental communication is a job resource. It can help staff be more effective and successful in their jobs. A lack of salient information can be taxing and make the job more difficult, resulting in strain for staff (Lambert, Hogan and Tucker, 2009b).

Expressive communication, on the other hand, involves informal interactions among prison staff (e.g., hallway conversations, informal joint design meetings, stories, notes scrawled on congratulatory cards or napkins, and e-mail about non-business issues). Expressive communication, although important, is not sufficient to build mutual trust in the job or organization. Additionally, expressive communication can also involve gossip, negative comments about certain staff and administrators, harassment and bullying, and the formation of cliques, which can have a negative impact on certain employees and perhaps the organization as a whole. Thus, we did not include “expressive communication” as a resource variable in our study. We hypothesized that instrumental communication, as job resource, would have positive effects on Chinese staff job involvement (*Hypothesis 3*).

### 2.2.2. Job autonomy

Job autonomy is the perceived degree of control individuals feel they have over their job (Curry et al., 1986). We view job autonomy as a job resource. It provides staff with a sense of control over their job duties and allows the organization to send a message to staff that they are valued and respected (Lambert, 2004; Lambert and Hogan, 2010). Job autonomy may also aid staff in avoiding or reducing stressful work situations by allowing them flexibility in how to handle demanding situations or tasks. A lack of control can be frustrating, resulting in psychological distress from the job. The ability to have some say concerning about work tasks probably results in the job being seen in a more favorable light, and, in turn, increases the chances the person will connect with the job. As such, we hypothesized the job autonomy would have positive effects on Chinese prison staff job involvement (*Hypothesis 4*).

### 2.2.3. Transactional justice

Organizational justice is a complex concept with different dimensions. The three major dimensions are distributive, procedural,

and transactional (Colquitt et al., 2001). Transactional justice is also referred to as interpersonal justice (Colquitt et al., 2001; Wolfe and Piquero, 2011). Transactional justice focuses on the perceptions by staff that they are treated with respect and dignity by supervisors and administrators (Colquitt et al., 2001; Colquitt and Greenberg, 2005). We view transactional justice as viewed as a job resource. Transactional justice allows the workplace more positive and enjoyable, resulting in positive psychological feelings. Being treated with respect and dignity should increase favorable views of the job, ultimately raising the level of job involvement. Conversely, a perceived lack of transactional justice can result in psychological strain. Being treated in an unfair manner can result in frustration and anger, which is likely to spill over to the how the job is viewed. It should be noted that while both distributive and procedural justice have been studied among prison staff, no published studies could be located that studied the effects of transactional justice on job involvement, including among U.S. correctional staff. Nevertheless, based on theoretical reasons, we hypothesized that transactional justice would have positive effects on job involvement for Chinese prison staff (*Hypothesis 5*).

#### 2.2.4. Procedural justice

Procedural justice refers to perception that the procedures and processes for making important distributive justice outcomes (e.g., promotions) are fair (Greenberg, 1990a, 1990b; Strom et al., 2014). The process used to reach organizational outcomes is just as important as the outcomes themselves (Colquitt et al., 2001; Taxman and Gordon, 2009). For example, Landy et al. (1980) found that the perceived fairness of employee evaluation procedures were very important for employees, regardless of whether their performance appraisals were negative or positive. Basically, distributive justice deals with perceptions of the “ends” and procedural justice deals with perceptions of the “means” (Colquitt and Greenberg, 2005). Part of procedural justice is allowing employees a voice in the process (Greenberg, 1990b). As such, we contend that procedural justice is a job resource. Having a voice in the process and seeing the process as fair allows for a greater connection with the job. In addition, having a voice in the process can help correct demanding aspects of the job. On the other hand, feeling the process is unfair is likely to result in annoyance and anger, resulting in a lower desire to connect with the job because of the resulting psychological strain. Procedural justice was hypothesized to have positive effects on job involvement (*Hypothesis 6*).

#### 2.2.5. Distributive justice

Distributive justice refers to perceptions that organizational outcomes affecting employees (e.g., pay, work assignment, evaluations, etc.) are equitable and fair (Greenberg, 1990a, 1990b; Strom et al., 2014). We see distributive justice as a job resource. Feeling that salient outcomes are fair is likely to result in staff members seeing their jobs in a more positive light. On the other hand, if outcomes are perceived to be unfair, anger, resentment, and strain are likely to increase, pushing the staff member away from the job. We hypothesized, therefore, that distributive justice would have positive effects on Chinese prison staff job involvement (*Hypothesis 7*).

#### 2.2.6. Job variety

Job variety refers to the degree of variation of job tasks (Armstrong and Griffin, 2004; Price and Mueller, 1986). Some jobs in a prison involve a good deal of variation and mental stimulation, while other jobs are highly repetitive and monotonous (Lambert and Hogan, 2010). We perceive job variety as a job resource. Being mentally stimulated can help a staff member feel challenged, enriching the work experience (Lambert, 2004). This increased positive state from work should increase the level of job involvement by allowing the job to be seen in a more favorable light. Conversely, repetitive, monotonous jobs result in boredom and a lack of mental stimulation, which decrease the likelihood of psychologically connecting with the job. Jobs that are boring and repetitive can result in psychological strain, which increases the chance of the job being seen in a negative light. We, hence, hypothesized that job variety would have a positive effect on Chinese prison staff job involvement (*Hypothesis 8*).

#### 2.2.7. Quality of supervision

Supervision refers to employee perceptions that quality supervision is provided. We view quality supervision as a job resource. It provides guidance, structure, and support for staff, and helps staff to be more effective in their jobs, which is likely to allow the job to be seen in a more positive light (Armstrong et al., 2015; Brough and Williams, 2007). Quality supervision can also help staff deal with work problems, resulting in less frustration (Lambert, 2004). A pleasant and successful work experience should increase the chances of bonding with the job. Oppositely, poor supervision can result in an unpleasant and demanding work experience, which can place the job in a poor light, reducing the level of job involvement (Griffin, 2001; Hogan et al., 2009). As such, we hypothesized that perceptions of supervision would have positive effects on the job involvement for Chinese prison staff (*Hypothesis 9*).

### 3. Method

#### 3.1. Participants

Data were collected from staff working at two prisons located in the province of Guangdong in southern China in 2015. At the time of the survey, the first prison employed 280 staff members and housed approximately 1500 male inmates. The second prison employed 160 staff and housed approximately 700 female inmates. The two prisons were considered typical in China. Prisons in Guangdong are not classified into different security levels. However, within each prison, inmates were classified into different levels of supervision such as highly intensive or maximum (严管), intensive (考察), medium (普管) and general or minimum (宽管). The classification is based on type of offense, length of sentence, and the inmate's behavior within the prison. Both prisons held inmates



with different supervision levels.

The back method of translation was used, wherein survey materials were translated into Standard Chinese, the national language of China and the language used in the prisons, and then a second scholar translated the survey back into English to determine whether there were any translation problems. Three of the authors were born and raised in China, with two still residing there, and two authors were born and raised in the U.S., with both residing in the U.S. The survey was discussed with the prison human resource office and prison administrators, and it was pilot tested with a number of prison staff to discover whether there were any issues of understanding and to obtain comments about the survey, including meaning, context, wording, and logistic issues. After pilot testing, the revised survey was administered to all available staff. Staff were informed of the purpose of the study, that participation was voluntary, and that all responses would be anonymous. Approximately 73% of the prison staff from the two prisons completed and returned the survey (i.e., 322 usable surveys were returned). For the first prison, which employed 280 staff, 205 completed surveys were returned, a response rate of approximately 73%. For the second prison, which employed 160 staff, 117 completed surveys were returned, a response rate that was also 73%.

The age of those who responded ranged from 24 years to 58, with a median age of 45. Tenure with the prison agency ranged from 1 to 40 years, with a median value of 20 years. In terms of gender, 54% of the participants were women and 46% of the participants were men. Only 37% of the responding staff had a bachelor's degree or higher. The responding participants appeared similar in terms of age, tenure, gender, and educational level compared to the overall staff complement at the two prisons. All items for the index variables<sup>1</sup> and their response options are presented in the appendix.

### 3.2. Variables

#### 3.2.1. Dependent variable

An additive index of job involvement was formed by summing three items based on Kanungo (1982b). The Cronbach's alpha<sup>2</sup>, for this index was 0.74. In a factor analysis, all the job involvement items loaded onto a single factor<sup>3</sup>. It should be noted that only three of the original job involvement items were selected because of limited space on the survey. The three items were selected based on face validity and have been used to measure job involvement in other correctional staff studies (Lambert, Hogan and Cheeseman, 2013a; Lambert, Hogan, Cheeseman and Barton-Bellessa, 2013b; Lambert and Paoline, 2012).

#### 3.2.2. Independent variables

Measures for the personal characteristics of age, tenure, gender, and educational level were included as control variables as they have been in past studies of job involvement of U.S. correctional staff (Lambert, Hogan and Cheeseman, 2013a; Lambert, Hogan, Cheeseman and Barton-Bellessa, 2013b; Lambert and Paoline, 2012). Age was measured in continuous years. Tenure was measured as the number of years with the prison system. Gender was a dichotomous variable, coded as women = 0 and men = 1. Educational level represented whether the respondent earned a bachelor's degree or higher (coded 1) or not (coded 0). Additionally, a dichotomous variable representing which prison the participant worked at was included more as control than explanatory variable. Each of the multi-item independent variables loaded on a single factor in the factor analysis; therefore, responses to the items were summed together to form indexes.

Fear of victimization and role overload were the two job demand variables. Fear of victimization was measured by three items from Cullen et al. (1985). The items had a Cronbach's alpha of .93. Role overload was measured using three items from Triplett et al. (1996) and had a Cronbach's alpha of .79.

Instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and supervision were the job resource variables. Instrumental communication was measured with four items from Curry et al. (1986) and had a Cronbach's alpha value of 0.88. Job autonomy was measured based on three items from Curry et al. (1986) and had a Cronbach's alpha of .84. Transactional, procedural, and distributive justice, the three salient dimensions of organizational justice, were measured using items from Lambert et al. (2007). Transactional justice was measured using one item. Procedural and distributive justice were measured using three items each. The Cronbach's alpha values for the items for procedural and distributive justice were 0.89 and 0.92, respectively. An additive index for job variety was formed using three items from Curry et al. (1986); it had a Cronbach's alpha of .85. Supervision was measured by five items from Teas (1981). These items had a Cronbach alpha of .81.

As the case with job involvement, we had to reduce the number of items for the independent variables due to a limitation of the number of survey items allowed by the prisons as compared to the original source. The items used in the current study were selected after a ranking of the items from the strongest to the weakest face validity and were selected from past studies that also used the a

<sup>1</sup> Indexes are used to measure latent variables (i.e., variables that cannot be seen but exist), such as job involvement. Indexes are composite measures of the concept, which are measured using multiple items. For example, in this study job involvement was measured by asking participants about three items. An additive index refers to summing the responses to the items used to measure a particular concept to form a composite variable for this concept.

<sup>2</sup> Cronbach's alpha is a statistical test for internal reliability, which refers to how closely a set of items are related to one another as a group measuring the underlying concept. It is the average inter-correlation among the items, and ranges from 0 to 1. Scores closer to one are an indication of internal reliability and are viewed as very good. The cut-off point is .60, and Cronbach's alpha value scores from 0 to 0.59 are viewed as unacceptable (Gronlund, 1981).

<sup>3</sup> Factor analysis is a statistical test to determine whether there are similar patterns of items being used to measure an underlying latent concept, such as job involvement. If a group of items are measuring the same underlying concept, they should load on a single factor, which was the case in this study. In this study, eigenvalues and scree plots were used, along with cut-off factor loadings of .40 or higher, to determine if the group of items were measuring the same latent concept, indicating unidimensionality (i.e., measuring the same concept) (Gorsuch, 1983).

**Table 1**  
Descriptive statistics for study variables.

Variable	Description	Min	Max	Md	Mn	SD
<b>Personal Chars</b>						
Age	Age in continuous years	24	58	45	43.94	6.82
Tenure	Tenure in years with agency	1	40	20	19.81	8.08
Gender	54% female (coded 0) 46% male (coded 1)	0	1	0	0.46	0.50
Educ Level	63% less than Bachelor (coded 0) 37% Bachelor or higher (coded 1)	0	1	0	0.37	0.48
Prison	64% from prison 1 (coded 1) 36% from prison 2 (coded 0)	0	1	1	0.64	0.48
<b>Job Demands</b>						
Fear of Victim	3-item additive index $\alpha = .93$	3	18	12	11.73	4.04
Role Overload	3-item additive index, $\alpha = .79$	3	18	10	10.21	3.05
<b>Job Resources</b>						
Inst Comm	4-item additive index, $\alpha = .88$	7	20	16	15.82	3.27
Job Autonomy	3-item additive index, $\alpha = .84$	3	18	10	10.17	3.14
Trans Justice	1-item measure	1	5	4	3.44	0.94
Proc Justice	3-item additive index, $\alpha = .89$	3	15	9	9.03	2.77
Dist Justice	3-item additive index, $\alpha = .92$	3	15	9	8.82	2.91
Job Variety	3-item additive index, $\alpha = .85$	3	18	12	11.84	3.17
Supervision	5-item additive index, $\alpha = .81$	9	29	19	18.68	4.23
<b>Dependent Var</b>						
Job Involve	3-item additive index, $\alpha = .74$	3	18	12	11.31	3.04

Note. Min stands for minimum value, Max for maximum value, Md for median value, Mn for mean value, SD for standard deviation value, Personal Chars for personal characteristics, Educ Level for educational level, Fear of Victim for fear of victimization, Inst Comm for instrumental communication, Trans Justice for transactional justice, Proc for procedural justice, Dist Justice for distributive justice, Dependent Var for dependent variable, Job Involve for job involvement, and  $\alpha$  for Cronbach's alpha value, a measure of internal reliability. The number of participants was 322.

reduced number of items as was the case for our study (e.g., [Garland et al., 2013](#); [Lambert and Hogan, 2010, 2013](#); [Lambert, Hogan and Cheeseman, 2013a](#); [Lambert et al., 2005](#); [Lambert and Paoline, 2012](#)).

#### 4. Results

The descriptive statistics for the variables used in the study are reported in [Table 1](#). There appeared to be significant variation in the dependent and independent variables (i.e., none were constants). The mean and median values for each variable were similar to one another, suggesting near normal distribution. Statistical tests indicated that the variables were normally distributed with no significant problems of kurtosis or skewness<sup>4</sup>. For the index variables, the Cronbach alpha values were above 0.70. The items loaded on the predicted factors using factor analysis.

Correlations of the study variables are presented in [Table 2](#). Age, gender, and educational level had nonsignificant correlations with job involvement. Staff in the first prison reported lower job involvement as compared to their counterparts in the second prison. Fear of victimization and role overload both had statistically significant negative correlations, which means increases in each were associated with lower job involvement. Tenure, instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and supervision all had significant positive correlations, which means increases in each were associated with higher job involvement.

An Ordinary Least Squares multivariate regression was computed with the job involvement index as the dependent variable, and age, tenure, gender, educational level, the prison at which the participant worked, fear of victimization, role overload, instrumental communication, job autonomy, transactional justice, procedural justice, distributive justice, job variety, and supervision as the independent variables. The multivariate regression results are reported in [Table 3](#). Multicollinearity (i.e., when two or more variables share too large an overlap in variance) is seen as a problem when Variance Inflation Factor scores (VIF) exceed 5 ([Tabachnick and Fidell, 2013](#)). Based on the VIF scores reported in [Table 3](#), multicollinearity was not a problem. In addition, the issues of outliers, influential cases, normality, linearity and homoscedasticity of residuals, and independence of errors in the regression analysis were tested and found not to be a problem ([Berry, 1993](#); [Tabachnick and Fidell, 2013](#)). The independent variables as a group accounted for approximately 42% of the observed variance in the job involvement variable (i.e., the R-squared value was 0.42).

Tenure was the only control variable to have a significant effect. Increases in tenure were associated with greater job involvement. Age, gender, and educational level did not have significant effects. Likewise, the variable representing which of the two prisons where the respondent worked had a nonsignificant association with job involvement. Of the two job demand variables, only fear of victimization had significant effects. As hypothesized, increases in fear of being hurt on the job was associated with lower job

<sup>4</sup> Kurtosis represents the peak of the curve and whether the tails of the plot of the values on a variable are light or heavy tailed (outliers) compared to a normal distribution, which is a bell curve. Skewness is a measure of symmetry (or a lack of symmetry) for a distribution of values for a particular variable. If there is symmetry, the distribution should be the same or close to the same number of cases on each side of the center point, if not the distribution is skewed ([Tabachnick and Fidell, 2013](#)).

**Table 2**  
Correlation matrix for study variables.

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Age	1.00													
2. Tenure	.66**	1.00												
3. Gender	.12*	.02	1.00											
4. Educ Level	-.35**	-.34*	-.12*	1.00										
5. Prison	.18**	.03	.57**	-.10	1.00									
6. Fear of Vict	-.15**	-.07	.08	.04	-.12*	1.00								
7. Role Over	-.01	.07	.13*	-.04	.04	.57**	1.00							
8. Inst Comm	.06	.14*	-.15**	-.06	-.27**	.05	-.06	1.00						
9. Job Auto	.04	-.06	-.05	.02	-.08	-.32**	-.27**	.19**	1.00					
10. Trans Just	-.06	-.03	-.03	.05	-.12*	-.14*	-.24**	.35**	.39**	1.00				
11. Proc Just	-.06	-.07	-.08	-.01	-.16**	-.33**	-.33**	.32**	.49**	.62**	1.00			
12. Dis Just	.02	-.04	-.12*	.06	-.20**	-.34**	-.34**	.33**	.54**	.60**	.51**	1.00		
13. Job Variety	.03	.05	-.09	.03	-.19**	-.08	-.05	.33**	.38**	.37**	.39**	.46**	1.00	
14. Supervision	-.10	-.09	-.10	.04	-.19**	-.07	-.22**	.29**	.31**	.50**	.42**	.38**	.35**	1.00
15. Job Involve	.10	.15**	-.07	.02	-.19*	-.26**	-.20**	.17**	.35**	.21**	.33**	.40**	.54**	.30**

*Note.* Educ Level stands for educational level, Fear of Vict as fear of victimization, Role Over for role overload, Inst Comm for instrumental communication, Job Auto for job autonomy, Trans Just for transactional justice, Proc Just for procedural justice, Dist Just for distributive justice, and Job Involve for job involvement. Please see Table 1 for how the variables were measured and their descriptive statistics. The number of participants was 322.

\* $p \leq .05$  \*\* $p \leq .01$ .

**Table 3**  
Multivariate regression results with job involvement as the dependent variable.

Variable	B	$\beta$	VIF
Personal Characteristics			
Age	-.02	-.04	1.98
Tenure	.06	.17**	1.92
Gender	.21	.04	1.56
Educational Level	.38	.06	1.21
Prison	-.09	-.02	1.74
Job Demands			
Fear of Victimization	-.11	-.14*	1.84
Role Overload	-.08	-.08	1.65
Job Resources			
Instrumental Communication	-.01	-.01	1.36
Job Autonomy	.06	.06	1.56
Transactional Justice	.44	.14*	1.96
Procedural Justice	-.07	-.06	3.34
Distributive Justice	.23	.22**	3.57
Job Variety	.43	.44**	1.44
Supervision	.08	.12*	1.50
F Value (degrees of freedom)	16.37 (14,299)**		
R-Squared	.42		

*Note.* B represents the unstandardized regression coefficient,  $\beta$  the standardized regression coefficient, and VIF the Variance Inflation Factor score. See Table 1 for the variable codes and their descriptive statistics.

\* $p \leq .05$  \*\* $p \leq .01$ .

involvement. Role overload had nonsignificant effects. Among the job resource variables, instrumental communication, job autonomy, and procedural justice each had nonsignificant effects; however, the job resources of transactional justice, distributive justice, job variety, and supervision had significant positive effects, which means increases in each were associated with greater job involvement. Based on the standardized regression coefficients (i.e., the  $\beta$  column in Table 3), the size of effects on job involvement can be placed from greatest to smallest among the significant variables. Job variety had the largest effect, almost twice that of the other significant variables. Distributive justice had the second largest sized effect, followed closely by tenure and then transactional justice and fear of victimization. Supervision had the smallest effect.

## 5. Discussion

A likely factor for the success of correctional facilities, including those in China, is prison staff with a high job involvement; however, most of the limited research regarding the antecedents of job involvement for prison employees has been done in the U.S. To help fill this research void, this exploratory study used the logic of the job demands-resource model to examine the association of



various personal characteristics and work environment variables with job involvement for staff at two prisons in southern China. Our findings showed that with the exception of tenure, the personal characteristics of age, gender, education level, and assigned prison did not have significant associations with job involvement in the multivariate analysis among the surveyed staff. Furthermore, our results showed the job resource variables of transactional justice, distributive justice, job variety, and supervision, had significant positive effects on job involvement for the surveyed Chinese prison staff (*Hypotheses 5, 7, 8, and 9, respectively*), while the job demand variable, fear of victimization (*Hypothesis 1*), had a significant negative effect. Role overload, instrumental communication, job autonomy, and procedural justice had nonsignificant effects on job involvement (*Hypotheses 2, 3, 4, and 6, respectively*).

Overall, for staff in these two Chinese prisons, job and organizational variables had larger effects on job involvement than did the control (personal characteristics) variables. This finding is consistent with similar studies regarding the antecedents of job involvement for staff in U.S. prisons. It is also consistent with other similar studies regarding the antecedents of job attitudes for correctional staff in China (Jiang, Lambert, Liu, Kelley, & Zhang, 2018a; Jiang, Lambert, Liu, & Zhang, 2018b). Chinese prison administrators and managers, like their U.S. counterparts, have considerable control over the job and organizational variables that this study found to have significant effects on prison staff job involvement. There are different actions that can be undertaken by prison administrators in order to improve staff job involvement. One is to seek information from staff about why they feel at risk at work, and then make changes to improve the safety of staff. Changes could be as simple as increasing the lighting in certain areas or adding mirrors to address blind spots, to more complex, such as adding more staff to identified areas and improving safety equipment and more safety-related training.

In addition, the issue of fear of victimization and how to deal with it effectively should be covered during training. Supervisors, managers, and administrations need to be made aware of the concept of transactional justice and its importance in influencing the level of staff involvement in their jobs. Additionally, training needs to be offered on how to treat staff in a professional manner. Supervisors and managers need to be held accountable for engaging their staff with respect and dignity. While it may take time, prison administrators need to learn what aspects of organizational outcomes the staff feel are unfair and make changes. In general, administrators should take efforts to improve fairness and equity of salient organizational outcomes such as pay, work assignments, and evaluations. Similarly, dialog with staff should be undertaken to learn realistically what aspects of work can be changed to increase the job variety of staff. One possible option would be to rotate staff between positions on a regular basis.

The quality of supervision should be raised. Formal training for supervisors, including one for new supervisors and refresher training for existing supervisors, should improve the quality of guidance, structure, and support provided to staff. Rather than focusing mainly on unacceptable staff actions, supervisors should recognize staff for following organizational policy and doing good work and provide meaningful and sincere praise. Eisenberger, Huntington, Hutchison, and Sowa (1986) pointed out that “indiscriminate praise given to all employees or other easily penetrable facades of disingenuous approval by agents of the organization would reduce perceived organizational support” (p. 504). Finally, rewards and recognition for quality supervision should be instituted. Moreover, part of the regular evaluation of supervisors should include whether they are perceived by staff as providing quality supervision.

On the other hand, several of our findings were not inconsistent with those typically found in job involvement studies for staff in U.S. prisons. For example, tenure, a personal variable, had a significant association with job involvement for the studied Chinese prison staff. The positive relationship between tenure and job involvement may be explained by the cultural tradition of seniority and organizational loyalty in China (Lu et al., 2008; Wong et al., 2003). In this tradition, the employer in an organization respects an employee who is loyal and relatively senior and encourages experienced employees to participate in organizational businesses. Some sayings such as “Love the work unit as your family” reflect this tradition of loyalty. This tradition of organizational loyalty affects and is accepted by employees. They believe that, as an experienced or senior employee, they should play an exemplary role in organizational participation.

Furthermore, three job resource variables—instrumental communication, job autonomy, and procedural justice—and one job demand variable—role overload—did not have significant effects on job involvement in the multivariate analysis. Each of these findings differs from what has typically been found in similar studies of U.S. prison staff. While the job environment and job duties of prison staff in the U.S. and China are equivalent in many respects, several factors typically found to have significant associations with job involvement for staff in U.S. prisons did not occur in the current study. The finding that distributive, but not procedural, justice had a positive association with job involvement is unexpected. Previous studies focusing on U.S. correctional staff have indicated that procedural justice is more important than distributive justice in forming job involvement. In a study of Chinese factory workers, Frenkel et al. (2012) argued that distributive justice was more important than procedural justice due to economic reasons. China has developed rapidly from a low-paying economy to a growing economy with increasing costs. Seeking greater rewards for themselves and their families is one of the forces that has resulted from the changing Chinese economy. The U.S. has a more developed economy. In addition, many U.S. correctional staff are represented by unions and collective bargaining agreements, which have greater control over outcomes and procedures than is the case found in China.

In addition, the cultural value of power distance (i.e., the degree that a culture accepts unequal distribution of power) may explain why instrumental communication, job autonomy, and procedural justice did not have significant effects on job involvement in the multivariate analysis (Hofstede, 2011). In China, there is a greater deference to those in power, which may mean that there is less expectation for instrumental communication, which often involves two-way dialog, and job autonomy, which involves greater decision-making. Part of procedural justice is not only transparency in the decision-making process but allowing employees a voice in the process. It could be that Chinese line staff, who make up the bulk of the respondents in this study, did not expect the decision-making process to be transparent or expect that they should have a voice in the process, which, in turn, would mean that procedural justice would not be as important to them as it would be for U.S. prison staff.

Furthermore, China has a tradition of Confucianism rather than rule of law (Frenkel et al., 2012; Jiang and Wu, 2015). For Confucians, hierarchy-based interpersonal relationships are important in governing people's interactions and behavior. In other words, people are treated based on their status in society or an organization. Equal rights and procedural justice are not emphasized. Finally, China is a collectivist culture, and the U.S. is more of an individualistic culture (Jiang et al., 2010). In a collectivist culture, deference is given to those in charge because authority is viewed as looking out for the best interests of the collective group, and, as such, instrumental communication, job autonomy, and procedural justice may be less important (Frenkel et al., 2012). It is also worth noting that three recent studies of job attitudes among Chinese institutional and community correctional staff found that procedural justice is not related to either job satisfaction or organizational commitment (Jiang et al., 2016, 2018).

It is important to note that the explanations in this section are untested. There are other forces that could account for differences observed. While there are similarities between Chinese and U.S. prisons, such as security needs and holding people against their will, there are also differences. A major difference is that Chinese prisons tend to be more centralized than U.S. prisons and are structured and operated differently (Hill, 2006). In addition, there are also major cultural differences between China and the U.S., such as socialization and values. These cultural differences were not measured in the current study. Simply, the untested explanations provided need to be tested.

This was a single exploratory study that had limitations. It was based on survey responses of staff from two southern Chinese prisons. One limitation is that not all the staff were available to participate in the survey. Some staff were on sick leave or had resigned. We contacted the human resource office for all the prisons in the province. For each month in the year prior to the survey, the sick leave rate was less than three percent and the overall resignation rate for all the prisons in the providence was less than two percent. In the year prior to the survey for the two prisons where this survey was conducted, two male officers at the first prison had resigned and no officers at the second prison had resigned, which translates to a turnover rate near 0%. No staff had recently retired, but it is important to note that staff do retire, which means that they would not have been part of the study. Future studies should contact staff who missed the survey for their participation. In addition, officers who resigned or retired should be contacted in order to understand why they left. This is likely to mean using a mixed method (i.e., variant methodology) to collect data from those who are work at the time of the study and those who are not at work (e.g., resigned, sick, or retired).

Although the Chinese correctional system is centralized and prisons have very similar organizational structure and management system, findings from the current study may or may not be explained in other prisons of China. The current results, therefore, must be replicated at other Chinese prisons. In other words, the results may be situational and contextual, varying by different types of prisons and regions, as well as time. Not only is there a need for replication on how work environment variables affect job involvement among Chinese prison staff, but staff in other nations, including the U.S. There has been very limited research on the factors that affect prison staff job involvement regardless of country. There is a need to study how job demand and resource variables predict job involvement of prison staff across the globe. This research is critical in determining which job demand and resource variables are universal in their effects and which ones vary by culture/nation.

As the study design was cross-sectional (i.e., the data was collected at one time), the causal directions cannot be empirically demonstrated. The current study used theory based on the job demands-resource model to test the relationships. In order to demonstrate empirically that job demand and resource variables affect job involvement, a longitudinal design is needed. Many of the latent variables were measured using indexes comprised of three items. Future studies should include more items to measure the job involvement, job demand, and job resource variables. Many of the latent concepts were measured with a reduced number of items because of a limitation on the length of the survey and the need to include multiple work environment factors. Future research should measure the latent concepts with all of the items to determine whether the results change or if the internal reliability (i.e., Cronbach's alpha) improves. Moreover, transactional justice was measured using a single item.

Furthermore, in the current study, the R-Squared value was 0.42, which means that about 58% of the observed variance in the job involvement measure was accounted for by variables not included in this study. These other variables need to be identified. Future studies should include other job demand and resource variables, such as role conflict, role ambiguity, social support (e.g., peer, supervisor, and organizational), and job feedback. There also is a need to study the effects of job involvement. There has been limited research, including among U.S. prison staff, on the effects that job involvement has on various work and personal outcomes, such as job performance, turnover intent, work absenteeism, job burnout, and life satisfaction. Moreover, this type of research will provide a more complete picture of job involvement, in terms of both its predictors and its consequences among prison staff in a wide array of countries. In addition to research on job involvement, scholars should test the job demands-resources model on other outcome variables, such as turnover, organizational commitment, work performance, job burnout, and prosocial and organizational citizenship behaviors (i.e., going beyond what is expected at work). There is a need for far more research concerning prison staff in China, the U.S., and all nations.

While the current survey was pilot tested to ensure respondents would understand the concepts, future research needs to explore how culture in each nation influences the results and whether the job demands resources model and the key concepts apply between cultures (Hofstede, 1993). Culture can have effects that are not possible to control or study in the current exploratory study. For example, Hofstede proposed cultural dimensions can affect results, such as power distance, uncertainty avoidance, individualism vs. collectivism, indulgence vs. restraint, and masculinity vs. femininity (Hofstede, 1993; Hofstede and Bond, 1984). These cultural dimensions can influence how people perceive the work environment and what they value. Similarly, management approaches can vary across cultures. We discussed the issue that the results may have varied between individualistic and collective cultures and the dimension of power distance, but are unable to test this explanation empirically. There is a need to determine how the cultural dimensions proposed by Hofstede influence the views of prisons staff in different nations and whether the different proposed theoretical models, such as the job demands-resource model are universal across cultures or vary. Our results suggest some relationships

may be similar and others may differ.

There is also a need to study the job demand-resources model among prison staff in various countries in more depth than is possible in our exploratory study. Demerouti and Bakker (2011) posited that an important extension of the job demand-resources model is the inclusion of personal resources (e.g., self-efficacy, hope, optimism, and resilience). These researchers emphasized that employees' cognitive processes and individual characteristics (e.g., appraisal and coping, personality traits) may mediate the outcome of potentially stressful job demands. For example, employees may be at heightened burnout risk if their jobs demands are high, their job resources are low, and if their personal resources are low. On the other hand, employees may become more engaged and exhilarated in their jobs if their job demands and job resources are high, and if their personal resources are also high. For example, the positive impact of job variety might offset the negative impact of poor supervision on burnout. However, there appears to be little evidence in support of such interactions. Hu et al. (2011) conducted a comprehensive study on interactions, focusing on the joint effects of demands and resources on burnout and engagement; however, after controlling for the additive effects of job demands and job resources, the predictive power of this synergetic effect decreased sharply. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009) stated, "... the current evidence on demand  $\times$  resource interaction effects shows that even if significant, the practical relevance of such interactions tends to be low" (p. 236). Future research should examine whether there may be three-way interactions between job demands, job resources, and personal resources.

A more recent proposition is the "coping hypothesis" (Bakker et al., 2010) which suggests that job resources gain motivational power when employees experience high job demands. This proposition suggests that employees facing high job demands are more like to use job resources as a coping mechanism or stress-reducing strategy. In other words, some employees may need to be challenged in order to perceive job resources in a manner that translates into heightened job involvement and work engagement. Future research should test the coping hypothesis. Additionally, researchers have distinguished between challenge stressors and hindrance job stressors ((LePine et al., 2005; Podsakoff et al., 2007). Hindrance stressors (e.g., role overload) are job demands that place undesirable constraints on employees and interfere with their ability to perform their jobs successfully. Challenge stressors (e.g., high workload) are job demands that enhance personal growth and achievement for employees who perceive them as "good" stressors (i.e., well worth the discomfort involved). More research is necessary to determine whether the distinction between challenge and hindrance demands is valid.

## 6. Conclusion

In closing, job involvement is a salient workplace concept which requires exploration. Brown (1996) pointed out that "a deep understanding of job involvement and its antecedents and consequent influences has the potential to enrich a fundamental aspect of human experience (i.e., work) and contribute to heightened productivity in organizations and society by fostering greater use of human potential" (p. 253). Staff are an important resource for prisons, including those in China. There is a need to examine the effects of work environment variables on prison staff. There has been very limited research on the predictors of job involvement regardless of the country. There is a vacuum waiting to be filled with studies regarding the possible predictors of job involvement among prison staff in Asian nations and worldwide. The current exploratory study used the job demands-resources model to identify work environment predictors of job involvement among staff at two prisons in southern China. The current results provide support for the job demands-resources model among Chinese prison staff. Fear of victimization was a significant negative predictor of job involvement, while transactional justice, distributive justice, job variety, and supervision were positive predictors. The current results need to be replicated not only among Chinese prison but staff in other nations. The authors hope that the current study will spur more interest and research on the subject of job involvement and how the work environment affects prison staff in countries across the globe.

## Author contribution

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## Appendix

**Job Involvement:** 1) I live, eat, and breathe my job (i.e., my job is very important to me); 2) The major satisfaction in my life comes from my job; and 3) The most important things that happen to me in my life usually occur at my job.

**Fear of Victimization:** 1) I work at a dangerous job; 2) My job is a lot more dangerous than most jobs in the community; and 3) At my job, there is a real risk of being hurt or injured.

**Role Overload:** 1) I often receive an assignment without adequate resources and materials to get it done; 2) I am responsible for almost an unmanageable number of assignments and job duties; and 3) I consider myself overworked on my job.

**Instrumental Communication:** How informed are you about the following aspects of your job: 1) What you need to know to do the job correctly; 2) What is most important about the job; 3) How the equipment is used; and 4) Rules and regulations.

**Job Autonomy:** 1) I have flexibility in how and when to do my job duties; 2) I have a great deal of say in how my job is done; and 3) My job does not allow me much opportunity to make my own decisions.

**Transactional Justice:** 1) How fair is the prison in treating you with respect and dignity?

**Procedural Justice:** (1) How fair is the promotion process here; (2) How fair is the process of the evaluation of your job performance at this prison; and (3) How fair is the prison in explaining decisions that have a significant effect on you?

**Distributive Justice:** (1) How fair has the prison been in rewarding you when you consider the amount of effort that you have put forth; (2) How fair has the prison been in you when you consider the responsibilities that you have at work; and (3) How fair has the prison been in rewarding you when you consider the work you have done well?

**Job Variety:** 1) My job requires that I must constantly learn new things; 2) My job requires that I be very creative; and 3) My job has a lot of variety in it.

**Supervision:** The items were: 1) My supervisor tends to talk down to employees (reverse coded); 2) My supervisor gives me advance notice of changes; 3) My supervisor looks out for my personal welfare; 4) When decisions are made by my supervisor, persons affected are asked for their ideas; and 5) My supervisor is friendly and approachable.

The response option for the job involvement, fear of victimization, job autonomy, job variety, and supervision items was a six point Likert scale of strongly disagree (coded 1), disagree (coded 2), somewhat disagree (coded 3), somewhat agree (coded 4), agree (coded 5), and strongly agree (coded 6). The instrumental communication items were answered using the following scale: not informed at all (coded 1), informed very little (coded 2), informed somewhat (coded 3), informed (coded 4), and very well informed (coded 5). The responses for the transactional, procedural, and distributive justice items was a 5-point scale of very unfair (coded 1), unfair (coded 2), somewhat fair (coded 3), fair (coded 4), and very fair (coded 5).

## Appendix B. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.ijlcrj.2018.06.002>.

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