

Public service motivation and job performance in public utilities

An investigation in a Taiwan sample

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Abstract

Purpose – The purpose of this paper was to examine the predictive power of each dimension of public service motivation (PSM) on job performance (JP) in a Taiwan sample.

Design/methodology/approach – The present study adopted a cross-sectional approach using a large-scale questionnaire survey in Taiwan ($N = 2,239$). Participants from six utility sectors in two infrastructure-relevant ministries (Ministry of Transportation and Communications (MOTC) and Ministry of Economic Affairs (MOEA)), with heterogeneous sectors, were recruited, including representatives of the Taiwan Railways Administration (TRA), Chunghwa Post (CHP), Taiwan Power Company (TPC), CPC Corporation, Taiwan (CPC), Taiwan Sugar Corporation (TSC), and Taiwan Water Supply Corporation (TWSC). The sample consisted of 2,239 public employees from six public utilities.

Findings – Although the results suggest that the PSM observed in western society also exists in the Taiwanese public utilities context, the self-sacrifice (SS) and the compassion (COM) dimensions were unconfirmed. The research found that for all utilities SS was significantly negatively correlated with JP, while attraction to public policy making (APP) and commitment to public interests (CPI) were significantly positively correlated with performance. Moreover, CPI was the only dimension of PSM that consistently predicted employees' JP across utilities.

Research limitations/implications – First, the authors tested the theory using a limited sample of public employees from Taiwanese public utilities. The cross-sectional design does not offer a clear cause-and-effect relationship as examined in the current study. Data collected only from public utilities in Taiwanese sample may cause concerns for the generalisability of the present findings to other settings. Second, the data do not address the timevariant effects of PSM. Third, the current empirical findings are based on Taiwan's public utilities. The observations should be interpreted with caution. A broader sample of employees would make the empirical results more generalisable beyond the country-specific findings.

Practical implications – Researchers should unpack the PSM and JP concepts and strategically explore subdimensional relationships, but these results offer new insights into the influence of such subdimensions on the link between PSM and JP. PSM in public utilities has great potential to enhance JP through high levels of CPI and APP. Furthermore, public utilities management staff should acknowledge the value of PSM for JP and, if applicable, praise it with substantial rewards.

Originality/value – The relationship of the PSM to JP in public utilities is much less studied, especially in Asian countries. Moreover, no study on employees in public utilities has previously used a Taiwan sample.

Keywords Taiwan, Public service motivation, Public utility

Paper type Research paper

1. Introduction

It is often asserted that, besides extrinsic rewards, public service motivation (PSM) can play a key role in governing behaviour, and public service-motivated employees in public organisations are expected to work better and harder and obtain better results.

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Recent research has demonstrated that PSM comprises multiple dimensions (Kim *et al.*, 2013; Wright, 2008) and is expected improve performance in public organisations (Brewer and Selden, 1998; Perry and Wise, 1990; Walker *et al.*, 2010). As Perry and Wise (1990) argued, PSM is positively related to individual performance. They stated that public tasks would be intrinsically motivating for employees with high PSM because they would embrace work with attributes such as high task significance (Perry and Wise, 1990, p. 371). Perry subsequently proposed the four dimensions scale (Perry, 1996), including self-sacrifice (SS), compassion (COM), attraction to public policy making (APP), and commitment to public interests (CPI). These dimensions are based on affective, rational, and normative motives (Perry and Wise, 1990). Moreover, efforts to develop a longer international scale of PSM have a greater potential for cultural differences to improve the understanding of the basic concept (Kim *et al.*, 2013; Moynihan *et al.*, 2013; Vandenabeele *et al.*, 2014). Therefore, PSM dimensions have been replicated in an impressive series of studies across countries and cultures and have been shown to remain fairly stable over time (Camilleri, 2006; Cerase and Farinella, 2009; Giauque *et al.*, 2011; Kim, 2009b; Leisink and Steijn, 2009; Liu *et al.*, 2011; Ritz and Waldner, 2011; Taylor, 2007; Vandenabeele, 2008). These studies show that different PSM dimensions predict job performance (JP). Moreover, some studies have examined how PSM dimensions relate to work environments and outcomes, including gender, job selection (Christensen and Wright, 2011; Kjeldsen and Jacobsen, 2013), job satisfaction (Brunetto and Farr-Wharton, 2002; Liu *et al.*, 2013), reward preferences (Snyder and Osland, 1996), external incentives (Chen and Hsieh, 2014), and the effect of treatment (Bellé, 2013).

Moreover, the concept of the PSM is very similar to the Chinese traditional virtue. Specifically, a culture endowed with more inclination towards long-term orientation can be regarded as a culture with a higher degree of Confucianism which stresses the importance of individual character for employees in administrative and public utility sectors. In the comparison of Taiwan to Mainland China, Taiwan obtained a higher degree of power distance from collectivism towards individualism, masculinity, and uncertainty avoidance (Farh *et al.*, 1997; Farh *et al.*, 2004; Hofstede, 1991; Lin and Ho, 2010). Furthermore, the main features of public utilities are as follows: first, the technologies have important economies of scale and scope; second, most of a utility's assets are highly specific and non-redeployable in other activities without great costs; third, the services provided are considered necessary goods (Cheng, 2012). Because of political sensitivity, Taiwanese governments often allow reduced rates for public utilities to certain classes of the disadvantaged. As a result of political sensitivity and the tendency to natural monopoly, Taiwanese governments have historically favoured outright ownership of public utilities. Moreover, public utilities always had particular management problems, control and accountability are particular problems for public utilities (Cook and Kirkpatrick, 2000). However, public utility service is rooted in prosocial behaviour (Rainey, 1982) which is an umbrella term used to describe acts undertaken to protect or enhance the welfare of the state and the people (Schwartz and Bilsky, 1990). More importantly, public utility service and PSM can be linked to a desire to help individuals and to contribute to society through public utilities employment. For all these reasons, public utilities are a noteworthy and interesting part of the public sector.

Although some studies found that PSM has direct and positive effects on JP (e.g. Hondeghem and Perry, 2009; Kim and Vandenabeele, 2010; Taylor, 2008), others showed inconsistent or mixed findings (Alonso and Lewis, 2001; Giauque *et al.*, 2012). To the best of our knowledge, the study of Anderfuhren-Biget *et al.* (2014) as the only one that incorporated public utilities in studying PSM and its effects. They analysed

whether and to what extent the policy environment of civil servants has an impact on their level of PSM based on policy sectors: welfare, public utilities, infrastructures and environment, core state and general administration. However, no empirical study has examined the relationship between PSM and JP in the only context of public utilities.

The PSM has been researched in many areas of public administration, most notably with respect to JP, unfortunately, but most such efforts have focused on Western society. Interest in PSM has increased significantly amongst practitioners and scholars (Bright, 2007), yet the relationship of the PSM to JP in public utilities is much less studied, especially in Asian countries. Moreover, no study on employees in public utilities has included a Taiwanese sample. Thus, the objective of this study is to investigate which of the PSM dimensions predict JP of employees at public utilities in Taiwan.

2. PSM and JP

Perry and Wise (1990) formulated three propositions:

- P1. The greater an individual's PSM, the more likely it is that the individual will seek membership in a public organisation.
- P2. In public organisations, public sector motivation is positively related to performance.
- P3. Public organisations that attract members with high levels of public motivation are likely to be less dependent on utilitarian incentives to manage individual performance effectively (Kim, 2009a, p. 151).

The PSM dimensions are commitment to the public interest (CPI), COM, APP, and SS. CPI generally refers to one's desire to fulfil a societal obligation or standard, particularly the desire to serve the public interest and the loyalty to duty and the government as a whole (Perry, 1997). COM is characterised by the concept of patriotism of benevolence (Frederickson and Hart, 1985), which represents an extensive love of all people within our political boundaries (Perry, 1996). APP refers to the degree to which an individual participates in the policy process or is committed to particular public programme because he or she personally identifies with and advocates for a special or private interest (Perry and Wise, 1990). SS represents the basic pro-social origins of PSM and refers to a willingness to deliver service without tangible personal rewards (Perry, 1996).

Many attempts have been made to reach consensus in a definition for PSM. Brewer and Selden (1998, p. 417) defined PSM as "the motivational force that induces individuals to perform meaningful [...] public, community, and social service". With this definition a shift emerged within the literature describing PSM as an orientation towards organisational citizen behaviour, altruistic, and pro-social behaviour (Brewer and Selden, 1998; Perry and Hondeghem, 2008; Walker *et al.*, 2010). There would be potential behavioural implications if PSM were positively related to job satisfaction, organisational commitment, performance, and retention (Perry, 1996; Perry and Porter, 1982; Perry and Wise, 1990) because employees with higher PSM would be more committed, be more productive, and perform better.

In order to develop a theory and practice of PSM, as the theoretical premises emphasise, it is of significance to identify the sources and nature of the influences that motivate individuals (Perry, 2000). As Crewson (1997) stated, significant differences exist in rewards amongst public and private sector employees. Steijn (2008), using a

person-organisation-fit framework, argued that Dutch workers with a PSM fit were less inclined to leave their jobs and were generally more satisfied in their work than individuals not possessing a good organisation fit. Although some studies have shown case results regarding the impact of PSM research on individual and organisational performance, PSM research still needs to be done to better tease out the nuances of this relationship. Perry *et al.* (2010, p. 684) argued that, “at this juncture, the research points to the conclusion that PSM matters for performance, but a good many questions remain unanswered about the degree to which it matters and whether its effects are collective rather than individual”.

People who work for a utility sector in Taiwan have recently become the target for public scorn. This is most likely due to the poor impression that public utilities in Taiwan have long given the public (Cheng, 2011). Due to globalisation and privatisation, public utilities are facing vivid and intense structural changes (Beesley and Cave, 1998; Ernst, 1994; Graham, 2000; Sherman, 1989). Because of these dynamics, public utilities’ performance is becoming dependent on responsive and reflective actions of employees in terms of their JP. Therefore, we must examine Perry and Wise’s (1990) claim that PSM is positively related to JP. JP can be described as “performance is what the organisation hires one to do, and do well” (Campbell *et al.*, 1993, p. 40). Understanding the concept and antecedents of JP is imperative for public utilities to survive in a challenging and dynamic economic world.

3. Method

3.1 Samples

After its defeat by the Chinese Communist Party in 1949, the Kuomintang political party (KMT) government took refuge on Taiwan. Since then, in the shadow of Communist China’s threat, the KMT established a nearly four-decade authoritarian rule on Taiwan until the repeal of martial law in 1987 (Wade, 1990). The KMT actively promoted state capital and restrained private capital (following Dr. Sun Yat-sen). The government has controlled the “commanding heights” of the economy through a strong portion of government-owned entities (GOEs)[1] in utility, transportation, the financial sector and upstream industries (e.g. petroleum and steel). GOEs produced over half of the industrial output throughout the 1950s (Wade, 1990). What is unique is that many GOEs are not outwardly government-owned, but are in fact, substantially owned by the KMT party. Besides, utilities were established in government hands from the beginning, due to the inability of private providers to make an economic return. No one other than the government had the resources to carry out the development of key utility services which are desired but will not be adequately provided by the market (Hughes, 1998). However, since 1987, the drive towards liberalisation and internationalisation has underpinned economic policy and, consequently, the calls for deregulation. The motivation behind regulatory reforms and privatisation of GOEs is not simply external pressures from trading partners, but is also driven by Taiwan’s internal needs to maintain its competitive edge in the manufacturing sector (Chiang, 2001; Hsieh, 1998). On the other hand, a number of GOEs have been spoil systems for the KMT government to retired military. As a result, they become partners in dominant coalitions and constitute special interest groups opposed to privatisation (Esfahani, 1994). However, governments cannot totally remove themselves from public utilities because public utilities remain a matter of political importance even when privatised.

Examining the historical and institutional context is important for understanding PSM (Liu *et al.*, 2008; Vandenabeele *et al.*, 2006). To clarify the research context and to

draw more attention from the scholars, we explain the development of Taiwanese public utilities.

Today, privatisation policies are again popular: extensive programmes are under way not only in mature economies such as the UK but also in developing countries from Taiwan to Mexico, and are soon to be initiated in countries as diverse as France and Japan, (Yarrow and Jasinski, 1996, p. 4). Taiwan presents a fascinating case study of privatising GOEs and economic liberalisation processes. Taiwan industrialised in the 1980s through the establishment of GOEs. Recently, however, some public utilities have found it difficult to survive under the competition brought by the economic liberalisation policy (Chang, 2002; CNC, 2000; Jan, 1993; Shih, 1997). Limitations on the use of performance-related pay and compensation often deprive public utilities of a very significant incentive mechanism available to private sector principals. These problems have occurred because of inefficiency and distorted resource allocation (Chou, 1999a, b) and have led to calls for privatisation by various interest groups, including legislators (Chen *et al.*, 1991). The advocates of privatisation argue that, under the protection of government, GOEs in Taiwan distort limited resource allocation (Peng, 1994; Taiwan Institute of Economic Research, 1997). Others have argued that privatisation is used by the government to deliver accountability and responsibility to the private sector and citizens, but that it also favours certain interest groups (Chang, 2001; Taiwan Labour Union, 1999). Nevertheless, it has remained a major activity. The Taiwanese government still holds substantial shares and, therefore, controls these privatised firms (Chang, 2001; Taiwan Labour Union, 1999), a situation which has led others to argue that the privatisation policy has been more strategic than substantial in nature (Chen *et al.*, 1991). Thus, the importance of governance for public utilities has come to be recognised more recently, and the understanding of this issue remains relatively limited.

The privatisation movement raises many questions for the theory and practice of public management (Moe, 1987). The success of public utility governance, however, should not only be judged in terms of improvements in performance indicators, such as productivity and profitability, but must also consider public interest – the primary obligation of the public sector (especially the central government) – because the respective value of government and market is originally different (Cheng, 2013a, b). Moreover, evidence for the superiority of private over public enterprise is mixed and inconclusive. These unclear boundaries between the public and private sectors result in the need for a better understanding of the motivations of employees in their respective sectors to achieve the desired outcomes in public affairs. Although these calls for the public sector to operate in a more business-like manner have largely subsided, the dimensions of PSM have emerged as a promising alternative theory to help explain why public management reform efforts in public utilities have not been as successful as originally hoped.

The present study adopted a cross-sectional approach using a large-scale questionnaire survey in Taiwan ($N = 2,239$). Participants from six utility sectors in two infrastructure relevant ministries (Ministry of Transportation and Communications (MOTC) and Ministry of Economic Affairs (MOEA)), heterogeneous sectors were recruited, including representatives of the Taiwan Railways Administration (TRA), Chunghwa Post (CHP), Taiwan Power Company (TPC), CPC Corporation, Taiwan (CPC), Taiwan Sugar Corporation (TSC), and Taiwan Water Supply Corporation (TWSC).

The commonly used standards of 3 per cent sampling error and 95 per cent confidence level require a sample of 1,067 responses (O'Sullivan and Rassel, 1989). This

study's sample consisted of 2,239 utility employees: 1,070 from MOTC and 1,169 from MOEA. The response rate was 71.3 and 71.2 per cent respectively, which included 1,110 males and 1,139 females from six service utilities as follows: TSC ($n = 242$), TRA ($n = 567$), CHP ($n = 503$), TWSC ($n = 307$), TPC ($n = 319$), and CPC ($n = 301$). Amongst the participants, 50.8 per cent were female, the average age was 38.73 years ($SD = 6.20$), and the average job tenure was 11.66 years ($SD = 5.38$). Data were obtained during a concurrent test validation project. Prior to testing, all participants were given a letter containing a brief explanation of the study's purpose (i.e. test validation) and a research statement ensuring the confidentiality of their individual test results. Immediately after testing, participants completed a regulatory decision tools questionnaire as well as a short demographic form requesting background information.

3.2 Measures

A random sampling procedure was used to select the sample. Using this sample procedure provided an excellent opportunity to obtain information from different utilities. An initial memo was sent by the director of human resources informing employees of the purpose of the study and requesting cooperation. With the assistance of the director of human resources and his staff, a packet of surveys was delivered along with a bulk reply envelope with the author's university address. This approach helped ensure that the surveys were distributed to a representative section of the population.

For the pilot study, 42 respondents (seven per utility) were selected from the target population using random sampling, and 36 responses were returned. These respondents were contacted by e-mail and asked to complete the questionnaire and comment on any problems they had. In the pilot study, the response rate was about 85 per cent. The feedback from the participants focused on the comprehension of literary terms and minor typing errors in the questions. Thus, after revising the minor errors based on the results of the pilot test, the questionnaire was finalised.

To test the applicability of the consolidated questionnaire, we took several steps. First, the reliability of the instrument was examined for internal consistency using Cronbach's α . Most of the scales had satisfactory reliability estimates. Both the PSM and JP scales showed acceptable reliability, with an α of 0.86 and 0.85, respectively. Moreover, construct validity was determined using a confirmatory factor analysis technique to determine that the items were suitable in the context of the utility sectors in Taiwan. The factor loadings of all items loaded on their respective scales above the generally accepted minimum of 0.04. Second, the goodness-of-fit index (GFI) indicated a reasonable fit, with a value exceeding 0.90 (the range of GFI is between zero and one) (Bentler and Bonett, 1980). GFI measures the relative amount of variance and covariance in the actually observed matrix predicted by the implied variance-covariance matrix.

The study adopted a cross-sectional approach to measure all variables simultaneously. An anti-common method variance (CMV) strategy was also embedded in the measurement. To ameliorate the effects of CMV resulting from the utilisation of self-rated measures, the author collected the data in two stages. CMV emerges when self-rated measures are simultaneously used, as in some cases the observed relationships between variables are inflated, jeopardising the reliability of the data analysis (Podsakoff *et al.*, 2003). To assess the potential for regression coefficient instability, collinearity diagnostics were conducted. Specifically, we calculated variance inflation factor (VIF) scores, which measure the extent to which collinearity amongst the predictors affects the precision of a regression model in each step. Variance inflation is the consequence of multicollinearity. VIF scores of less than ten are typically considered acceptable

(Hair *et al.*, 1998, 2006). No VIF score exceeded 1.7. We adopted Harman’s single factor test to examine the potential CMV (Jakobsen and Jensen, 2015; Podsakoff *et al.*, 2003). All the research variables were first merged into one factor; the results showed poor fit, suggesting that one single factor of merging all variables was inappropriate for data analysis ($\chi^2(210) = 3,664.32$, $p < 0.001$, RMSA = 0.21, NFI = 0.45, CFI = 0.42, IFI = 0.32, SRMR = 0.16). We then adopted an unmeasured latent construct method to measure the potential influence of CMV as recommended by Podsakoff *et al.* (2003). The χ^2 -difference test was not statistically significant ($\Delta\chi^2(1) = 3.61$, *ns*). Results were consistent with the findings of Harman’s single factor test. To simplify, the influence of CMV was very slim; hence, the research dataset should be accepted for further data analysis. A series of standardised scales was used to measure PSM and JP.

3.2.1 PSM. Perry (1996) developed a measurement scale for PSM. The outcome of Perry’s study was the development of 24 items measuring the four empirical dimensions of the PSM construct. Sample items included: “Meaningful public service is very important to me”, “I am often reminded by daily events about how dependent we are on one another”, “Making a difference in society means more to me than personal achievements”, “I am prepared to make enormous sacrifices for the good of society”, and “I am not afraid to go to bat for the rights of others even if it means I will be ridiculed”. Participants’ responses were recorded using a five-point Likert scale (1 = completely disagree, 5 = completely agree). Higher scores meant higher levels of PSM, indicating that participants demonstrate more PSM for JP. Cronbach’s α was 0.86.

3.2.2 JP. JP was measured using the six-item scale developed by Singh *et al.* (1996) with a Cronbach’s α -value of 0.916. This scale includes items like “How do you rate yourself in terms of your ability to reach your goals?” and “How do you rate yourself in terms of your performance potential amongst coworkers?”. Participants’ responses were recorded using a five-point Likert scale (1 = completely disagree, 5 = completely agree). Higher scores meant a higher level of expectation, indicating that participants had stronger expectations for JP. Cronbach’s α was 0.85.

4. Results

Tables I and II describe the relationships amongst the PSM dimensions and JP in each ministry. For both the MOTC and MOEA, SS was significantly negatively correlated with JP, while APP and CPI were significantly positively correlated with JP.

Appendices 1-6 describe the relationships amongst the PSM dimensions and JP in each utility. For all utilities sectors, SS was significantly negatively correlated with JP, while APP and CPI were significantly positively correlated with JP.

Variable	<i>M</i>	<i>SD</i>	<i>SS</i>	<i>APP</i>	<i>COM</i>	<i>CPI</i>	<i>JP</i>
<i>SS</i>	19.47	6.89	(0.87)				
<i>APP</i>	28.96	5.52	-0.36**	(0.72)			
<i>COM</i>	27.72	4.73	-0.16*	0.18**	(0.72)		
<i>CPI</i>	32.14	5.35	-0.29**	0.33**	0.23**	(0.83)	
<i>JP</i>	33.55	5.67	-0.30**	0.30**	0.27**	0.37**	(0.93)

Table I.
Intercorrelations amongst PSM and JP in the MOEA

Notes: $n = 1,169$. *SS*, self-sacrifice; *APP*, attraction to public policy making; *COM*, compassion; *CPI*, commitment to the public interest; *JP*, job performance. Reliabilities of scales are in parentheses along diagonals. * $p < 0.05$; ** $p < 0.01$

Multiple regression analyses were conducted to investigate the predictive power of each dimension of PSM on JP. SS, COM, APP, and CPI were forced into the models. Table III indicates that CPI was the only construct that consistently predicted JP across five utilities sectors (the exception was CPC). Standardised β for TSC, TRA, CHP, TWSC, and TPC were 0.27, 0.26, 0.42, 0.41, and 0.33, respectively (all $p < 0.01$). APP was a significant predictor in four utilities sectors: TSC ($\beta = 0.16$; $p < 0.05$), TRA ($\beta = 0.09$; $p < 0.05$), CHP ($\beta = 0.17$; $p < 0.01$), and TPC ($\beta = 0.18$; $p < 0.01$).

According to previous studies (cf. Pandey and Stazyk, 2008), demographic variables (e.g. gender, age, and tenure) might be positively related to PSM while having effects on JP. In Step 1, we entered age, gender, and tenure as three control variables to examine how much variance in the dependent variables was accounted for by the control variables, then added the four dimensions of PSM into the regression equations to jointly analyse the effects of the independent variables and control variables on the dependent variable (JP). Table IV displays the regression results. The results indicate that age has a significant association with JP, implying that older public utilities employees have more JP than younger ones.

The data in Table IV also demonstrate the separate effects of the dimensions of PSM on JP. Two of the four dimensions of PSM (CPI and APP) were found to be significantly associated with JP. As Table IV shows, when the dimensions of PSM were added to the regression model, the increases in the model multiple correlation square were significant ($p < 0.01$), although the absolute magnitude was not large ($\Delta R^2 = 0.14$). Specifically, CPI had a marginally significant and positive effect on public utility employees' JP ($\beta = 0.37$; $p = 0.04$). APP also had a marginally significant and positive

Variable	<i>M</i>	SD	SS	APP	COM	CPI	JP
SS	22.68	7.74	(0.88)				
APP	29.25	4.78	-0.23**	(0.66)			
COM	27.09	4.34	-0.13*	0.19**	(0.52)		
CPI	32.82	4.56	-0.35**	0.39**	0.28**	(0.81)	
JP	35.41	4.86	-0.24**	0.24**	0.19**	0.36**	(0.98)

Notes: $n = 1,070$. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. * $p < 0.05$; ** $p < 0.01$

Table II.
Intercorrelations
amongst PSM and
JP in the MOTC

Dimension	Standardised β					
	TSC ($n = 242$)	TRA ($n = 567$)	CHP ($n = 503$)	TWSC ($n = 307$)	TPC ($n = 319$)	CPC ($n = 301$)
SS	-0.17**	-0.13**	-0.09*	-0.10	-0.23**	-0.06
APP	0.16*	0.09*	0.17**	0.03	0.18**	0.41
COM	0.16**	0.07*	0.01	0.01	0.00	0.01
CPI	0.27**	0.26**	0.42**	0.41**	0.33**	0.16
<i>R</i>	0.45	0.37	0.56	0.47	0.59	0.52
R^2	0.21	0.14	0.31	0.22	0.35	0.27
Adjusted R^2	0.19	0.13	0.31	0.21	0.34	0.26

Notes: SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest. JP as dependent variable and PSM as Predictors. * $p < 0.05$; ** $p < 0.01$

Table III.
Results of
multiple regression
analysis for all
service utilities

Table IV.
Results of
hierarchical
regression analysis
with job
performance as
dependent variable

Variable	Model tested β	
<i>Step one: control variables</i>		
Gender (1 = male, 0 = female)	0.13	0.09
Age	0.17***	0.17*
Tenure	0.15	0.14
<i>Step two: independent variables</i>		
Commitment to public interest (CPI)		0.37**
Attraction to public policy making (APP)		0.16*
Self-sacrifice (SS)		-0.15
Compassion (COM)		-0.01
R^2	0.06***	0.18***
ΔR^2		0.14***
F -test	3.86***	5.72***
Notes: $n = 2,239$. β , standardised regression coefficients. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$		

effect on public utility employees' JP ($\beta = 0.16$; $p = 0.09$) as Moynihan and Pandey (2007) found. SS was not found to have a significant effect on the respondents' JP ($\beta = -0.15$; $p = 0.56$), while no significant effect was found between COM and JP ($\beta = -0.01$; $p = 0.86$).

5. Discussion and conclusion

The results suggest that the PSM observed in the West also exists in the Taiwanese public utilities context, but the generalisability of PSM was limited. Two of the four dimensions of PSM – namely, APP and CPI – exist in Taiwan, but the SS and COM dimensions were unconfirmed. Unfortunately, people who work for a utility sector have become the target for public scorn recently (Cheng, 2013), most likely due to the poor impression that public enterprises in Taiwan have long given the public (Cheng, 2011). Thus, the SS and COM dimensions were not confirmed in this sample of Taiwanese public utilities. Although Bright (2007) and Vandenabeele (2009) found a positive relationship between PSM and self-reported performance, the present study was inconsistent with previous studies, including Alonso and Lewis' (2001) findings demonstrated that PSM has no impact on performance rating. Their study was based on 3,754 civil servants at the Swiss municipal level. Compared to Taylor's (2007, p. 940) hypothesis that "Normative motives (e.g. CPI) will have a greater influence on job satisfaction than self-sacrifice", the current study confirms her hypothesis. Moreover, Giauque *et al.* (2012) revealed an undesirable finding that the COM and SS components of PSM increase the civil servants' job stress and resignation. Besides, the present study was also inconsistent with the study of Anderfuhren-Biget *et al.* (2014), they found that employees in charge of Welfare State policies are inclined to have high levels of COM. Evidence from a number of studies is consistent with this assertion (Bright, 2005; Camilleri, 2006). Therefore, it can be argued that empirical results regarding the link between PSM and work-related outcomes have been decidedly mixed (Alonso and Lewis, 2001; Naff and Crum, 1999). The main reason might be that the government's protective attitude towards public employees results in a lack of stimulation which has a negative impact on SS, risk taking, COM, and innovation. Thus, the attitude of employees in public utilities seems to be that the less you do, the less that can go wrong, and that if you do nothing, nothing can go wrong. The result is a lethargic bureaucracy devoid of PSM.

The results indicated that CPI was the only dimension of PSM that consistently predicted employees' JP across five utility sectors (CPC was the exception). The results indicated that CPI was the only dimension of PSM that consistently predicted employees' JP across five utility sectors (CPC was the exception). Thus, the present study was consistent with previous studies, including Bozeman, (2007, p. 17), Hondeghem and Perry (2009, p. 6), Taylor, (2008, pp. 71-72), Kim and Vandenberg (2010), and Pedersen (2014). It is not surprising that CPI was the only dimension of PSM that could predict JP of utility employees from various service sectors. This is because employees with PSM tend to be more considerate towards their fellow employees and more likely to help their fellow employees with job tasks. Thus, it can be argued that PSM leads to behaviours associated with positive organisational citizenship behaviours, consistent with Kim's (2005) results. Moreover, public managers in public utilities can align incentives with intrinsic motivations by designing compensation systems that emphasise long-term attractiveness to utility employees and avoid performance-related pay that might crowd out intrinsic motivation (Perry and Hondeghem, 2008).

The results also indicated that APP appears to be positively related to JP. This is consistent with early studies that government employees have found that public employees are motivated differently than their private sector counterparts (Crewson, 1997; Liu *et al.*, 2013; Liu *et al.*, 2008; Perry, 1997; Perry and Wise, 1990; Rita, 2011). For example, Kim (2005) found that high PSM in public employees is linked to higher JP and positive organisational citizenship behaviours, both of which are important to organisational productivity. Thus, the evidence suggests the value of recruiting public employees with APP as they make positive contributions to JP. This study suggests that PSM should be incorporated into public utilities' human resources' screening of future applicants; moreover, public managers in public utilities should know how to increase employees' attitudes and motivation in public service to increase JP as APP is an important component of PSM. Therefore, before adopting market-model public management practices, any private sector management practices should be examined in the context using PSM theory to determine the applicability to public utilities and their employees.

In summary, results of the current study indicate that the four dimensions of PSM display appreciable correlations with JP. The conclusion of the research could be generalised to the Asian and collectivistic cultures, more precisely to public utilities. Despite these findings, the present research has limitations. Results suggest that the PSM observed in the West also exists in Taiwan, but the generalisability of the construct is limited. The present study indicated that CPI was the only dimension of PSM that consistently predicted employees' JP across five utility sectors (CPC was the exception). CPI is the core values of the Taiwanese public utility sectors. Thus, respondents with a higher CPI will have higher JP because their value is congruent with the spirit of the Taiwanese public utility sectors. Especially, the NPM philosophy (e.g. privatisation) is weakening the powers of the trade unions and promoting greater wage flexibility and dispensing with restrictions in job practices. Employees may lose their job security, or their salary and benefits may be adversely affected. That could be the reason CPI had a greater influence on JP than SS and COM. Addressing this void in further research is even more crucial as public utilities context has unique characteristics which call for a separate consideration of many concepts formed in relation to other public sectors and business organisations.

Trying to find reliable answers is also challenging due to the potential affect of the social desirability effect, and the reliability of psychometrics has been continually debated by both academics and field users (Chang and Smithikrai, 2010). The implication is that researchers should unpack the PSM and JP concepts and strategically explore subdimensional relationships, but these results offer new insights into the influence of such subdimensions on the link between PSM and JP. Nevertheless, from a practical perspective, the present study has opened a new avenue for public managerial practitioners to tackle PSM. Specifically, the findings here have revealed that CPI was the only dimension of PSM that consistently predicted employees' JP across five utility sectors (CPC was the exception). The findings also indicated that APP appears to be positively related to JP in the context of public utilities. PSM in public utilities has great potential to enhance JP through high levels of CPI and APP. Furthermore, public utilities management staff should acknowledge the value of PSM for JP and, if applicable, praise it with substantial rewards. Following this advice may be initially costly to public utilities; however, the consequences should bring foreseeable benefits to both public utilities and employees in the long run. On the other hand, Wise (2000) heeded that future studies may look more holistically at PSM by including contextual factors related to actors, situations, events, and organisations. This indicates that public utilities can use and maximise the possible and positive effects of PSM by managerial practice. Future research should be sensitive enough to explain the difference amongst service sectors and countries.

The results significantly advance our knowledge about the causality of the relationship between PSM and JP amongst employees in public utilities, but should be viewed in the light of some limitations. First, we tested our theory using a limited sample of public employees from Taiwanese public utilities. The cross-sectional design does not offer a clear cause-and-effect relationship as examined in the current study. Data collected only from public utilities in Taiwanese sample may cause concerns for the generalisability of the present findings to other settings. The dependent variable, PSM, due to its self-reported nature, involves the possibility of common method bias (Podsakoff *et al.*, 2014). Further research might strive to design more fine-grained survey instruments or collect data from multiple sources to investigate more objectively PSM's dimensional changes amongst public utilities employees (Podsakoff *et al.*, 2003).

Second, we acknowledge that PSM represent psychological factors that could be influenced by multiple individual and organisational factors. Our data do not address the timevariant effects of PSM. Additional attempts could be made to capture further whether individual, group, organisational or environmental factors may affect, alone or in unison, dimensions of PSM.

Third, the current empirical findings are based on Taiwan's public utilities. Therefore, our observations should be interpreted with caution, because public utilities *per se* and their employees in general may have different backgrounds and dimensions of PSM from those in business organisations or public enterprises in other countries. It would prove useful to replicate the study using data from other settings to see if the results hold in different kinds of public enterprises and countries (Perry and Hondeghem, 2008). A broader sample of employees would make the empirical results more generalisable beyond our country-specific findings.

The findings presented in this study concern the Taiwanese public utilities context; thus, we should be cautious about not interpreting the results as a general judgement of the motivational patterns of all public employees – or even of all Taiwanese public

employees. Furthermore, the use of self-reported measures is another limitation. One caveat is that recent reviews of common methods bias tests suggest that none of the current tests are particularly strong in ruling out the possibility that bias exists (Podsakoff *et al.*, 2003). Furthermore, the test is often criticised by Jakobsen and Jensen (2015), they argued that “the (Harman’s) single factor test is insufficient with regard to testing for problems of common method bias” (p. 19). Although our results used Harman’s single-factor test to show that CMV bias was not a critical concern in the current study, researchers may want to consider additional variables (e.g. social desirability) and data analysis techniques such as three-stage process recommended by Hinkin (1995), to eliminate possible concerns of CMV and response bias. Although the use of self-reported items calls into question the reliability of the results and their comparisons with previous findings, we nevertheless maintain that those items were carefully designed to capture, as effectively as possible, the particular dimensions of motivation. For example, people with high SS might sacrifice themselves because they have low self-esteem, and low self-esteem might also result in a negative bias in self-evaluations of JP, as Kim and Vandenberg (2010, p. 702) argued; thus, the SS dimension was retained as an independent dimension because of its historical connection with the perception of the public service. Future studies should extend the original PSM constructs and contents observed in Western society. In the future, researchers need to investigate variables that might serve as powerful moderators of the relationship between PSM and JP at the individual, group, and organisational levels in cross-level studies. The SS and the COM dimensions were unconfirmed, meaning these findings cannot be established without replication; we speculate that PSM would have some differential or particular contents in the Taiwanese public utilities context. Another issue to be recognised is that this research did not measure the financial structure, age of utility sectors, and governance aspects. However, these factors impact on the PSM and JP remains unclear and hence requires further research. As this design raises some statistical questions, a longitudinal research design is needed in future studies. Whether other variables can contribute uniquely to the explanation of JP beyond the effects of PSM remains a question for future research. Future studies should unpack the PSM and performance concepts and explore their sub-dimensional relationship, because combined indexes might mask individual differences and effects. Future studies should extend the original PSM dimensions and contents observed in the West. Finally, future studies should attempt to model the organisational and psychological processes that could explain the relationships of the PSM with JP.

Note

1. This research uses “government” to mean the executive branch and “state” to imply the wider structure of governance institutions, but in practice the words are often employed interchangeably.

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Appendix

Public service
motivation
and job
performance

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Variable	<i>M</i>	<i>SD</i>	<i>SS</i>	<i>APP</i>	<i>COM</i>	<i>CPI</i>	<i>JP</i>
SS	19.31	6.39	(0.83)				
APP	27.78	5.21	-0.34**	(0.71)			
COM	28.02	4.92	-0.13*	0.16**	(0.61)		
CPI	31.91	5.33	-0.27**	0.31**	0.20**	(0.79)	
JP	32.14	5.66	-0.28**	0.28**	0.25**	0.36**	(0.91)

Notes: *n* = 242. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. **p* < 0.05; ***p* < 0.01

Table AI.
Intercorrelations
amongst PSM and JP
in the Taiwan
sugar corporation

Variable	<i>M</i>	<i>SD</i>	<i>SS</i>	<i>APP</i>	<i>COM</i>	<i>CPI</i>	<i>JP</i>
SS	21.86	6.65	(0.78)				
APP	28.05	4.39	-0.20**	(0.50)			
COM	27.09	4.12	-0.10*	0.18**	(0.44)		
CPI	32.82	4.95	-0.31**	0.36**	0.26**	(0.71)	
JP	35.41	4.66	-0.21**	0.21**	0.17**	0.33**	(0.89)

Notes: *n* = 567. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. **p* < 0.05; ***p* < 0.01

Table AII.
Intercorrelations
amongst PSM and
JP in the
Taiwan railways
administration

Variable	<i>M</i>	<i>SD</i>	<i>SS</i>	<i>APP</i>	<i>COM</i>	<i>CPI</i>	<i>JP</i>
SS	17.59	6.23	(0.77)				
APP	27.25	4.57	-0.25*	(0.52)			
COM	26.59	4.56	-0.14**	0.23**	(0.44)		
CPI	34.71	5.22	-0.38**	0.42**	0.31**	(0.71)	
JP	41.26	3.96	-0.30**	0.37**	0.19**	0.53**	(0.89)

Notes: *n* = 503. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. **p* < 0.05; ***p* < 0.01

Table AIII.
Intercorrelations
amongst PSM and
JP in the
Chunghwa Post

Variable	<i>M</i>	<i>SD</i>	<i>SS</i>	<i>APP</i>	<i>COM</i>	<i>CPI</i>	<i>JP</i>
SS	20.62	7.13	(0.79)				
APP	28.64	4.68	-0.18**	(0.50)			
COM	26.71	4.16	-0.17**	0.18**	(0.45)		
CPI	34.08	5.62	-0.44**	0.38**	0.31**	(0.76)	
JP	30.61	3.85	-0.29**	0.19**	0.16**	0.46**	(0.81)

Notes: *n* = 307. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. **p* < 0.05; ***p* < 0.01

Table AIV.
Intercorrelations
amongst PSM and JP
in the Taiwan water
supply corporation

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Table AV.
Intercorrelations
amongst PSM and
JP in the Taiwan
power company

Variable	M	SD	SS	APP	COM	CPI	JP
SS	17.73	7.26	(0.88)				
APP	27.69	5.31	-0.47**	(0.73)			
COM	27.13	4.50	-0.01	0.15*	(0.54)		
CPI	33.14	4.94	-0.36**	0.44**	0.21**	(0.76)	
JP	29.06	3.75	-0.45**	0.43**	0.10	0.49**	(0.82)

Notes: $n = 319$. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. * $p < 0.05$; ** $p < 0.01$

Table AVI.
Intercorrelations
amongst PSM and
JP in the CPC
corporation, Taiwan

Variable	M	SD	SS	APP	COM	CPI	JP
SS	22.07	5.62	(0.69)				
APP	29.35	5.23	-0.32**	(0.68)			
COM	25.33	4.48	0.40**	0.13*	(0.45)		
CPI	34.22	4.68	-0.34**	0.11*	-0.29**	(0.59)	
JP	38.25	3.42	-0.28**	0.46**	0.13*	0.28**	(0.80)

Notes: $n = 301$. SS, self-sacrifice; APP, attraction to public policy making; COM, compassion; CPI, commitment to the public interest; JP, job performance. Reliabilities of scales are in parentheses along diagonals. * $p < 0.05$; ** $p < 0.01$

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