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TITLE: Work-to-nonwork spillover: the impact of PSM and meaningfulness on outcomes in work and personal life domains

Running Title: Work-to-nonwork spillover impact of PSM

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Work-to-nonwork spillover: the impact of PSM and meaningfulness on outcomes in work and personal life domains

ABSTRACT

This study examines why, and when, public service motivation (PSM) has spillover effects from employees' work lives into their personal lives. Drawing on a dual conceptualization of meaningfulness we propose and examine the relationship of PSM with meaningfulness of work through processes of realization and justification. Analysis of 253 matched dyads of policing employees and spouses support the proposed mediation effect of meaningfulness of work from PSM to job satisfaction, individual initiative (i.e., task-related behaviors after work), and psychological detachment from work in non-work time. Job autonomy is found to compensate for PSM in predicting meaningfulness and these outcomes.

KEYWORDS Public service motivation; work-life balance; meaningfulness of work; job autonomy

Word count: 8626.

Work-to-nonwork spillover: the impact of PSM and meaningfulness on outcomes in work and personal life domains

Introduction

Public service motivation (PSM) refers as ‘an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations’ (Perry and Wise 1990, 368). To date most studies have focused on examining the positive impact of PSM on work attitudes and outcomes, such as job satisfaction (see a meta-analysis by Homberg, McCarthy, and Tabvuma 2015), affective commitment (Mostafa, Gould-Williams, and Bottomley 2015), job performance (Bellé 2013), and organizational citizenship behaviors (OCBs) (Gould-Williams, Mostafa, and Bottomley 2015).

Although the impact of PSM on employees’ work experiences has been widely examined, the impact of PSM beyond the workplace has not been adequately investigated. Ritz, Brewer, and Neumann (2016) suggested that work-life balance could be a promising lens to investigate the “overcoming optimism” of the PSM literature and call for research investigating relationships between PSM and outcomes that may be counterproductive for individuals. Consistent with this view Macey and Schneider (2008) posited that due to the finite nature of an individual’s personal energy, when employees are highly motivated by their jobs they may over-engage in their work and this may have negative implications for their personal and family lives. As higher PSM directs an individual’s perception at work to focus more on tasks that benefit the public (Perry and Wise 1990), we propose that employees with higher PSM will experience higher meaningfulness of their work, which may result in not only higher job satisfaction, but also in high investments of time and energy into activities that blur the boundaries between their work and personal lives. To this end, in order to unpack the impacts of PSM beyond the workplace, we include two outcome variables of

employees' individual initiative (engaging in work task-related behaviors outside of their normal working hours) and psychological detachment (ability to cognitively switch off from work in nonwork time), to respectively represent a behavioral syndrome and a mental state in an individual's personal time that may have negative impacts on individuals.

We first argue that PSM will be positively associated with meaningfulness of work. Meaningfulness of work refers to "the degree to which an individual experiences their job as one which is generally meaningful, valuable, and worthwhile" (Hackman and Oldham 1976, 256). In their conceptualization of the development of meaningfulness of work, Lepisto and Pratt (2017) proposed a dual process where meaningfulness of an individual's work is derived through two alternative conceptualizations; that of a realization process and a justification process. A realization process involves an individual's sense of self being fully expressed and realized in their work, while a justification process involves people proactively developing an account that justifies the worthiness of their work. We suggest that PSM may foster an individual's sense of meaningfulness through a realization process of achieving a positive social impact. Additionally, PSM may foster meaningfulness via a justification process where employees cognitively justify their work through it having positive social impact.

Next, we propose that in the work domain meaningfulness of work will generate higher levels of job satisfaction, but will also result in behaviors and attitudes that are associated with negative outcomes in individuals' personal lives. Prior studies have supported that since meaningfulness of work reflects the degree of significance that an individual believes their work possesses, it helps individuals to sustain high levels of job satisfaction (Duffy, Scott, Shaw, Tepper, and Aquino 2012; Humphrey, Nahrgang, and Morgeson 2007). We suggest that when individuals view their work as meaningful, they will engage in work task-related behaviors outside of their normal working hours, a phenomenon called individual

initiative. Individual initiative refers to task-related behaviors conducted in personal time such as working extra-hours, taking work home, and dealing with work-related issues when an employee is away from his or her normal work place, or when he or she is on his or her day(s) off (Bolino and Turnley 2005). Furthermore, we propose that employees who experience high levels of meaningfulness in their work will be less able to psychologically detach from their work in their personal time due to the importance they assign to their work and their dedication to it. Supporting our usage of these two outcomes, prior studies have found that higher levels of these two outcomes are associated with negative implications for individuals' wellbeing. Higher levels of individual initiative has been shown to be related to higher levels of employee role overload, job stress and work-family conflict (Bolino and Turnley 2005), and a reduced ability to psychologically detach from work has been shown to adversely impact an individual's recovery process from the efforts they expend at work (Binnewies, Sonnentag, and Mojza 2009; Demerouti, Bakker, Geurts, and Taris 2009; Geurts and Sonnentag 2006). We suggest that via the impact of meaningfulness of work, employees with high levels of PSM will feel higher levels of job satisfaction, but will also engage in higher levels of individual initiative and will have lower levels of psychological detachment from their work, which will result in them incurring work-life balance issues as a result of their dedication to their work and the importance they attach to it.

In addition, the extent to which individuals experience meaningfulness of their work may not only be determined by dispositional factors (i.e., PSM), but may also be influenced by situational conditions (Wrzesniewski and Dutton 2001). We investigate a possible boundary condition and specifically examine whether job autonomy moderates the relationship between PSM and meaningfulness of work. Job autonomy refers to the extent to which individuals have independence and freedom to decide when, where, and how their work is done (Hackman and Oldham 1975, p. 256). We suggest that job autonomy is an

important moderator because it has been identified as an essential factor in the job design literature which is linked to experiencing meaningfulness of work (Humphrey et al. 2007). More importantly, from a self-determination perspective (Gagné and Deci 2005), because job autonomy satisfies individuals' need to act with a sense of ownership in work activities, it facilitates the need for autonomy through job design and provides individuals with a sense of meaningfulness (Dysvik and Kuvaas 2011). Therefore, we expect that it is important to include job autonomy as a boundary condition in our model, because PSM and job autonomy represent two different sources (individual vs. situational), which can contribute to employees' sense of meaningfulness of their work. In response to the call by Barrick, Mount, and Li (2013) to examine whether these two different sources of meaningfulness strengthen or compensate for each other in their influence on employees' work experiences, we examine the moderation effect of job autonomy on the relationship between PSM and meaningfulness of work. In addition, we draw upon Lepisto and Pratt's (2017) dual conceptualization of meaningful work to investigate the underlying process of this interaction effect. Examining the moderating effect of job autonomy allows clarification of whether a realization or a justification process plays the major role in linking PSM to meaningfulness of work.

This article makes several contributions to the existing literature. First, we offer a novel insight into the public service motivation literature by underscoring that high PSM may have spillover effects into individuals' personal lives. A strength of our contribution in investigating the implications of PSM from a work-life balance perspective is that we assess respondents' level of individual initiative and psychological detachment using data collected from respondents' spouse (or partner). Second, to date, the psychological mechanisms that explain the relationships between PSM and employees' work attitudes and behaviors are underexplored (see reviews by Perry, Hondeghem, and Wise 2010). We provide a new insight into explaining the relationships between PSM and its outcomes by examining the

meaningfulness of work as an important mediator. Although PSM is viewed as a motivational factor, motivation-related mechanisms have not been fully examined. Drawing on the dual conceptualization framework of meaningful work (Lepisto and Pratt 2017), our study fills this gap by examining meaningfulness of work as a mediator to explain why employees with high PSM tend to feel more satisfied in their jobs, engage in higher levels of individual initiative and are less likely to detach from work in their personal time. In this sense, the existence of the proposed mediation effect significantly expands our knowledge of the motivational nature of PSM. Third, by examining the moderation effect of job autonomy, we are able to indicate how individual PSM interacts with job features to influence individual's work experiences. By doing this, we meet the call of Barrick et al. (2013) to examine how individual and situational motivation sources interact in the prediction of employee work experiences.

Theory and hypotheses

Public service motivation and meaningfulness of work

Research on public service motivation suggests that employees working in the public sector have distinct work motives with a greater desire to serve the public than employees working in the private sector (Perry and Wise 1990). Public service motivation has been conceptualized as comprising of four dimensions of self-sacrifice, attraction to public policy making, commitment to the public interest, and compassion (Kim 2010; Perry 1996).

We use Lepisto and Pratt's (2017) dual conceptualization of meaningfulness of work to elaborate on why we expect PSM to be positively related to meaningfulness of work. Lepisto and Pratt (2017) posit that the meaningfulness of work can be achieved via two psychological processes: first, a realization process of fulfilment of one's needs, motivations, and desires associated with self-worth; and second, a justification process of subjectively

crafting the worthiness of work. Following this framework, we propose that PSM influences the meaningfulness of an individual's work through a realization process of actually making a positive impact on society, and through a justification process where PSM offers a value base for people to be able to evaluate their work as being worthwhile under constrained conditions.

Specifically, in terms of a realization process, PSM, as a form of motivation that involves a commitment to the public interest, can direct an individual's effort through them focusing on meaningful tasks that benefit others (Perry and Wise 1990). In this sense, performing meaningful public service fulfils an individual's desire to serve the public. When individuals have a high level of PSM, they pay increased attention to the social importance of their work and strive to perform tasks that are important for the achievement of benefits for society. In this sense, working in the public sector provides high PSM individuals with opportunities to conduct or modify tasks to fulfil their desire of achieving social impact (Bellé 2014), which subsequently leads to an increased level of meaningfulness of their work.

In terms of the justification process, PSM acts as a strong value base for individuals to cognitively justify the purpose of their work or what they believe is achieved in their work. Previous studies have found that individuals derive meaning by focusing on the social functions embedded in their tasks (Ashforth and Kreiner 1999; Dik, Duffy, and Eldridge 2009). PSM is associated with values of being prosocial and motivated to improve the well-being of society (Esteve, Urbig, Van Witteloostuijn, and Boyne 2016). We suggest that individuals with a high level of PSM are more likely to justify to themselves, and others, the meaningfulness of their work. Put differently, individuals with high levels of PSM are able to perceive their work in the public sector as making high social impact and to see themselves as a key part of this process.

Hypothesis 1: PSM is positively related to meaningfulness of work.

Effects of the meaningfulness of work on job satisfaction, individual initiative, and psychological detachment

We further argue that the meaningfulness of work is positively related to job satisfaction. First, from a self-determination perspective, deriving meaning from life has been identified as a “fundamental human motive” (Britt, Adler, and Bartone 2001, 54). With respect to work, when an employee understands their role and the contribution they make to their organization, or to society, their basic psychological need of purposefulness will be satisfied, leading to them having more favorable work attitudes (Barrick et al. 2013). Indeed, the dominant view of the meaningfulness of work literature suggests that high meaningfulness improves job satisfaction because when employees derive meaning from their work, they perceive it to be enjoyable and satisfying (Rosso, Dekas, and Wrzesniewski 2010). This positive relationship has been supported by substantive empirical evidence (Duffy et al. 2012; Humphrey et al. 2007). For example, a meta-analysis conducted by Humphrey et al. (2007) indicated that experienced meaningfulness of work is the most important psychological state that links work characteristics to work attitudes and behaviors. Thus, we propose:

Hypothesis 2: Meaningfulness of work is positively related to job satisfaction.

When individuals perceive their jobs as highly meaningful and self-fulfilling, they are likely to devote more attention to, and invest more resources into their work roles. From a scarcity paradigm perspective (Greenhaus and Beutell 1985), when individuals participate in multiple roles, role involvement leads to competing claims on individuals’ finite resources of time and energy. Thus, we suggest that when meaningfulness of work is high, public service employees may focus on their work to the extent that their psychological resources are less available to them in their personal time. In this situation, individuals will tend to take work

home, work on days off, alter personal plans because of work, and attend work activities outside of normal working hours. This assumption is supported by existing research. For example, Oelberger (2018) conducted a qualitative study in international aid workers and found that people who experience their work as deeply meaningful are more willing to overwork, despite this giving rise to work-family conflict. Dempsey and Sanders (2010) found that social entrepreneurs within the US non-profit context suffer from a troubling work/life balance due to self-sacrifice, underpaid and unpaid labor and the privileging of organizational commitment. Moreover, Halbesleben, Harvey, and Bolino (2009) collected multiple samples in US and found that when people feel excited and engaged in their work roles, they are more likely to spend time dealing with work-related issues outside of normal working hours. These studies show that meaningfulness of work, specifically in public sectors, may lead individuals to conduct work tasks in their non-work time leading to them having an unbalanced personal life. This is despite the fact that individual initiative behaviors have a “marked level or intensity” (Organ 1988, 104) and that prior research has shown high levels of individual initiative are associated with negative implications for individual well-being (Bolino and Turnley 2005). Based on the above, we propose:

Hypothesis 3: Meaningfulness of work is positively related to individual initiative.

To depict a fuller picture of the cross-boundaries impacts of PSM, we expect that in addition to physically conducting individual initiative, the mental state of employees outside of normal working hours will also be negatively affected. We consider psychological detachment as a further outcome variable of PSM and meaningfulness of work. Psychological detachment refers that an individual’s ability to stop thinking about work and mentally disengage from work during off-job time (Sonnentag and Bayer 2005, 395). It implies an individual is able to leave the workplace behind in psychological terms (Sonnentag and Bayer 2005). Prior research has shown that inability to psychologically detach from work has a

large impact on individuals' wellbeing (Binnewies et al. 2009; Demerouti et al. 2009; Geurts and Sonnentag 2006). As some employees may not be able to physically perform individual initiative, possibly due to household responsibilities or childcare (or other care) issues, we include psychological detachment in our study. Even when employees do not engage in individual initiative behaviors they may still dedicate high levels of cognitive energy and focus on work related issues which will limit their ability to psychologically detach and prevent them from being able to recover from the demands of their work. Specifically, we argue that when an employee feels high levels of dedication and attachment to their work, they may become so absorbed in their work, that they cannot mentally detach from their work in their personal time (Heifetz, Grashow, and Linsky 2009). In this sense, meaningfulness of work is likely to make employees invest higher mental effort and think about work related issues, even outside of normal working hours. Inability to psychologically detach from work results in individuals' functional systems being continuously challenged and prevents the occurrence of recovery (Sonnentag and Fritz 2007). The work-life balance literature has shown that work-home interference impairs psychological detachment and undermines the recovery process, which leads to health problems (Demerouti et al. 2009; Geurts and Demerouti 2003). Therefore, we propose:

Hypothesis 4: Meaningfulness of work is negatively related to psychological detachment.

Moderating effect of job autonomy on the association between PSM and meaningfulness

Following the idea that meaningfulness of work can be achieved by 'enriching work conditions such that individuals can realize the self through work' (realization process) (Lepisto and Pratt 2017), we suggest that a realization process is more prominent when job autonomy is high. When job autonomy is high, employees will have more self-determined

opportunities to actively act on their personal values (Meyer, Dalal, and Hermida 2010) and to arrange their work activities to pursue goals that are consistent with their values, interests and beliefs (i.e., self-concordance goals) (Sheldon and Elliot 1999). Under this condition, employees with higher PSM have more opportunity to choose and seek tasks that will achieve social impact. Achievement of social impact through their work will increase their levels of self-actualization and their experience of meaningfulness of their work. When job autonomy is low, employees are required to do tasks in suggested ways, and they will not have freedom to pursue their self-concordance goals by arranging or performing tasks in preferred ways. This will reduce the ability of those who have high PSM to fully realize their sense of self through their work activities. Based on this reasoning, we propose:

Hypothesis 5a: Job autonomy moderates the association between PSM and meaningfulness of work, such that the association is stronger when job autonomy is higher rather than lower.

In contrast, consideration of a justification process offers a possible explanation for a reverse moderation effect of job autonomy. A justification process suggests that an individual achieves a sense of meaning in their work through a process of ‘account-making, where individuals seek to justify their work as possessing positive worth’ (Lepisto and Pratt 2017). This process will be more prominent when job autonomy is lower. When job autonomy is high, this situational motivational factor will result in individuals feeling that their work is meaningful (Humphrey et al. 2007) and an individual’s PSM may be less important in terms of generating a sense of meaningfulness. When job autonomy is low, employees will face high levels of constraint in their work activities and are less likely to experience meaningfulness of work due to a lack of self-determination opportunities (Deci and Ryan 2000). In this situation, individuals with higher PSM are more likely to proactively justify their work as possessing positive worth, thereby creating meaning in their working lives.

Furthermore, due to a strong motivation to serve the public individuals with high PSM will be more likely to cognitively reframe the meaning of their work and their understanding of the purpose, and of what is being achieved, through their work (Berg, Wrzesniewski, and Dutton 2010).

The sense-making literature offers a similar interpretation. As engagement in a sense-making process to justify meaning is more prominent when individuals face difficult or adverse situations (Weick, Sutcliffe, and Obstfeld 2005), it is very likely that high PSM individuals will actively engage in a sense-making process and assign meaningfulness to their work when they have low autonomy in determining and performing their jobs to serve the public. In this situation, an individual's level of PSM will be more important for sustaining meaningfulness of work when job autonomy is low. High PSM individuals will focus more on making sense of their work through justifying activities that make a positive social impact. The above arguments suggest the following alternative hypothesis on the moderating effect of job autonomy:

Hypothesis 5b: Job autonomy moderates the association between PSM and meaningfulness of work, such that the association is stronger when job autonomy is lower rather than higher.

Insert Figure 1 about here

Method

An overview of the sample

We tested the proposed model with a sample of police officers and staff working for a police force in the United Kingdom. This sample offers several advantages: first, policing is an occupation that has been considered as involving public service and being “worthwhile” (Alpert, Dunham, and Stroshine 2014). Employees in policing can therefore easily derive meaningfulness of their work. Second, due to its nature and high social expectations policing has long been viewed as a type of occupation that is “never off duty” (Buttle, Fowler, and Williams 2010; Houdmont and Elliott-Davies 2017). Furthermore, “leaveism” (e.g., taking work home’ that cannot be completed in normal working hours and working whilst on leave or holiday to catch up) has been identified as a key issue in in UK policing (Houdmont, Elliott-Davies, and Donnelly 2018). Leaveism in policing has been shown to adversely impact individual wellbeing (Hesketh, Cooper, and Ivy 2014) and personal relationships (Houdmont and Elliott-Davies 2017). Finally, police officers and staff experience different levels of job autonomy dependent on the different roles they occupy and the different communities they serve, and this provides the opportunity to examine the moderating effect of job autonomy.

Sample and procedure

We randomly invited police officers and staff working in a police force located in the United Kingdom to participate in the study. We asked police officers and staff to complete a paper-and-pencil questionnaire. Participants rated their levels of public service motivation, job autonomy, meaningfulness of work, and job satisfaction. Each participant was also requested to provide an invitation letter and a second short questionnaire to his/her spouse/partner to evaluate the respondent’s levels of individual initiative and psychological detachment. We asked the participants and their spouse/partners to each separately complete their questionnaires and return them to the research team in the self-addressed envelopes

provided in less than four weeks from receipt. To match the responses from the two sources, each pair of questionnaires was coded with an assigned identification number.

We received 253 valid matched pairs of employee-spouse responses, indicating a response rate of 50.9%. As shown in Table 1, of the 253 primary respondents, 55.5 % were male, and 44.5 % were female. Sixty-one percent were police officers, and 39 % were police staff. In terms of tenure in policing, 4.7% had worked less than 2 years in policing, 5.9% had worked for 2-5 years, 15.4% had worked for 6-9 years, 40.2% had worked for 10-19 years, and 33.8% worked more than 20 years in policing. Of note is that the frequencies of these demographics are similar to those of the whole UK policing population reported by the UK government¹, indicating the representativeness of our sample. In terms of length of marriage or partnership, 0.4% had been married or in partnership for less than 6 months, 16.9% ranged between 6 months to 5 years, 13.8% ranged between 6 to 9 years, 34.6% ranged between 10 to 19 years, and 34.3% had been married or in a partnership for over 20 years.

Table 1 near here

Measures²

Items were rated on a scale from 1 = strongly disagree to 7 = strongly agree, unless otherwise stated.

Public service motivation. PSM was measured using four items adapted from (Kim 2010). The original scale has four dimensions of self-sacrifice, commitment to the public interest, compassion, and attraction to policy making. We selected one item from each

¹ <https://www.gov.uk/government/statistics/police-workforce-england-and-wales-31-march-2018>.

² Please refer to Appendix I for a full version of measures used in this study.

dimension to measure PSM to meet the context of UK policing. The items were “I am prepared to make enormous sacrifices for the good of society”, “Meaningful public service is very important to me”, “I feel sympathetic to the plight of the vulnerable”, and “I am interested in achieving problem-solving initiatives that are beneficial to the community I serve.” ($\alpha = 0.75$).

Meaningfulness of work. We measured meaningfulness of work using the three items relating to this dimension in the psychological empowerment scale developed by Spreitzer (1995). A sample item was “the work is very important to me.” ($\alpha = 0.93$).

Job autonomy. Job autonomy was measured using the three items relating to this dimension of Spreitzer’s (1995) psychological empowerment scale. A sample item was “I have significant autonomy in determining how I do my job.” ($\alpha = 0.88$).

Job satisfaction. We measured job satisfaction by using the three-item scale developed by Cammann, Fichman, Jenkins, and Klesh (1983). A sample item was “All in all, I am satisfied with my job.” ($\alpha = 0.91$).

Individual initiative. We measured the individual initiative of the respondents by using the thirteen-item scale developed by Bolino and Turnley (2005). We asked respondents’ spouse (or partner) to indicate how frequently respondents worked extra hours, brought work home, or worked during their personal time. Example items are “stays at work after his/her scheduled work hours”, “checks his/her work e-mails from home”, and “brings things home to work on.” Items were rated on a scale from: 1 = *never* to 5 = *a great deal*. ($\alpha = 0.91$).

Psychological detachment. We measured psychological detachment by a four-item scale developed by Sonnentag and Fritz (2007). We asked participants’ spouse (or partner) to rate the extent that the respondent is able to mentally disengage from work in personal time.

An example item was “During after-work hours, my partner takes a break from the demands of work.” ($\alpha = 0.94$).

Control variables. We controlled for respondents’ gender (0 = *male*; 1 = *female*), tenure in policing (0 = *less than 2 years*, 1 = *2-5 years*, 2 = *6-9 years*, 4 = *10-19 years*, and 5 = *over 20 years*), and job role (0 = *police officers*, 1 = *police staff*). We also followed past research by Carroll, et al. (2013) and van Steenbergen, et al. (2014) and controlled for the length of marriage or relationship (0 = *less than 6 months*, 1 = *6 months - 5 years*, 2 = *6-9 years*, 3 = *10-19 years*, and 4 = *over 20 years*).

Work intensity was also controlled for in the analysis, since it is possible that employees with high work load have to spend extra time working, even if they feel the meaningfulness of their work is low. Work intensity was measured by a three-item scale developed by Bolino and Turnley (2005) (example item: “the amount of work I am expected to do is too great”). ($\alpha = 0.93$).

Results

Preliminary results

Descriptive statistics and correlations among variables are presented in Table 2. As expected, PSM was positively correlated with meaningfulness of work ($r = 0.49, p < 0.01$). Meaningfulness of work was negatively correlated with psychological detachment ($r = -0.16, p < 0.01$), and positively correlated with job satisfaction ($r = 0.49, p < 0.01$) and individual initiative ($r = 0.32, p < 0.01$). We conducted confirmatory factor analyses (CFAs), using Mplus 8 (Muthén and Muthén 2012), to examine the validity of our measurement model (Muthén and Muthén 2012). The six-factor model (public service motivation, meaningfulness of work, job autonomy, job satisfaction, individual initiative, and psychological detachment)

had an acceptable model fit ($\chi^2 = 755.43$, $df = 390$, RMSEA = 0.06, CFI = 0.92, TLI = 0.91, SRMR = 0.06), supporting the distinctiveness of the measures used in our study.

Table 2 near here

Common method variance testing

We followed Podsakoff et al.'s (2003) common method factor approach to assess CMV in our data. We conducted confirmatory-factor analyses to compare the model fit of the hypothesized four-factor model containing variables using the self-report method (i.e., PSM, job autonomy, meaningfulness of work, job satisfaction) with a five-factor model with an additional latent factor with all of the items as its indicators. We found that a five-factor model containing a common method factor did not improve the model fit significantly ($\Delta\chi^2/df = 2.00$, *n.s.*). We thus concluded that CMV had limited influence on our results.

Hypotheses testing

We performed path-analysis in Mplus to test our hypotheses. First we tested a full mediation model without direct effects from PSM to job satisfaction, individual initiative, and psychological detachment. This model did not fit the data well ($\chi^2 = 12.78$, $df = 3$, RMSEA = .12, CFI = .98, TLI = .75, SRMR = .02). We then tested an alternative model with three direct effects included. Because this path model was saturated with zero degree of freedom, which prevented a meaningful test of model fit, we do not report the model fit information. However, we found that PSM has a significant direct effect on individual initiative ($B = 0.18$, $p < 0.001$), but not on job satisfaction ($B = 0.04$, *n.s.*) or on psychological detachment ($B =$

-.12, *n.s.*). Following these results, we tested a mediation model with one direct effect from PSM to individual initiative specified. This model provides superior model fit ($\chi^2 = 1.75, df = 2, RMSEA = .00, CFI = 1.00, TLI = 1.00, SRMR = .01$), with a significant chi-square change compared to the full mediation model ($\Delta\chi^2/df = 11.03, p < 0.01$). Therefore, we conclude that meaningfulness of work fully mediates the relationships from PSM to job satisfaction and to psychological detachment, but partially mediates the relationship from PSM to individual initiative. The path estimates for this model are presented in Figure 2.

As shown in Figure 2, we found that PSM was positively related to meaningfulness of work ($B = 0.61, p < 0.001$). Therefore, Hypothesis 1 was supported. We also found that meaningfulness of work was positively related to job satisfaction ($B = 0.68, p < 0.001$) and to individual initiative ($B = 0.15, p < 0.01$), and negatively related to psychological detachment ($B = -.20, p < 0.05$). These results provide support for Hypothesis 2, Hypothesis 3 and Hypothesis 4.

Table 3 and Figure 2 near here

We also examined the mediation effect of PSM on job satisfaction and individual initiative, through meaningfulness of work. Conducting a bootstrap analysis with 10,000 samples, we found that meaningfulness of work had a significant mediating effect on the relationship between PSM and job satisfaction, as indicated by the 95% confidence intervals (CIs) of meaningfulness of work (see Table 3: effect size = 0.41, [0.30, 0.54], which excluded 0), on the relationship between PSM and individual initiative (effect size = 0.09, [0.04, 0.15]), and on the relationship between PSM and psychological detachment (effect size = -

0.12, [-0.23, -0.02]). Therefore, we concluded that the mediation effect of meaningfulness of PSM on job satisfaction, individual initiative and psychological detachment was significant.

To test Hypotheses 4a and 4b, as shown in Figure 2, the interaction of PSM and job autonomy was significantly related to meaningfulness of work ($B = -0.12, p < 0.05$). To assist with interpretation we followed the procedures outlined by Aiken and West (1991) to plot the two-way interaction. As shown in Figure 3, simple slope analyses suggested that the relationship between PSM and meaningfulness of work was stronger when job autonomy was low (1 *SD* below the mean) ($B = 0.65, p < 0.001$) compared to when job autonomy was high (1 *SD* above the mean) ($B = 0.33, p < 0.01$). These results provide support for Hypotheses 5b.

Figure 3 near here

Further, we tested the conditional indirect effects under conditions of high and low job autonomy. The results (as shown in Table 3) suggest that the indirect effect of PSM on job satisfaction through meaningfulness was stronger when job autonomy was low (effect size = 0.42, [0.28, 0.58]) compared to when job autonomy was high (effect size = 0.21, [0.10, 0.35]). The difference test of the indirect effects on job satisfaction was significant (difference = -0.21, [-0.44, -0.02]). Similarly, the indirect effect of meaningfulness on individual initiative was stronger when job autonomy was low (effect size = 0.10, [0.05, 0.17]) compared to when job autonomy was high (effect size = 0.05, [0.02, 0.10]). The difference test of the indirect effects on individual initiative was again significant (difference = -0.05, [-0.12, -0.01]). Finally, the indirect effect of meaningfulness on psychological detachment was stronger when job autonomy was low (effect size = -0.13, [-0.26, -0.03]) compared to when job autonomy was high (effect size = -0.07, [-0.16, -0.01]). The difference

test of the indirect effects on individual initiative was also significant (difference = 0.06, [0.01, 0.19]).

Discussion and Implications

Building on prior research on outcomes of PSM (e.g., Wright and Pandey 2008), the first purpose of this article was to investigate the impact of PSM on employees from both a work and a work-life balance perspective. Using data collected from two sources; employees and their spouse (or partner), we integrate a scarcity paradigm perspective into the PSM literature. We demonstrate that while individuals with high levels of PSM benefit from higher levels of job satisfaction, they may incur issues in their personal lives and have a less optimal work-life balance. A reduction in work-life balance occurs through high PSM individuals having less personal time available to pursue leisure and other personal activities and through a reduction in their ability to psychologically detach. These findings meet the call of Ritz et al. (2016) to investigate relationships between PSM and counterproductive outcomes for individuals. In addition, the development of a meaningfulness of work as a mediator offers an important theoretical lens and meets the calls of Perry et al. (2010) to explore psychological mechanisms to explain the impacts of PSM on employees' work attitudes and behaviors. Finally, we find that the mediating effect of meaningfulness is stronger when employees have lower levels of job autonomy. This finding suggests that it is not only individuals' PSM that matters for individuals to experience meaningfulness of work, but also that their work conditions can influence the ways through which individuals sense work meaningfulness. In sum, our findings provide insights into why and when PSM is important with respect to generating meaning and satisfaction for individuals in the workplace and how it can potentially lead to individuals overinvesting their personal resources into their work.

Although past research has provided substantial knowledge on the positive relationship between PSM and work attitudes and behaviors (e.g., Wright and Pandey 2008), little prior research exists examining the impact of PSM from a cross-boundary perspective between the domains of an individuals' work and personal lives. A critical review of PSM research by Ritz et al. (2016) concluded that a work-life balance perspective suggested the possibility that PSM may have a cross-boundary effect on employees' family lives. Our multisource data allowed us to demonstrate the significant relationships between PSM and individual initiative and psychological detachment, suggesting that employees with high PSM tend to work extra hours and find it more difficult to psychologically detach from their work. This paper, therefore, broadens our understanding of PSM and provides a novel explanation of why its effects may not always be beneficial for individuals.

Indeed, some recent research has indicated possible downsides of PSM on employees. For example, PSM has been found to lead to resigned satisfaction (Giauque, Ritz, Varone, and Anderfuhren 2012), Giauque, et al. 2012) and stress (Giauque, Anderfuhren-Biget, and Varone 2013). We provide a novel insight to this line of research by indicating the potential of PSM to spillover from the workplace to an individual's personal life, and to weaken their ability to achieve a healthy work-life balance. Future studies could further expand the consequences of PSM on outcomes, from a work-life perspective, by exploring home and family-related outcomes such as work-home conflict. Following this idea, family-friendly work policies will be important for public organizations to achieve to ensure that employees with high PSM do not suffer work-life balance issues as a result of their commitment and investments in their work.

Further, our study contributes to the PSM literature by offering an additional perspective to understand the relationship between PSM and outcomes. We demonstrate that meaningfulness of work is a central mechanism that links PSM to job satisfaction, individual

initiative and psychological detachment. This perspective is noteworthy because it addresses the gap identified in the lack of theoretical and empirical understanding of mediating processes in PSM-outcomes relationships (Perry et al. 2010). We offer a novel framework to understand why PSM motivates individuals to experience job satisfaction and even overinvest their time and energy in their work. In addition, as mentioned earlier, although PSM has been theorized as a motivational source for individuals, limited research has empirically examined the impacts of PSM from a motivational perspective. By theorizing and testing meaningfulness of work as a mediator, this study highlights the motivational nature of PSM and suggests that motivational mechanisms are fruitful mediators for future PSM studies.

In this study we also developed a contingency model which sheds new light on a boundary condition of PSM. Investigating the influence of job autonomy on the relationship between PSM and meaningfulness of work allowed us to conduct a comparative test of whether it is a realization or justification process that is more prevalent in this relationship. In support of Hypothesis 4b, our study suggests that a justification process better describes how PSM helps policing employees to obtain meaningfulness in their work. That is, PSM is a crucial driver for individuals to justify the meaningfulness of their work under constrained conditions such as when job autonomy is low. Although we did not examine the mechanisms between PSM and meaningfulness of work directly, our framework suggests the importance of psychological processes to understand how individuals seek meaningfulness in their work. We encourage further research to understand how PSM influences meaningfulness and how situational factors can play a role in moderating the impact of PSM on meaningfulness.

Policing has an important role to play in society (Van Dijk, Hoogewoning, and Punch 2015). Following a period of deep austerity UK policing has faced significant reductions in funding and has had to downsize in terms of employee numbers and achieve more with less

(HMIC 2014; Morrell and Bradford 2018). It is normal that police officers and staff face high workloads and need to take work home (Jackson and Boyd 2005; Rothmann 2008). Policing is also an occupation which is more highly visible in daily life than other occupations (Houdmont and Elliott-Davies 2017; Lindsey and Kelly 2004). This restricts police employees' ability to psychologically detach from work while off-duty. This perspective is supported by the Office of Constable (2015) which states that "unlike ordinary employees, the unique status of the Office of Constable does place some restrictions on the private life of police officers". These factors blur the boundaries between police employees' work and personal lives. If not well-managed by policing organizations there is a risk that policing employees will overinvest their personal resources into their work and suffer burnout, which will have important consequences for individuals and the communities they serve. In this regard, our study advances the understanding of the work-life balance of police officers and staff. Public management literature has recently drawn increased attention to the context of policing (Epp, Maynard-Moody, and Haider-Markel 2017; Hong 2017). Our study adds to this literature and we hope that this study will encourage policing research to move to a boarder consideration to include individual police officer work-life balance and welfare which will allow them to better serve the public.

Our findings have several practical implications. The significant relationships of PSM with meaningfulness and job satisfaction suggest that PSM is a key motivation for public service workers to engage in meaningful public service and to achieve satisfaction from their work. In this sense, managers in public-oriented organizations are well advised to reinforce the utility of the assessment of PSM in the selection of employees. In terms of job design, our results show that high job autonomy is a situational factor that fosters employees' meaningfulness of work. Organizations are thus encouraged to provide employees with job autonomy so that they can experience higher levels of meaning and consequently job

satisfaction. Job design scholars have offered a variety of ways for enhancing job autonomy, such as allowing individuals to determine the order in which they complete tasks or to determine with whom they would prefer to conduct tasks (Hackman and Oldham 1976; Humphrey et al. 2007).

However, as indicated by our results, police organizations should be aware that when job autonomy and/or PSM is high work-life balance may be adversely affected through individuals investing too much of their personal resources and time into their work activities. We therefore emphasize the importance of providing both job autonomy and well-designed work-life balance policies. For example, organizations are advised to support the setting of clear work-nonwork boundaries and to encourage employees to psychologically detach from their work in nonwork time. This will allow them to be able to participate in leisure activities, which will help them to recover their psychological and physical resources and improve their wellbeing (see Demerouti et al. 2009 for a review for activities facilitating recovery).

Limitations and future research

Our study has some limitations that should be considered. For example, although we collected two of the outcome variables of individual initiative and psychological detachment from respondents' spouse (or partner), our other dependent variable, job satisfaction, relied on a self-rated measure. This raises concerns of common method variance (CMV) (Podsakoff et al. 2003). To address this issue, we employed several statistical tests to examine the influence of CMV and concluded that it did not play a significant role in influencing our results. Further, we attempted to reduce any method bias by following Podsakoff et al.'s (2003) recommendations of assuring confidentiality to respondents, reducing evaluation apprehension by explaining that there were no right or wrong answers, and using different scale endpoints and formats for variables, whenever possible. In addition, we rely on the

research of Siemsen, Roth, and Oliveira (2010) which suggested that interaction effects cannot be an artefact of CMV and are more difficult to detect through statistical tests due to interaction terms being deflated through CMV. Causality is another limitation of our data. By measuring all variables at the same time, we cannot draw firm causal conclusions. Future studies are encouraged to replicate our findings with time-lagged data.

Further, we collected our data in a police force in the UK, which may limit the generalizability of our findings. As we noted earlier, policing in the UK is undergoing an unprecedented period of reform at the same time as having their level of funding reduced which has resulted in police forces having to reduce their number of employees and restructure (HMIC 2017). As such our respondents with strong PSM may be more likely to overwork and have lower psychological detachment due to these demands than those in other contexts or occupations. It would be interesting to examine the external validity of our findings in different regional and occupational settings.

In addition, while we studied autonomy as a moderator of the relationship between PSM and meaningfulness, other moderators from the job characteristics model, such as skill variety, task identity, task significance, and feedback from supervisors, could be tested in the future. In this way, our hypothesized model may be fully explicated. For example, we expect that skill variety may shape the relationship between PSM and meaningfulness of work in a similar pattern to job autonomy. We suggest that skill variety, which implies that a job is cognitively demanding and complex, motivates employees to perceive tasks as more challenging. Thus, accomplishing such tasks may induce a sense of achievement and motivate employees to view their job as personally meaningful (Humphrey et al. 2007). However, low skill variety may lead employees to perceive their job as highly routine intensive and uncompetitive, and they may therefore perceive themselves as being less capable of achievement and making an impact. Alternatively, work motivation such as PSM

may act as a longitudinal dynamic that encourages public employees to learn new skills and to be more competent so they can make a greater difference and benefit to society. We therefore suggest that examining the longitudinal dynamics of PSM could be a promising future direction of research.

Conclusion

The adoption of a work-life balance perspective of PSM has recently been called for by scholars. The purpose of this article is to examine the impact of PSM on individuals from a work and a non-work perspective. We find that on the one-hand, public service motivation increases individuals' job satisfaction. On the other-hand, high PSM leads individuals to engage in work-related activities and be less able to psychologically detach from their work in their personal time. Therefore, while high levels of employee engagement with their work outside of normal work time may be beneficial to organizations and to the societies served, it negatively affects employee work-life balance and has implications for their wellbeing. This study has important implications for the PSM literature through the consideration of the impacts of PSM on employees' ability to maintain a healthy work-life balance. We hope to encourage future studies with a wider consideration of PSM and its impact on individuals, organizations, and families.

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Table 1. Background Characteristics of the Sample

Variables	Coding	Valid Percent
Gender	Male (0)	55.5%
	Female (1)	44.5%
Job roles	Police officer (0)	60.6%
	Police staff (1)	39.4%
Tenure in policing	Less than 2 years (0)	4.7%
	2-5 years (1)	5.9%
	6-9 years (2)	15.4%
	10-19 years (3)	40.2%
	Over 20 years (4)	33.8%
Length of marriage or partnership	Less than 6 months (0)	0.4%
	6 months-5 years (1)	16.9%
	6-9 years (2)	13.8%
	10-19 years (3)	34.6%
	Over 20 years (4)	34.3%

Note. N = 253.

Table 2. Variable, Means, Standard Deviations and Correlations

Variables	Means	s.d.	1	2	3	4	5	6	7	8	9	10
1. Gender ^a	-	-										
2. Tenure in policing ^b	-	-	-0.20**									
3. Job role ^c	-	-	0.31**	-0.15*								
4. Length of marriage or partnership ^d	-	-	-0.12	0.44**	0.13*							
5. Work intensity	4.98	1.54	-0.12	0.16*	-0.24**	0.14*						
6. Public service motivation	5.23	0.99	0.03	-0.01	-0.10	0.02	0.05					
7. Meaningfulness of work	5.89	1.18	0.00	-0.01	-0.04	0.06	0.05	0.49**				
8. Job autonomy	5.07	1.37	0.12	0.01	0.20**	0.01	-0.14*	0.23**	0.34**			
9. Job satisfaction	5.13	1.51	0.05	-0.10	0.18**	0.10	-0.12	0.26**	0.49**	0.51**		
10. Individual initiative	2.60	0.84	-0.26**	0.26**	-0.42**	0.10	0.34**	0.35**	0.32**	0.04	0.08	
11. Psychological detachment	3.32	1.56	0.07	-0.13	0.32**	-0.01	-0.32**	-0.18**	-0.16**	0.09	0.20**	-0.55**

Note. N = 253. * $p < .05$, ** $p < .01$.

a: Gender was coded as 0 = male, 1 = female.

b: Tenure in policing was coded as 0 = less than 2 years, 1 = 2-5 years, 2 = 6-9 years, 4 = 10-19 years, and 5 = over 20 years.

c: Job roles was coded as 0 = police officer, 1 = police staff.

d: Length of marriage or partnership was coded as 0 = less than 6 months, 1 = 6 months - 5 years, 2 = 6-9 years, 3 = 10-19 years, and 4 = over 20 years.

Table 3. Indirect and Conditional Indirect Effects of PSM on Job Satisfaction, Individual Initiative and Psychological Detachment via Meaningfulness of Work under Conditions of High Job Autonomy and Low Job Autonomy

	Estimate	Bootstrap 95% confidence interval
Indirect effects		
PSM → Meaningfulness of work → Job satisfaction	0.41	[0.30, 0.54]
PSM → Meaningfulness of work → Individual initiative	0.09	[0.04, 0.15]
PSM → Meaningfulness of work → Psychological detachment	-0.12	[-0.23, -0.02]
Conditional indirect effects		
PSM → Meaningfulness of work → Job satisfaction		
<i>Job autonomy</i>		
High	0.21	[0.10, 0.35]
Low	0.42	[0.28, 0.58]
Difference	-0.21	[-0.44, -0.02]
PSM → Meaningfulness of work → Individual initiative		
<i>Job autonomy</i>		
High	0.05	[0.02, 0.10]
Low	0.10	[0.05, 0.17]
Difference	-0.05	[-0.12, -0.01]
PSM → Meaningfulness of work → Psychological detachment		
<i>Job autonomy</i>		
High	-.07	[-0.16, -.01]
Low	-.13	[-0.26, -0.30]
Difference	.06	[0.01, 0.19]

Notes. N = 253. Unstandardized estimates are reported. All estimates were tested for significance using bootstrap confidence intervals by 10,000 resampling.

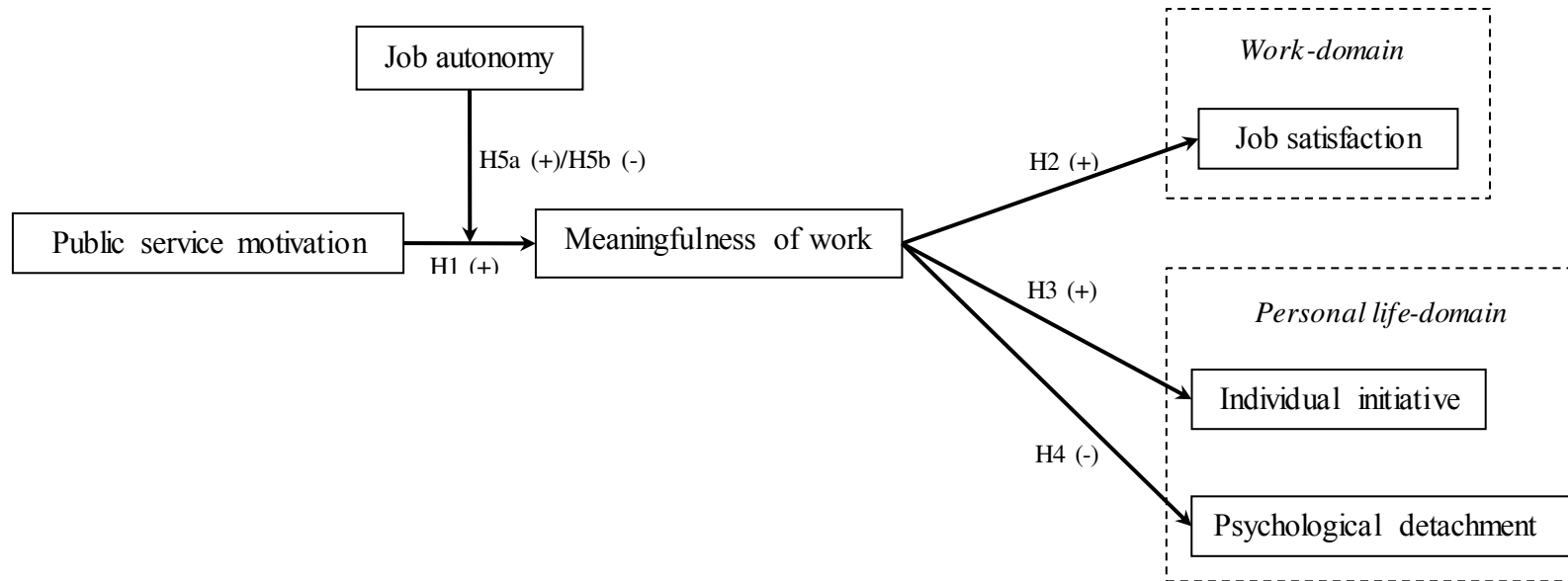


Figure 1. Conceptual Model.

Note: H = Hypothesis.

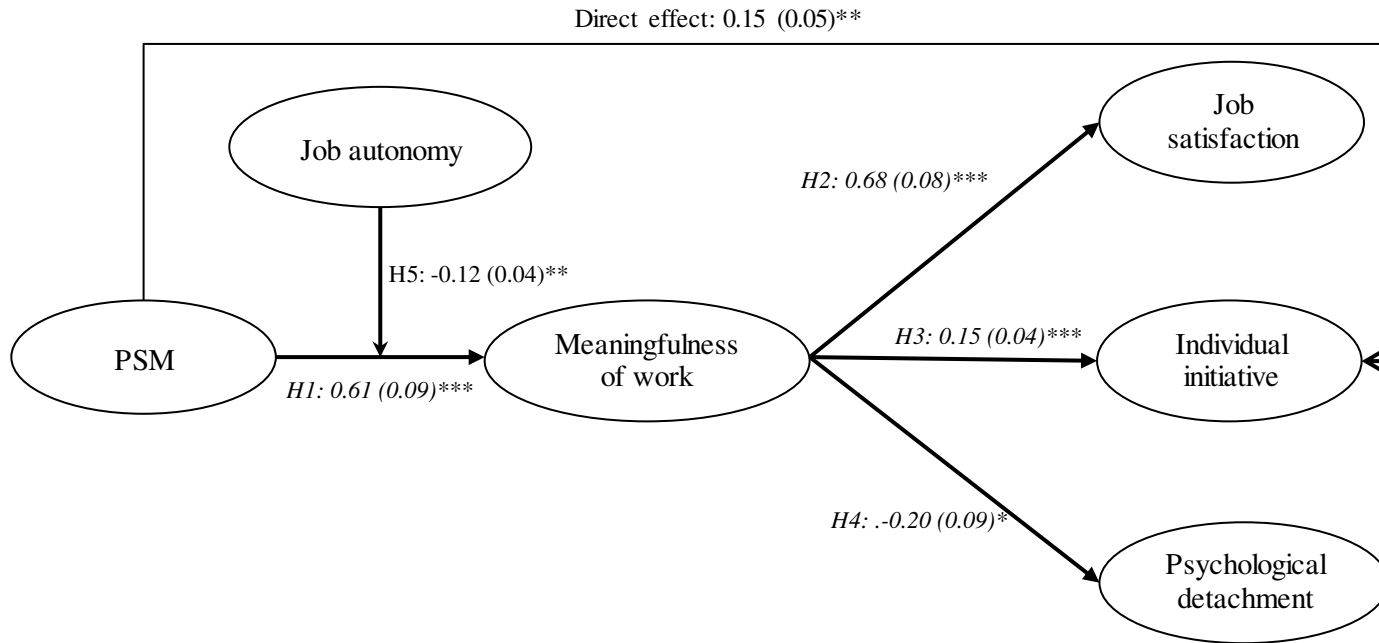


Figure 2. Estimated Path Coefficients of the Hypothesized Mediation Model.

Notes. H = Hypothesis. The numbers in italics represent the unstandardized coefficients in the mediation effects examination; other coefficients are the results of moderating effects from the conditional indirect effects examination; numbers in parentheses are standard errors.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

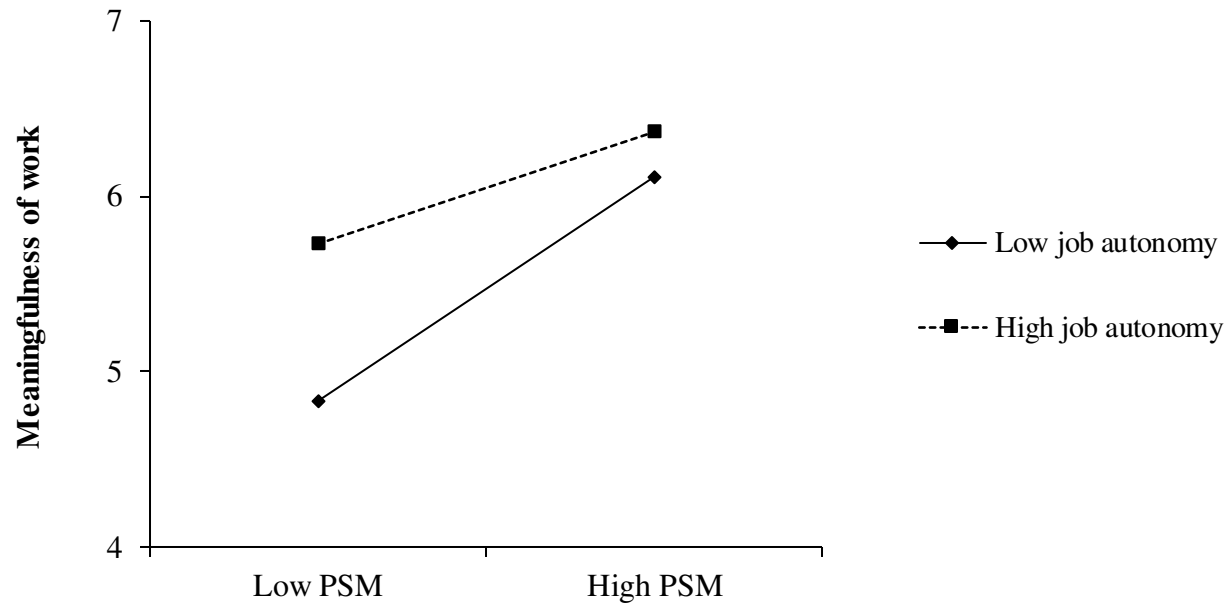


Figure 3. The Relationship between PSM and Meaningfulness of Work under Conditions of Low and High Job Autonomy

APPENDIX I

Measures used in this study

Public service motivation adapted from Kim (2010)

1. I am prepared to make enormous sacrifices for the good of society
2. Meaningful public service is very important to me
3. I feel sympathetic to the plight of the vulnerable
4. I am interested in achieving problem-solving initiatives that are beneficial to the community I serve

Meaningfulness of work (Spreitzer 1995)

1. The work I do is very important to me
2. My job activities are personally meaningful to me
3. The work I do is meaningful to me

Job Autonomy (Spreitzer 1995)

1. I have significant autonomy in determining how I do my job
2. I can decide on my own how to go about doing my work
3. I have considerable opportunity for independence and freedom in how I do my job

Job Satisfaction (Cammann et al. 1983)

1. All in all, I am satisfied with my job
2. In general, I like working here
3. In general, I don't like my job (R)

Individual Initiative (Bolino and Turnley 2005)

During after-work hours, my partner...

1. Checks his/her work e-mails from home
2. Works on his/her days off (e.g. rest days, free days, weekends)
3. Brings things home to work on
4. Takes work-related phone calls at home
5. Stays at work after his/her scheduled work hours
6. Attends work-related functions in his/her personal time
7. Travels whenever the force ask him/her to, even if technically he/she doesn't have to
8. Works during his/her holidays
9. Goes into the office before his/her scheduled work hours
10. Volunteers for special projects in addition to his/her normal job duties
11. Rearranges or alters his/her personal plans because of work
12. Checks with work even when he/she is on annual leave
13. Participates in community activities for the benefit of the force

Psychological Detachment (Sonnentag and Fritz 2007)

During after-work hours, my partner...

1. is able to forget about work
2. doesn't think about work at all
3. distances themselves from his/her work
4. takes a break from the demands of work