Strength in numbers? Understanding the effect of PSM in team level performance.

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Strength in numbers? Understanding the effect of collective PSM on team effectiveness.

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Abstract

Public service motivation so far has only been investigated as an individual-level phenomenon. We argue that it is essential to also take into consideration team characteristics to better understand effectiveness in public offices. Therefore, the purpose of this study is to first examine the concept of team level PSM, which we refer to as a 'PSM Climate'. Secondly, we examine the concept of PSM climates with team identification and team level effectiveness, taking into consideration the differences in PSM within each team. The data used for this study is based on a two wave survey of 131 teams of public sector workers in Switzerland. Findings show that PSM climate is indirectly related to team effectiveness through the process of team identification, and in the case of strong PSM climates, this relationship is strengthened when there is less variability of PSM within the team. Implications for theory and practice are discussed

Introduction

       Public service motivation (PSM), or the motivation to give back to society, is a heavily researched topic in public administration literature (Ritz, Brewer, and Neumann 2016). Since Perry and Wise (1990) hypothesised that higher levels of PSM will be associated with higher levels of work performance, researchers have focused their attention on investigating this connection empirically. The link between PSM and performance lies in the fact that certain jobs (e.g. within the public sector) provide opportunities for employees to internalize their public service motives that influences the strength and duration of motivational outcomes such as performance (Gagné and Deci 2005). Previous studies which have examined the PSM-performance hypothesis largely focus on an individual employee's PSM and the implications for their performance without taking into consideration the extent to which PSM might develop collectively within teams (Ritz, Vandenabeele, & Vogel, Forthcoming). This is an important omission because public sector organizations increasingly structure their work around teams, yet little research takes a team level approach (van der Hoek, Groeneveld, and Kuipers 2018). In addition, the effect of the influence of the dynamics of coworkers establishes an important contextual understanding of a person's work environment that ultimately drives the overall performance. This is particularly important given that PSM theorists have stressed the importance of macro institutional environments to explain the development of PSM (Vandenabeele 2007), while failing to examine the importance of PSM at the meso or team level.

       Our study contributes to the literature in a number of different ways. First, we introduce the concept of PSM climate and PSM differentiation. PSM climate (Petrovsky and Ritz 2014) can be defined as employees shared levels of PSM in a particular work team. PSM climate includes a work environment characterised by values and motives related to serving society. We define PSM differentiation as the heterogeneity of PSM within a team. This heterogeneity of PSM therefore reflects differences between PSM values that individuals within a team possess. The larger the differences between PSM in a team, the less influential PSM as a collective climate will be in terms of team related outcomes.

       Secondly, we establish a link between team level PSM and team effectiveness. This is important because team level outcomes often differ from individual level

outcomes (Marks, Mathieu, and Zaccaro 2001). In addition, these outcomes often encompass larger goals, and in the public service context, goals that are more likely directed to non-identified beneficiaries. This is a key component that differentiates PSM from concepts such as prosocial motivation (Schott et al 2017). As such, it is highly relevant to study PSM from this level within an organisation. This paper also contributes to the PSM-performance literature by examining this relationship by the team level, and using performance indicators one year after measuring PSM climates. This sheds light on to the increasingly varied research that has examined this relationship.

Third, we explore how PSM climates can be linked to effectiveness through the process of team identification. This is important because PSM climates characterised by high levels of values related to serving society are likely to improve interpersonal processes within team members. This can lead to higher level of team identification, a necessary component of team effectiveness (Marks, Mathieu, and Zaccaro 2001; Mathieu et al. 2008). Our last contribution uses the concept of PSM differentiation to examine whether or not differences between PSM levels among individuals within a team impact team processes. This then tests the extent to which the similarity of PSM values is important among work groups and in doing so, tests the extent to which PSM climates influence the way teams behave. We therefore contribute to the public management literature by establishing a relationship between team level PSM and team effectiveness, through the mediating role of team identification and moderating role of PSM differentiation.

The structure of this paper is as follows: we begin by outlining our theoretical framework including defining team effectiveness, and team identification. We then introduce the concept of PSM climate and PSM differentiation. The data collection, analysis and results are then presented, followed a discussion of our findings and implications for future research.

Theoretical development

PSM climate

Public service motivation is a type of motivation based on the concept of serving society by providing public services that adhere to the public interest (Schott, van Kleef, and Steen 2014). At the base of the theoretical conceptions of PSM, and within its empirical operationalization, are values directed towards serving society that transcend the individual and compel them to act (Vandenabeele 2007). Linking PSM to institutional

theory, scholars have argued that PSM motivated behaviour conforms to a 'logic of appropriateness' (March and Olsen 1989), wherein, an individual adheres to a certain level of institutional values which are developed, and transmitted to them through the process of identity regulation (Vandenabeele 2007). The extent of self regulation depends, in part, on how much an individual has integrated PSM values into their own self concepts (Vandenabeele & Breaugh, forthcoming), with the salience of the particular PSM identity depending on the fit and homogeneity of PSM values within an institution (Ripoll 2019).

While the application of PSM in the literature has generally been focused on understanding its effect on workplace related attitudes and behaviours, and the importance of organisational influences at the individual level, research has ignored the possibility that PSM might operate as a concept within teams. In essence, individuals who are exposed to similar working conditions as those who form a team can also create a form of collective motivation like PSM that drives their behaviour (N. Li, Kirkman, and Porter 2014; Luu et al. 2019). We refer to this as a form of collective PSM climate (PSM Climate), and examine the shared conceptions and values that team members have related to serving society. In order to better understand PSM climate, we refer the concept of collective climates (Schneider and Reichers 1983) and organisational energy (Vogel and Bruch 2012).

Collective climates are a collection of people who share similar values, needs and goals that reflect social groups within an organisation (Young and Parker 1999). They are the 'norms, attitudes, and expectations that individuals perceive to operate in a specific social context', and it is most salient at the team level (Pirola-Merlo et al. 2002, 564). Collective climates often differ between teams in the same organisation, through the process of symbolic internalisation, or differences in the level of social interactions within an organisation, that leads to shared levels of meaning (Schneider and Reichers 1983).

While PSM has been theorized and developed for the most part as an individual level construct that is influenced by institutional characteristics, according to Chan (1998), climates develop as a result of a direct census composition wherein individual level variables aggregate to create climate variables. Based on this, the source of any kind of climate lies fundamentally at the individual level. As a result, we could expect that a PSM climate would emerge within a team as team members are exposed to similar institutional and leadership influences. In addition, teams can interpret and implement

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policies in their own unique way, therefore, their PSM climate could develop to different strengths depending on how their team goals and work related tasks are linked to serving society (for example, varying levels of exposure to beneficiaries). This activates the saliency of their PSM motives in any given work context. As a result of this, a PSM climate emerges that reflects individual levels of PSM interacting with team and organisational dynamics. In fact, teams that can put their PSM into practice, and whose work supports their PSM needs, are more likely to project this motivation to other group members. PSM climates may also motivate individuals to behave as a team in order to achieve specific PSM related outcomes that can only be achieved with team level coordination from multiple individuals (such as, a nursing team who work collectively to aid in patient recovery) (N. Li, Kirkman, and Porter 2014).

Both values related to shared levels of meaning and energy can spread between individual members through the process of contagion. This can be accomplished through affective energy or the "collective experience of positive feelings and emotional arousal due to members' enthusiastic assessments of the tasks and goals at hand" (Vogel and Bruch 2012, 9). This positive energy can be 'contagious' and spread throughout the work unit (Barsade 2002). Therefore, PSM climates develop through team creation processes and are sustained though organisational energy. Expected variance of PSM climates among teams can also be attributed to the extent this bottom up process has occurred, the strength of their PSM identity, and the extent in which contagion processes have developed. In addition, according to climate researchers such as Schneider and Reichers (1983), teams with an established PSM climate are likely to retain people who also share the same cognitive schemas, which serves to strengthen the effect of climate within a team.

Team Effectiveness

Overall team performance can be defined by the extent to which a team is able to achieve their defined mission (Devine and Philips 2001). While individuals contribute to overall team performance outcomes, their individual performance does not necessarily equate with higher team performance as performance at the team level is interpersonally dependant (Devine and Philips 2001). In order to capture a more multifaceted approach to team performance, this study uses the concept of team effectiveness to examine team performance.

The most common research framework used to understand team effectiveness is the input, process, and output model (IPO model)(Ilgen et al. 2004). This framework argues that a team's effectiveness is driven directly through team related processes and mediators, and indirectly through the work environment, organisational components, and tasks related factors that team members are exposed to (i.e. inputs) (Cohen and Bailey 1997). These include the behavioural, cognitive, and affective states that effectively compel individuals within a team to engage in interpersonal interactions among team members (Marks, Mathieu, and Zaccaro 2001; Ilgen et al. 2004; LePine, Jackson, and Saul 2008). As such, input factors are what lead to an output (or outcome) through the specific types of team processes (i.e. behaviours).

Team Identification and Team Effectiveness

Team identification can be defined as the way individual members of a team relate to one another, and develop an emotional attachment to being a part of their team, a sense of belonging, or a sense of 'oneness' with others (Henry, Arrow, and Carini 1999; Janssen, Huang, and Xu 2008; Gundlach, Zivnuska, and Stoner 2006). Individuals are more likely to be identified with their team over their own organisations due to the increased focus of team based work (Richter, Dawson, and West 2011)

Within the IPO framework, team identification can be considered a cognitive process, or mediating factor. While identification with a team is an individual level construct, and thus measured at this level, it can be aggregated to a collective sense of team identity which is a collective form of identification with a team (Lembke and Wilson 1998; Gundlach, Zivnuska, and Stoner 2006; Somech, Desivilya, and Lidogoster 2009). Thus, team identity at the group level is based upon the collective identification of individuals within a team (Gundlach, Zivnuska, and Stoner 2006). A strong team identification is what can bind team members together, and also motivate them follow group norms, and to act to achieve team related goals (Chen and Kanfer 2006; Van Der Vegt and Bunderson 2005). Identity can be developed and reinforced at the collective level as individuals within teams build and develop social rapport based on a set of shared experiences (van Veelen and Ufkes 2019). Three different components can be attributed to the development of team identification. These are cognitive, or the awareness of themselves as part of the team, emotional, or having emotions towards the team, and evaluated or having positive values associated with being apart of the team

(Janssen, Huang, and Xu 2008). These three components allow individuals to develop a sense of team identification that allows them to shift their reference of identity from their individual self-serving interests to that of the team. These promote behaviours that reinforce the social identities as a team, rather than individual, which allows them to promote collective team level interests (Haslam, Powell, and Turner 2000).

Scholars have suggested that team identification has a variety of positive implications for teams and organisations. These include increased creativity and citizenship behaviours within a team (Janssen, Huang, and Xu 2008), and enhanced performance and team effectiveness outcomes (Van Der Vegt and Bunderson 2005; van Veelen and Ufkes 2019; Solansky 2010). This is because when individuals develop a strong identification with their teams, they attach this to their own self worth(Van Dick et al. 2008). As a result of this, they are motivated to perform well as a team because failing to do so would impact their own self worth. Because of this, team identification can be considered as a process mediator within the IPO framework because it reflects the extent to which a particular input level team characteristics have been integrated within a teams collective cognitive processes. Therefore, we expect the following hypothesis:

H1: Team identification will have a positive relationship with work effectiveness

PSM climate, team identification, and team effectiveness

A strong PSM climate is the result of a relatively strong set of PSM values and motives at the group level. Because PSM climate represents, to a large extent, a sense of shared motivation to serve society, it is likely that it is also a driving factor in the development of team identification because it enables team cohesion to develop on the basis of PSM related values. In addition, PSM climates can be considered a type of team composition of enduring deep level characteristics (values) that influence team level processes (Bell 2007). Therefore it provides the foundations of values and motives of team members. This foundational role makes PSM climates a form of team input variable that reflects the extent to which PSM values are present in the team work environment. Because it is an input factor, it therefore influences team level processes. We argue that PSM climate is an input factor that influences the process of team identification because values and motives alone are not enough to entice action, yet,

they should facilitate the adoption of team identification as they provide a basis of similarity between group members necessary for them to identify with each other. This identification process is what influences team effectiveness. Therefore, we derive the following hypothesis:

> *H2: PSM climate will be indirectly related to team effectiveness through the process of team identification.*

PSM Differentiation, PSM Climate, and Team Identification

While PSM climate may reflect the quantity of PSM values that are expressed within a team environment, a second important concept, is the differences of these values within teams themselves. This can be accomplished by examining the variation (or 'differentiation') of PSM values within a team. According to Chan (1998), this differentiation can be treated as a theoretically significant phenomenon and is by default a team level construct because it focuses on the variance within a specific group. We introduce the concept of PSM differentiation to represent a form of diversity within a team that is related a set of values and motivations that a person possess towards serving society. Social identity theory (Tajfel 1978) argues that similar values and beliefs are likely to motivate people to interact with one another, which enhances the strength of their own value system through the process of convergence. However, when values differ within teams, it can cause friction and conflict among team members, and this has been generally established in the literature (Mello and Rentsch 2015; Jehn 1994).

Team PSM differentiation expresses a level of divergence that a team has regarding their values related to serving society. The more diverse, the more variability in PSM values. However, PSM differentiation influences the impact that PSM climate has on outcomes and conditions the ways in which PSM climates mature. It can therefore be considered a secondary input variable that establishes the boundary conditions that PSM climate has on team identification. As a result of this, it is closely linked to PSM climate, however, it measures the inter-personal similarities within the PSM climate not the climate itself. The more diverse, the less a team is able to capitalise on their PSM climate to act as a team identification source. In particular, in teams with

high PSM, the less diverse they are, the more likely that PSM climate values and motives become salient enough for team identification to occur.

We therefore hypothesize that:

> *H3: PSM differentiation will moderate the relationship between PSM climate and team Identification, in so much that higher PSM differentiation will weaken the relationship between PSM climate and team identification.*

Methods

Sample and Analysis

The sample used for this research was taken from the tax office, and the prison services agency of the Swiss canton of Bern in 2014 and 2015. Data used to assess the independent variables were taken from the 2014 wave and the dependent variable, team effectiveness, was measured in the 2015 wave.

In order to test for reliability and validity, a confirmatory factor analysis was conducted with all latent variables in the model. According to Hu and Bentler (1999), results show a good fit with the data (X^2= 113.03 p>.001, RMSEA= .067, CFI=.967, TLI=.955, SRMR=.038). The average variance extracted (AVE) for each latent construct were all above .50 suggesting good convergent validity. The squared correlations were smaller than the AVE level, suggesting good discriminant validity. Finally, all variables had a Cronbach alpha reliability of approaching or above .80 suggesting good scale reliability.

In order to create team level variables, individual scores were aggregated to the team level as per organisational diagrams provided by the host organisations. We define teams as two or more individuals working interdependently under the same supervisor within an organisation (Salas et al. 1992). The aggregation of individual level variables is standard practice in team research, as scholars have argued that the pooled value is important for team level outcomes, regardless of the individual distribution (Barrick et al. 1998). As such, following recent public management scholars (i.e. van der Hoek, Groeneveld, and Kuipers 2018), we are testing team mean scores, rather than

their individual scores. To further validate our aggregation approach, we calculated team level ICC1 and ICC2 scores. The ICC(1) scores indicate a significant medium size effect for team effectiveness (ICC(1)= .09) and team identification (ICC(1)=.15) and a low effect for PSM climate (ICC(1)=.02) (LeBreton and Senter 2008). The ICC(2) scores were also low at the group level (team effectiveness (ICC(2) = .28), team identification (ICC(2)=.42), PSM(ICC2=.09). However, this is expected given the relatively small team sizes, and recent research has shown that ICCs can also underestimate levels of agreement within teams when sizes are small (Bliese 1998; van der Hoek, Groeneveld, and Kuipers 2018). These results would suggest that aggregation to the team level is acceptable. A total of 131 teams where included, with an average team size of 3.69 people (SD=1.63).

Measures

Team Effectiveness was measured using a four item scale developed by the researchers that asked respondents to answer the following the questions: " my team is very effective in making use of the skills of different team members", "my team is very effective in generating ideas for work projects", "my team is very effective at coordinating daily tasks" and "Overall my team is very effective in completing their work" (translated into English from their original German/French language). Descriptive statistics can be found in Table 1. The scale showed good psychometric properties (α =.88, see table 1).

Team identification was measured using a four item scale developed by Van der Vegt et al (2003), which was based on a scale developed by Allen and Meyer (1990). These items asked respondents to rate how strongly they identify with other members of their team, how emotionally attached they are to their team, and if they would continue to work with their team. The fourth, reverse item, asked if they disliked being a member of their work team. However, it showed poor psychometric properties (α =.51), and it was removed, leaving a three item scale. This is common with reverse item questions as they can increase cognitive demands on the respondents, and produce bias results ((Carlson et al. 2011; Zhang, Noor, and Savalei 2016)). The final scale showed good psychometric properties (α =.79; see table 1).

PSM Climate: Patterson, Payne and West (1996) state a standard way of measuring climate is aggregating individual scores to reflect organisational structures rather than using cluster analysis as these have been shown to create 'false' groups and is not accurate in predicting outcomes. Therefore, following the procedures outlined by Chan (1998), PSM Climate was constructed by aggregating individual PSM scores at the team level to reflect the team structure within the organisation (Patterson, Payne, and West 1996). The final scale showed good psychometric properties (α =.85, see table 1).

PSM Differentiation was constructed using the with-group variance of each team's PSM climate. This follows the dispersion model outlined by Chan (1998) and is also inline diversity and differentiation researchers (Woehr, Arciniega, and Poling 2013; Y. Li et al. 2016; Erdogan and Bauer 2010). The higher the SD, the more diverse the team is in terms of their PSM. Following Chan (1998), and examination of the team level modes revealed no evidence of multimodality, which rules out subgroups within teams.

Controls: We controlled two additional team components, not hypothesized in our model. The first is team size. Scholars have argued that larger teams are more effective (Campion, Medsker, and Higgs 1993), while others argue they are less effective due to coordination problems (LePine, Jackson, and Saul 2008). We also controlled for the office in which the teams work (prison vs. tax office) as differences in team effectiveness could reflect the type of work that teams perform (Breaugh, Ritz, and Alfes 2017).

Procedure and Results

Prior to conducting our moderated mediation hypothesis, we first examined the correlation between each of our measures. We find that there is a positive and significant relationship between PSM climate, team identification and team effectiveness and a negative relationship between PSM differentiation, PSM climate, team identification and team effectiveness (please see Table 2). We do not find any relationship between office or team size in predicting team effectiveness, or team identification, although there is a positive relationship between team size and PSM differentiation at the $p<.10$ level.

In order to test our hypotheses related to mediation and moderation, we used the PROCESS macro developed by Hayes (2017) for use in SPSS. This approach was taken because it is able to directly test of impact of indirect effects. Descriptive statistics and correlation analysis are presented in table 1 and the results of the moderated mediation model are presented in figure 1. The overall regression model was significant, accounting for 33% of the variance in team effectiveness (F (4,126) = 15.61 p>.001). First, there is a direct relationship between team identification and team effectiveness which supports hypothesis 1. Secondly, the relationship between PSM climate and team effectiveness is approaching significance (*p-value*=.08), which indicates that PSM has an indirect relationship to team effectiveness providing support to hypothesis 2. Third, there is a direct relationship PSM Climate (positive) to team identification and team identification to team effectiveness, confirming hypothesis 2.

Finally, the results show a significant moderation effect of PSM differentiation on the relationship between PSM climate and team identification confirming hypothesis 3. To be able to visualize this moderation effect, we graphed the simple slopes. PSM climate is graphed based on the 16th, 50 and 84th percentiles. Overall, the relationship between PSM climate and team identification significantly increases in strength when PSM differentiation is low compared to when it is average. However, the relationship between PSM climate and team identification is not strengthen when PSM differentiation is high.

To test our full model, we examined moderated mediation using bootstrap sampling with a repetition of 5000, producing an overall 'index of moderated meditation'. A significant effect occurs when the confidence intervals do not cross zero. Overall, results indicate a significant moderated mediation (indirect effect -1.79, 95% CI= -3.50, -.21). Examining these results at different levels of the moderator show the indirect effect of PSM climate on team effectiveness is significant when PSM differentiation is low, or average. The results are presented in table 3.

Discussion

With the increase use of work teams in the public sector, so too is a necessity to study work related concepts at the team level. This study attempted to apply PSM at the team level. Specifically, we test the influence of PSM through the team identification process, while considering the role that differentiation of PSM plays within a work team.

Our results generally confirm our hypotheses. PSM climate is indirectly related to team effectiveness through the process of team identification, and this is strengthened when the PSM differentiation is low. As a result of this, we make several contributions to the literature.

First, we present a theoretical framework to outline how PSM climates can be used as a means of understanding PSM at the team level. This is significant given that climates shape behaviours (Schneider 1975). This is also important as more and more researchers argue that PSM is a type of motivation that is directed to long term, non-identified beneficiaries (i.e. society Schott et al. 2019) and these types of outcomes largely depend on how well a particular team works together, and the processes that lead to this. As a result of this, PSM climates appear to act as a specific team level contextual factor to support these processes.

Secondly, we present the first PSM study to test the relationship between PSM and performance beyond the individual level. We find that even examining performance at the team level through team effectiveness, PSM has indirect link to performance. This does not discount the original proposition that PSM motivated individuals are more driven to perform from Perry and Wise (1990), however, it does suggest that this link is likely to be established through the influence that PSM has on other performance-enhancing factors (Perry and Vandenabeele 2008). The IPO framework therefore is a useful framework to use to understand the role of PSM in team effectiveness because it helps to explain how PSM can influence team level processes, which may assist team members in shifting their salience from individual to collective orientations (Ellemers, De Gilder, and Haslam 2004). Because of this, a PSM climate is input variable within a public sector work environment that establishes a specific environmental context. Directly linked to this, we find a direct relationship between team identification and team effectiveness, supporting previous research that has established this with private sector, or student samples (Van Der Vegt and Bunderson 2005; van Veelen and Ufkes 2019; Solansky 2010). This would suggest that team related work outcomes are dependant on team level processes that encourage building team level identification in order for individuals to work towards common goals.

Third, novel to this study is the importance of PSM differentiation within a team. The fact that less PSM heterogeneous teams tend to have stronger identification reflects, in part, the importance of environmental fit among individuals with in a team. This supports previous research that has suggested this (Bell 2007), however, what is

novel is that we test specific PSM values related to giving back to society. This is important in the context of the public sector because it shows that individual levels of PSM can be leveraged at the team level to produce positive outcomes. It also suggests that teams that are more homogenous in terms of their values tend to be more effective through the identification process that evolves as a result of a set of shared values. This maybe because the PSM homogeneity within a team reflects strong contagion of PSM values. This may be a natural phenomenon within the public sector as individuals tend to enter into public sector jobs with high levels of PSM, or it could reflect the socialisation processes that occur to new recruits when they enter a new team.

While this study sought to introduce new team level concepts related to PSM research, and connect this to team level performance, there are several limitations that should be acknowledged. The first is that we used an objective measure of differentiation by using the variation among PSM levels within a team. While literature argues that this is a valid means of measuring differentiation (Harrison, Gavin, and Florey 2002), one could also use group consensus scales that directly measure the consensus of values within a team (Jehn 1994) . Secondly, the measure that we used for team effectiveness was derived by team members themselves. To establish better causality, and avoid certain types of common method bias, this was measured one year later, however, team effectiveness could also be measured from different perspectives (for example, through the supervisor, or through different types of performance data, or through developing a 360 degree performance measure that takes into consideration a variety of different perspectives). A different type of research design such as a laboratory experiments where teams are artificially created to accomplish a performance goal could also solve this problem.

Finally, the team sizes that we used ranged from 2 to 8 people, making them all relatively small. While the sizes reflect, to a large extent, the organisational structure of both offices, teams of this size can cause difficulties in measuring intended constructs. This is most strongly reflected in the small variation within the PSM climate, resulting in less clear cut PSM climates. While the variance of PSM measures at the individual level tends to be relatively low in many studies, studying PSM climates with larger teams may reveal larger, more distinct PSM climates exists. A second option could be to compare PSM climates between public vs. private sector teams, at the organisation level, or examine PSM climates with dimensional level of PSM.

There are several areas of future research that could build upon these findings. First, future research could further examine the concept of PSM climates by looking at antecedent components of PSM climates at the team level. This could include examining what the role of team level goals are, leadership styles, and even the type of team (i.e. managerial vs. front line staff vs. policy developers), in impacting the development and dispersion of PSM climates. This could be beneficial for future research as it would provide a means in which to understand attraction and attrition within teams, as well as a tool in which to troubleshoot with in the event of poor team outcomes. In addition, future research could examine whether or not a strong PSM climate can create team level PSM identities. As social identity suggests that identities can shift from the individual to the collective (Ellemers, De Gilder, and Haslam 2004), could a PSM climate establish salience for a collective form of PSM identity?

With respect to PSM differentiation, too strong PSM homogeneity may lead to 'group think', which can yield poor performance due to inhibited decision making processes and a strong decision to maintain stability within the group (Brehm, Kassin, and Fein 2005). One solution to this issues could be to encourage differences among teams through surface level factors such as demographics, education or work experiences. This could provide enough differences and friction within a group to deter fully homogenous identities from forming within a team. In all, finding the golden mean which maximizes the effects of PSM on organisational processes and outcomes should be a point of focus for future research. However, in order to accomplish this, the expression of group think and being blindly loyal within a public sector context needs to be better identified from an empirical perspective. Given that PSM differentiation appears to play a role in the developments of team related processes, it would be also interesting to test the effects of individual outliers within a team by examining cross level issues with respect to motivation. For example, what happens when one person who has high levels of PSM is placed in a team where team goals are incompatible with their own motivation? Can a single person with high levels of PSM increase a PSM climate that is low? Or does their motivation then change to adapt to the team?

Finally, based on our results, practical implications emerge from this research. As more and more public sector organisations shift to team based work, managers should know that team themselves cannot be arbitrarily established and expected to perform well. In order for a team to be effective, they must first established a level of shared identification. This can be accomplished through team building exercises, encouraging

team members to interact with one another, and through constant reinforcement of team level goals. Strong PSM climates should also be nurtured through the recruitment of highly public service motivated individuals.

Conclusion

The purpose of this study was to examine the link between PSM – performance at the team level. To do so, we introduced the concept of PSM climate, and PSM differentiation, as means of studying PSM at the team level. We found that PSM climate was related to team effectiveness through the process of team identification. As an immediate extension to PSM climate, we also examined the possible effects that differences within PSM among team members have on outcomes. In all we find that PSM climates do impact team level performance through the process of team identification, and this is strengthen by the extent to which PSM differentiation is low within a team. This suggests that PSM is a factor that should be taken into consideration at the team level, and offers the potential provide a novel means in which to create strong team synergies within public sector organisations.

References

Allen, N, and J Meyer. 1990. "The Measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organization." *Journal of Occupational Psychology* 63: 1–18.

Barrick, M, M Neubert, M Mount, and G Stewart. 1998. "Relating Member Ability and Personality to Work-Team Processes and Team Effectiveness." *Journal of Applied Psychology* 83 (3): 377–91.

Barsade, S. 2002. "The Ripple Effect: Emotional Contagion and Its Influence on Group Behavior." *Administrative Science Quarterly* 47 (4): 644–75.

Bell, S. 2007. "Deep-Level Composition Variables as Predictors of Team Performance: A Meta-Analysis." *Journal of Applied Psychology* 92 (3): 595–615.

Bliese, P. 1998. "Group Size, ICC Values, and Group-Level Correlations: A Simulation." *Organizational Research Methods* 1 (4): 355–73.

Breaugh, J, A Ritz, and K Alfes. 2017. "Work Motivation and Public Service Motivation: Disentangling Varieties of Motivation and Job Satisfaction." *Public Management Review*.

Brehm, S, S Kassin, and S Fein. 2005. *Social Psychology*. 6th ed. New York: Houghton Mifflin.

Campion, M, G. Medsker, and C Higgs. 1993. "Relations between Work Group Characteristics and Effectiveness: Implications for Designing Effective Work Groups." *Personnel Psychology*.

Carlson, M, R Wilcox, C. Chou, F. Yang, J. Blanchard, A. Marterella, A. Kou, and F. Clark. 2011. "Psychometric Properties of Reversed-Scored Items on the CES-D." *Psychol Assess* 23 (2): 558–62. doi:10.1016/j.biotechadv.2011.08.021.Secreted.

Chan, D. 1998. "Functional Relations Among Constructs in the Same Content Domain at Different Levels of Analysis: A Typology of Composition Models." *Journal of Applied Psychology* 83 (2): 234–46.

Chen, Gilad, and Ruth Kanfer. 2006. "Toward a Systems Theory of Motivated Behavior in Work Teams." *Research in Organizational Behavior* 27 (2018): 223–67. doi:10.1016/S0191-3085(06)27006-0.

Cohen, Susan G., and Diane E. Bailey. 1997. "What Makes Teams Work: Group Effectiveness Research from the Shop Floor to the Executive Suite." *Journal of Management* 23 (3): 239–90. doi:10.1177/014920639702300303.

Devine, Dennis J., and Jennifer L. Philips. 2001. "Do Smarter Teams Do Better: A Meta-

Analysis of Cognitive Ability and Team Performance." *Small Group Research* 32 (5): 507–32. doi:10.1177/104649640103200501.

Ellemers, N, D De Gilder, and S Haslam. 2004. "Motivating Individuals and Groups at Work: A Social Identity Perspective on Leadership and Group Performance." *Academy of Management Journal* 29 (3): 459–78. doi:10.5465/AMR.2004.13670967.

Erdogan, B, and T Bauer. 2010. "Differentiated Leader-Member Exchanges: The Buffering Role of Justice Climate." *Journal of Applied Psychology* 95 (6): 1104–20.

Gagné, M., and E. Deci. 2005. "Self-Determination Theory and Work Motivation." *Journal of Organizational Behavior* 26: 331–62.

Gundlach, Michael, Suzanne Zivnuska, and Jason Stoner. 2006. "Understanding the Relationship between Individualism-Collectivism and Team Performance through an Integration of Social Identity Theory and the Social Relations Mode." *Human Relations* 59 (12): 1603–32. doi:10.1177/0018726706073193.

Harrison, D., J. Gavin, and A. Florey. 2002. "Time , Teams , and Task Performance : Changing Effects of Surface- and Deep-Level Diversity on Group Functioning." *Academy of Management Journal* 45 (5): 1029–45.

Haslam, S. Alexander, Clare Powell, and John C. Turner. 2000. "Social Identity, Self-Categorization, and Work Motivation: Rethinking the Contribution of the Group to Positive and Sustainable Organisational Outcomes." *Applied Psychology* 49 (3): 319–39. doi:10.1111/1464-0597.00018.

Hayes, A. 2017. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. 2nd ed. New York: Guilford Press.

Henry, Kelly Bouas, Holly Arrow, and Barbara Carini. 1999. "A TRIPARTITE MODEL Theory and Measurement." *Small Group Research* 30 (5): 558–81.

Hu, L., and P. Bentler. 1999. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives." *Structural Equation Modeling: A Multidisciplinary Journal* 6 (1): 1–55.

Ilgen, Daniel R., John R. Hollenbeck, Michael Johnson, and Dustin Jundt. 2004. "Teams in Organizations: From Input-Process-Output Models to IMOI Models." *Annual Review of Psychology* 56 (1): 517–43.

Janssen, Onne, X Huang, and Huang Xu. 2008. "Us and Me: Team Identification and Individual Differentiation as Complementary Drivers of Team Members' Citizenship and Creative Behaviors." *Journal of Management* 34 (1): 69–88.

doi:10.1177/0149206307309263.

Jehn, K. 1994. "Enhancing Effectivness: An Investigation of Advantages and Disadvantages of Value-Based Intragroup Conflict." *International Journal of Conflict Management* 5 (3): 223–38.

LeBreton, James M., and Jenell L. Senter. 2008. "Answers to 20 Questions about Interrater Reliability and Interrater Agreement." *Organizational Research Methods* 11 (4): 815–52. doi:10.1177/1094428106296642.

Lembke, S., and M Wilson. 1998. "Putting the 'Team' into Teamwork: Alternative Theorectical Contributions for Contemporary Management Practice." *Human Relations* 51 (7): 927–44.

LePine, J, C Jackson, and J Saul. 2008. "A Meta-Analysis of Teamwork Processes : Tests of a Multidimensional Model and Relationships With Team Effectiveness Criteria." *Personnel Psychology* 61: 273–307.

Li, Ning, Bradley L. Kirkman, and Christopher O.L.H. Porter. 2014. "Toward a Model of Work Team Altruism." *Academy of Management Review* 39 (4): 541–65. doi:10.5465/amr.2011.0160.

Li, Y, F Fu, J Sun, and B Yang. 2016. "Leader–Member Exchange Differentiation and Team Creativity: An Investigation of Nonlinearity." *Human Relations* 69 (5): 1121–38.

Luu, Trong Tuan, Chris Rowley, Cong Khai Dinh, David Qian, and Hanh Quyen Le. 2019. "Team Creativity in Public Healthcare Organizations: The Roles of Charismatic Leadership, Team Job Crafting, and Collective Public Service Motivation." *Public Performance & Management Review* 0 (0). Routledge: 1–33. doi:10.1080/15309576.2019.1595067.

March, J., and J. Olsen. 1989. *Rediscovering Institutions: The Organizational Basis of Politics*. 1st ed. New York: The Free Press.

Marks, M, J Mathieu, and S Zaccaro. 2001. "A Temporally Based Framework and Taxonomy of Team Processes." *Academy of Management Review* 26 (3): 356–76.

Mathieu, John, Travis M. Maynard, Tammy Rapp, and Lucy Gilson. 2008. "Team Effectiveness 1997-2007: A Review of Recent Advancements and a Glimpse into the Future." *Journal of Management* 34 (3): 410–76.

Mello, Abby L., and Joan R. Rentsch. 2015. "Cognitive Diversity in Teams." *Small Group Research* 46 (6): 623–58. doi:10.1177/1046496415602558.

Patterson, M, R Payne, and M West. 1996. "Collective Climates : A Test of Their

Sociopsychological Significance." *The Academy of Management Journal* 39 (6): 1675–91.

Perry, J., and W. Vandenabeele. 2008. "Behavioral Dynamics: Institutions, Identities and Self-Regulation." In *Motivation in Public Management: The Call of Public Service*, edited by J. Perry and A. Hondeghem, 1st ed., 56–79. New York: Oxford University Press.

Perry, J., and L. Wise. 1990. "The Motivational Bases of Public Service." *Public Administration Review* 50 (3): 367–73.

Petrovsky, N., and Adrian Ritz. 2014. "Public Service Motivation and Performance: A Critical Perspective." *Evidence-Based HRM: A Global Forum for Empirical Scholarship* 2 (1): 57–79.

Pirola-Merlo, Andrew, Charmine Härtel, Leon Mann, and Giles Hirst. 2002. "How Leaders Influence the Impact of Affective Events on Team Climate and Performance in R&D Teams." *Leadership Quarterly* 13 (5): 561–81. doi:10.1016/S1048-9843(02)00144-3.

Richter, A. W., J. F. Dawson, and M. A. West. 2011. "The Effectiveness of Teams in Organizations: A Meta-Analysis." *International Journal of Human Resource Management* 22 (13): 2749–69. doi:10.1080/09585192.2011.573971.

Ripoll, G. 2019. "Disentangling the Relationship Between Public Service Motivation and Ethics: An Interdisciplinary Approach." *Perspectives on Public Management and Governance* 2 (1): 21–37.

Ritz, A., G. Brewer, and O. Neumann. 2016. "Public Service Motivation : A Systematic Literature Review and Outlook." *Public Administration Review* 76 (3): 414–26.

Ritz, A, W Vandenabeele, and D Vogel. n.d. "Public Service Motivation and Individual Performance." In *Managing for Public Service Performance: How HRM and Leadership Can Make a Difference.*, edited by P. Leisink, L. Andersen, G. Brewer, C. Jacobsen, E. Knies, and W. Vandenabeele.

Salas, E, T Dickinson, S Converse, and S. Tannebaum. 1992. "Toward an Understanding of Team Performance and Training." In *Teams: Their Training and Performance*, edited by R Swezey and E Salas, 3–29. Norwood, NJ: Ablex.

Schneider, B, and A Reichers. 1983. "On the Etiology of Climates." *Personnel Psychology* 36 (1): 19–39. doi:10.1111/j.1744-6570.1983.tb00500.x.

Schott, C., O. Neumann, M. Baertschi, and A. Ritz. 2019. "Public Service Motivation, Prosocial Motivation, Altruism and Prosocial Behavior: Towards Disentanglement

and Conceptual Clarity." *International Journal of Public Administration*. Routledge, 1–12.

Schott, C., D. van Kleef, and T. Steen. 2014. "What Does It Mean and Imply to Be Public Service Motivated?" *American Review of Public Administration* 45 (6): 689–707.

Solansky, Stephanie T. 2010. "Team Identification: A Determining Factor of Performance." *Journal of Managerial Psychology* 26 (3): 247–58.

Somech, A, H Desivilya, and H Lidogoster. 2009. "Team Conflict Management and Team Effectiveness: The Effects of Task Interdependence and Team Identificatio." *Journal of Organizational Behavior* 30: 359–78.

Tajfel, H. 1978. "Social Categorisation, Social Identi- Fication and Social Comparison." In *Differentiation between Social Groups: Studies in the Social Psychology of Inter-Group Relations.*, edited by H Tajfel, 61–76. London: Academic Press.

van der Hoek, Marieke, Sandra Groeneveld, and Ben Kuipers. 2018. "Goal Setting in Teams: Goal Clarity and Team Performance in the Public Sector." *Review of Public Personnel Administration* 38 (4): 472–93.

Van Der Vegt, G, and J Bunderson. 2005. "Learning and Performance in Multidisciplinary Teams: The Importance of Collective Team Identification." *The Academy of Management Journal* 48 (3): 532–47. doi:10.5465/amj.2005.17407918.

Van der Vegt, G, E Van de Vliert, and A Oosterhof. 2003. "Informational Dissimilarity and Organizational Citizenship Behavior : The Role of Intrateam Interdependence and Team Identification Author (s): Gerben S . Van Der Vegt , Evert Van De Vliert and Aad Oosterhof Source : The Academy of Management Journal ,." *The Academy of Management Journal* 46 (6): 715–27.

Van Dick, Rolf, Daan Van Knippenberg, Silvia Hägele, Yves R.F. Guillaume, and Felix C. Brodbeck. 2008. "Group Diversity and Group Identification: The Moderating Role of Diversity Beliefs." *Human Relations* 61 (10): 1463–92.

van Veelen, Ruth, and Elze G. Ufkes. 2019. *Teaming Up or Down? A Multisource Study on the Role of Team Identification and Learning in the Team Diversity–Performance Link*. *Group and Organization Management*. Vol. 44. doi:10.1177/1059601117750532.

Vandenabeele, W. 2007. "Toward a Public Administration Theory of Public Service Motivation." *Public Management Review* 9 (4): 545–56.

Vandenabeele, W, and J. Breaugh. n.d. "Further Integration of Public Service Motivation Theory and Self-Determination Theory : Concepts and Correlates." *International*

Public Management Journal xx (xx): xx.

Vogel, Bernd, and Heike Bruch. 2012. "Organizational Energy." *The Oxford Handbook of Positive Organizational Scholarship*, no. April: 1–20. doi:10.1093/oxfordhb/9780199734610.013.0052.

Woehr, David J., Luis M. Arciniega, and Taylor L. Poling. 2013. "Exploring the Effects of Value Diversity on Team Effectiveness." *Journal of Business and Psychology* 28 (1): 107–21. doi:10.1007/s10869-012-9267-4.

Young, Scott A., and Christopher P. Parker. 1999. "Predicting Collective Climates: Assessing the Role of Shared Work Values, Needs, Employee Interaction and Work Group Membership." *Journal of Organizational Behavior* 20 (7): 1199–1218.

Zhang, X, R Noor, and V Savalei. 2016. "Examining the Effect of Reverse Worded Items on the Factor Structure of the Need for Cognition Scale." *PLoS ONE* 11 (6): 1–15. doi:10.1371/journal.pone.0157795.

Table 1: Descriptive Statistics

Variable	AVE	Cronbach Alpha	Mean	SD
PSM Climate	.60	.85	5.457	.45
PSM Differentiation	N/A	N/A	.59	.38
Team Identification	.56	.79	16.44	2.28
Team Effectiveness	.66	.88	21.03	2.81

Table 2: Correlation Table

	PSM Climate	PSM Differentiation	Team Identification	Team Effectiveness	Office	Team Size
PSM Climate	1					
PSM Differentiation	-.23[**]	1				
Team Identification	.26[**]	-.24[**]	1			
Team Effectiveness	.26[**]	-.25[**]	.56[**]	1		
Office	.09	-.03	-.03	-.07	1	
Team Size	.05	.15[t]	-.12	-.03	-.03	1

**$p<.001$ t= $p<.10$

Table 3: Conditional indirect effects of PSM climate on team effectiveness when PSM differentiation is low, average, and high

	PSM Differentiation	Estimate	Standard Error	Lower Level Confidence Interval	Higher Level Confidence Interval
	Low	1.47	.48	.53	2.40
	Average	.88	.37	.15	1.61
	High	-.004	.53	-1.13	1.03

Graph 1

The Moderation Effect of PSM Differentiation on PSM Climate and Team Identification

Figure 1

PSM Differentiation → Team ID: -2.77*

PSM Differentiation → Team ID / PSM Climate → Team ID: 1.15*

Team ID → Team Effectiveness: .64***

PSM Climate → Team Effectiveness: .83^t

Office → Team Effectiveness: -.38

Team Size → Team Effectiveness: .05

**=p<.05 ***=p<.01 ^{t}=.10