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The Facilitation of Knowledge Sharing and Innovative Behavior in a Demanding Organizational Context

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Abstract

This master thesis investigated the relationship between perceived training intensity and innovative behavior through the mediating role of knowledge sharing as well as the moderating roles of self-efficacy and coworker support on this relationship. We hereby considered perceived training intensity as a challenge stressor and opportunity for growth and development in light of the conceptual challenge-hindrane framework of stressors. The data from 113 employees working in a Norwegian metal company revealed non-significant results with regards to the relationship between perceived training intensity and innovative behavior, as well as the mediating role of knowledge sharing on this relationship. Moreover, no empirical support was found with regards to the moderating role of coworker support on this relationship. Still, we found a significant moderating role of self-efficacy on the relationship between perceived training intensity and knowledge sharing, however, it was non-significant in the full model. These findings suggest that self-efficacy helps individuals to cope with organizational demands and challenges, which results into a higher display of knowledge sharing. Implications for theory and practice, limitations as well as directions for future research are discussed.

Key words: training, innovation, knowledge sharing, self-efficacy, coworker support

1. Introduction

While HRM was previously considered as an administrative support system, its role shifted to a more integrated perspective, where specific HRM practices are strategically linked to business priorities and innovation. This change can be found in literature as well. Traditional HRM literature has been primarily adopting a macro perspective, focusing on the relationship between the system of HR practices as such and broad organizational outcomes such as performance or innovation (Shipton, West, Dawson, Birdi, & Patterson, 2006). However, researchers have increasingly embraced a micro perspective, trying to shed light on the mechanisms through which this relationship is established (Lau & Ngo, 2004). Under the micro perspective, employee's reactions on specific HRM practices play an essential role. Some authors emphasize the need to embrace this perspective and in particular include employee's perceptions in HRM research (Escribá-Carda, Balbastre-Benavent, & Canet-Giner, 2017; Kehoe & Wright, 2013; Nishii, Lepak, & Schneider, 2008). However, less amount of scholars have focused on how employee's perception of certain HRM practices results in certain employee behavioral outcomes, such as innovation. This stream of research is of particular scope in this study.

Training from a macro perspective has been found to lead to a range of beneficial outcomes, amongst others innovation (González, Miles-Touya, & Pazó, 2016; Rupietta & Backes-Gellner, 2012; Tharenou, Saks, & Moore, 2007). From a practical view, training and development as an HRM activity in organizations has been growing over the past years due to technological and organizational changes and is expected to continue (Spector, 2012). However, training from the micro perspective is still considered to be under researched. To our knowledge, the employees' perceptions of training and its intensity have not been broadly investigated in the recent HRM research literature. Therefore, we would like to study the perception of training intensity as a specific HRM practices with its relations to organizational outcomes. Specifically, within the recent research, there is a scarce empirical evidence on the underlying mechanisms explaining how employees' perceptions of training, i.e. micro level perspective on training, may have an effect on their innovative behavior (Escribá-Carda, et al., 2017). Therefore, we aim to study the employee perception of training intensity as a specific HRM practices and its relation to employee innovative behavior.

Escribá-Carda, et al. (2017) argue that *innovative behavior* is a particular kind of individual behavior which refers to the ability of individuals to generate new ideas, which are subsequently transformed into innovation (p. 273). Innovative behavior can be therefore seen as a multi-dimensional, overarching construct that captures all behaviors through which employees can contribute to the innovation process (De Jong & Den Hartog, 2007, p. 43). Because the creation of innovation implies individuals' development of new ideas, it is critical to comprehensively understand the aspects that facilitate innovative behavior (Escribá-Carda, et al., 2017).

In our master thesis, we assume that perceived training intensity (PTI) will likely enhance employees' knowledge sharing (Kuvaas, Buch, & Dysvik, 2012), which, in turn, is expected to facilitate their innovative behavior. Specifically, we propose that knowledge sharing mediates the relationship between employees' PTI and their innovative behavior. There is widespread agreement among researchers that knowledge sharing, in the context of today's knowledge economy, is critical for organizations to obtain significant long-term outcomes as well as attain sustainable competitive advantage (e.g., Akhavan, Hosseini, Abbasi, & Manteghi, 2015; Van den Hooff & de Ridder, 2004; Wang & Noe, 2010). Moreover, the concept of knowledge sharing has recently received a lot of scholars' attention, which could be seen from a comprehensive literature review on knowledge sharing by Wang and Noe (2010).

Our contribution to research is therefore as follows. First, limited research has investigated the perceptions of HRM practices, e.g. PTI, and their individual outcomes, e.g. innovative behavior. By integrating knowledge sharing in our model, we aim to shed light on the mechanism through which this relationship may occur. Specifically, very few studies have empirically analyzed employees' perceptions of HRM systems as drivers of innovative behavior (Escribá-Carda, et al., 2017). We expand the innovation literature by providing a possible mechanism for the facilitation of employee innovative behavior. In particular, we refer to Afsar (2016)'s concerns on further examination of the constructs that could more comprehensively explain innovative behavior. Furthermore, while Lopez-Cabrales, Pérez-Luño, and Cabrera (2009) proposed that knowledge serves as a mediator between HRM practices and innovative activity, we significantly

specify their model by emphasizing that knowledge *sharing* among employees could mediate the relationship between *PTI* and innovative *behavior*.

Second, we aim to understand the underlying mechanisms of the proposed mediation role of knowledge sharing in the PTI – innovative behavior relationship. Therefore, we introduce the probable moderation interactions of the mediated relationship of PTI and innovative behavior. By taking the step further, we address the recent call in the HRM literature to examine whether *coworker support* and employee *self-efficacy* could enhance the link between PTI, knowledge sharing and innovative behavior (Buch, Dysvik, Kuvaas, & Nerstad, 2015).

In addition, based on the recent Global Innovation Index (2017), which measures the level of innovation of a country, Norway ranks only 19th and is placed much further down than all other Nordic countries, such as Sweden, Finland, Denmark and Iceland. Based on this, one can argue that there is a call for recent findings in the research on the factors influencing innovative behavior from the practitioner's side as well.

2. Theory and Hypotheses

Training is a systematic approach that affects individuals' knowledge, skills, and attitudes in order to improve individual, team, and organizational effectiveness (Aguinis & Kraiger, 2009, p. 452). From the macro HRM perspective, training should be strategic, thus contributing to the facilitation of organizational performance by being interconnected to other HRM practices, and working in compliance with them. Specifically, strategic training is relevant in helping organizations achieve a competitive advantage by developing valuable competencies, firm-specific skill sets, promoting innovation and creating new knowledge (Noe & Tews, 2009). However, macro HR practices or systems research evidence should not be taken for granted, as the scope of training does not necessarily impact employees' perceptions and behavior positively (Dysvik & Kuvaas, 2008). The influences of training on organizational performance could also be dependent on certain organizational contexts (Combs, Yongmei, Hall, & Ketchen, 2006).

In particular, recent research emphasizes the importance of understanding how individual's perceptions of certain HRM practices could lead to specific

organizational outcomes, such as employee innovative behavior (e.g., Escribá-Carda, et al., 2017). Specifically, in our study we address employee perceptions of such demanding HRM practice, as training. We utilize the recently developed concept of Perceived training intensity first introduced by Kuvaas, et al. (2012). *Perceived training intensity* is defined as “employees’ perception of organizational demand for, expectation toward, and frequency and duration of participation in formal and informal training and development activities” (Kuvaas, et al., 2012, p. 168). Moreover, the researchers argue that the concept of PTI is designed to look beyond training investment in employees to simply develop their skills, knowledge, and abilities. We consider PTI, as suggested by Kuvaas, et al. (2012), under the perspective of job demands and challenge stressors.

Given the fast technological and organizational change, job demands are high for employees in organizations. One influential model of job characteristics is the job-demand-control (JDCA) model that identifies three major components of job quality: demands, control and support. These key characteristics can predict both adaptive (e.g. motivation, productivity, knowledge sharing) and maladaptive (e.g. ill health, strain) outcomes, depending on whether they are either high or low (Karasek, 1979; Luchman, González-Morales, & Hurrell, 2013). On the one hand, fulfilling the job demands (e.g. task requirements, workload or time pressure) can be psychologically stressful for an employee and may require mental and physical effort (Crawford, Lepine, Rich, & Kozlowski, 2010). According to Karasek (1979), high job demands are not harmful in themselves, but when accompanied by low decision latitude (i.e., skill level and decision authority) they could lead to psychological strain. On the other hand, job demands may be experienced as challenging as well. In the meta-analytical work of Lepine, Podsakoff, and Lapine (2005) it is suggested that job stressors can take on two different forms – challenge stressors and hindrance stressors. While hindrance stressors block the individual from fulfilling the work by strains, challenge stressors have a positive effect on employee performance. Lepine, et al. (2005) argue that people feel motivated to fulfill organizational demands and expectations by believing that overcoming the job stressors they are likely to achieve valued outcomes.

We hereby categorize PTI as a challenge stressor “because it involves expectations and demands for continuous learning and development, which may promote personal gain and growth, but which may also be experienced as

stressful” (Buch, et al., 2015, p. 625). Thus, PTI may be seen as an offer and opportunity to promote personal growth and achievement, but it can also be experienced as an extra demand next to the already busy role-related duties. For example, an IT systems engineer is expected to be up to date with the latest software, systems and programming language, which can promote personal development, but at the same time can also be experienced as stressful due to constant changes. Thus, PTI differs from concepts such as perceived training opportunities (Dysvik & Kuvaas, 2008) or perceived investment in employee development (Kuvaas & Dysvik, 2009, 2010) to the extent that it involves demands and expectations for continuous development.

2.1. Perceived Training Intensity and Innovative Behavior

Training could provide resources for fruitful organizational outcomes, e.g., innovation. It is particularly important in developing organizational capacity for innovation, as it allows employees to constantly acquire new competences, skills and knowledge (Ciras-Cali, Pineda-Herrero, Quesada-Pallares, & Janer-Hidalgo, 2015). Several recent studies (Fu, Flood, Bosak, Morris, & O'Regan, 2015; Knudsen & Schleimer, 2015) shed light on the link between HRM practices and innovation. For instance, Fu, et al. (2015) found that employees' innovative behavior mediates the relationship between the use of high performance work systems and firm innovation. Their findings reveal that HRM practices, such as training focusing on rewards for generating new ideas, lead to employees' innovative behaviors. Furthermore, according to Knudsen and Schleimer (2015), organizational training programs are important paths that explain innovation performance. In line with that, Chen and Huang (2009) have found evidence that there is a positive relationship between strategic HR practices (including training) and innovative performance. However, training in their study was related to innovative behavior only in compliance with other HR practices. More recent studies investigated the facilitation of single HRM practices, including training, separately in relation to employee creativity and organizational innovation (Jiang, Wang, & Zhao, 2012). While other HR practices such as reward or hiring and selection were positively related to employee creativity, training was not (Jiang, et al., 2012). This highlights the discrepancy between macro and micro perspective

studies and strengthens the need for more micro-level investigations in research focusing in particular on the employee's perceptions of single HR practices.

We assume that our study of the relationship between PTI and innovative behavior could contribute to the better understanding of how perceptions of HRM practices could affect such organizational outcomes as innovative behavior. Taken into account that we consider PTI in light of the JDCS model as a challenge stressor, we assume that certain job demands may be viewed as positive and at the same time challenging for the employees, thus possibly generating decent organizational outcomes, i.e. innovative behavior. In line with research, the findings of Martín, Salanova, and Peiró (2007) show that there is a positive relationship between job demands (e.g., PTI) and individual innovation in situations characterized by high job resources. Moreover, the recent study of Ren and Zhang (2015) suggests that challenge stressors (e.g., PTI) are positively related to idea generation. Thus, we hypothesize the following (illustrated in Figure 1):

Hypothesis 1: There will be a positive relationship between PTI and innovative behavior.

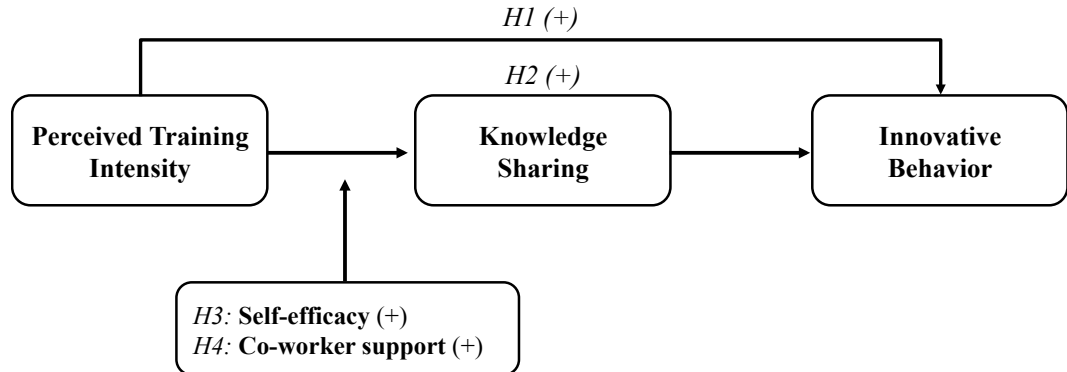


Figure 1. Conceptual Model and Hypotheses.

2.2. The Mediating Role of Knowledge Sharing

In order to better understand the hypothesized relationship between PTI and innovative behavior, we want to further investigate the underlying mechanism why such a relationship may occur. This is especially relevant, given that PTI is a concept based on employee's *perception*, while innovative behavior clearly highlights the display of certain *actions*. We argue that the concept of *knowledge*

sharing is a likely mediator that can clarify the nature of the hypothesized relationship between PTI and innovative behavior.

According to Jackson, Chuang, Harden, and Jiang (2006), *knowledge sharing* refers to activities aimed at transmitting knowledge to others. Van den Hooff and de Ridder (2004, p. 118) define knowledge sharing as “the process where individuals mutually exchange their (implicit and explicit) knowledge and jointly create new knowledge”. They argue that such process is important for transferring individual knowledge to organizational knowledge. In past research, knowledge sharing was seen as behavior convenient for others, based on the employee’s perceptions and attitudes towards the organization, and done possibly *at the expense* of sharers’ best interest. However, recent studies adopt a different notion of knowledge sharing as: a *self-interested* behavior, which individuals deploy to generate a norm of reciprocity among knowledge recipients, which might create future benefits in the short term; and an improvement process, which individuals can use to implement new ideas into workable innovations (Mura, Lettieri, Radaelli, & Spiller, 2013). In order to better understand how knowledge sharing may mediate the relationship between PTI and innovative behavior, it is important to have a closer look on how knowledge sharing itself is related to PTI and innovative behavior, respectively.

PTI - Knowledge sharing. The empirical findings with regards to the relationship between PTI and knowledge sharing are inconclusive. On the one hand, there is a certain empirical evidence for the positive relationship between PTI and knowledge sharing (Kuvaas, et al., 2012). However, a recent study of Buch, et al. (2015) found that in situations of high job autonomy, this relationship only holds with high levels of supervisory support.

Nevertheless, it can be generally argued that people feel motivated to fulfill organizational demands and expectations if they believe that by overcoming job stressors they are likely to achieve valued outcomes (Lepine, et al., 2005). PTI can hereby be seen as an organizational demand and challenge stressor that promotes personal growth and achievement. One can argue that employees will naturally involve in knowledge sharing behavior when meeting the demands represented in certain practices. In addition, meta-analytical findings suggest that challenge stressors are positively related to job satisfaction and organizational commitment (Podsakoff, LePine, & LePine, 2007). In turn, both job satisfaction

(De Vries, van den Hooff, & de Ridder, 2006) and organizational commitment (Lin, 2007a, 2007b) have been found to be positively related to knowledge sharing. Thus, we can summarize that PTI as a challenge stressor is likely to promote personal growth and development, which in turn would lead to increased knowledge sharing.

Knowledge sharing - IB. The link between knowledge sharing and employees' innovation has been to a large extent researched and established (e.g., Hussein, Singh, Farouk, & Sohal, 2016; Kim & Lee, 2013; Mura, et al., 2013). For instance, Mura, et al. (2013) found that sharing best practices and sharing mistakes (referred to as the dimensions of knowledge sharing in their study) positively influence the implementation of one's innovative ideas. They argue that individuals can learn from the act of knowledge sharing and, by recombining old knowledge in new forms, might be more capable to translate new ideas into workable innovations. The findings of Kim and Lee (2013) also empirically demonstrate that knowledge sharing enhances innovative behavior. Specifically, they discuss that employees' willingness to collect knowledge from and donate knowledge to colleagues has significant positive effects on their service innovative behavior, indicating that knowledge collecting and knowledge donating play important roles in promoting employee innovative behavior.

In addition, Cummings (2004) and Pulakos, Dorsey, and Borman (2003) argue that knowledge sharing can be regarded as the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures (as cited in Wang & Noe, 2010, p. 117).

Knowledge sharing as a mediator. After all, the mediating role of knowledge sharing in the relationship between PTI and innovative behavior could be theorized as follows. We draw our assumption from the studies of Lopez-Cabrales, et al. (2009) and Escribá-Carda, et al. (2017). First, Lopez-Cabrales, et al. (2009) have empirically established the mediating role of *knowledge* on the relationship between HRM practices and innovative activity. In addition, Escribá-Carda, et al. (2017) assert in their study that *exploratory learning* mediates the relationship between employees' perceptions of high performance work systems and innovative behavior. We argue that both knowledge itself and exploratory learning are highly related to knowledge sharing. Based on this, we assume that

knowledge sharing is indeed mediating the relationship between PTI and innovative behavior. We argue that the reasoning behind such mechanism could be the following: employees' PTI may promote their personal growth and development and thus increase their job satisfaction and organizational commitment (Kuvaas, et al., 2012), which could enhance knowledge sharing. In line with that, increased amount of knowledge sharing will enable a fruitful and resourceful context for employees' innovative behavior. Therefore, we hypothesize the following:

Hypothesis 2: Knowledge sharing among employees mediates the positive relationship between employee PTI and innovative behavior.

2.3. The Moderating Role of Self-efficacy

Self-efficacy is a concept rooted in social cognitive theory of self-regulation (Baumeister & Vohs, 2011). It describes a person's belief in their own capabilities with respect to a certain behavior or to exercise control in a given situation (Bandura, 1991). Self-efficacy is different from self-esteem as it is not a constant concept, but dependent on the belief to cope in a given situation or task (Stajkovic & Luthans, 1998). Thus, people's belief in their efficacy "influences the choices they make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding, the amount of stress they experience in coping with taxing environmental demands" (Bandura, 1991, p. 257). Self-efficacy can be seen as a personal resource that will influence behavior and performance by affecting the confidence to overcome difficult situations. Moreover, the belief in one's abilities and skills will strengthen the motivation, and thus, such a person will engage in the activities more enthusiastically building on their cognitive resources (Bandura, 1991).

Consequently, self-efficacy can be seen as a resource to cope with challenges and demands that will buffer the stress. Thus, in line with the recent call of Buch, et al. (2015), we will investigate *self-efficacy* as a possible moderator to overcome stressors and strengthen positive work behavior. This is consistent with the consent that most stressors are prone to moderating influences (Gilboa, Shirom, Fried, & Cooper, 2008). Moreover, we want to shed some light on the yet inconclusive findings of individual coping response to stressors and demands

(Cooper, Dewe, & O'Driscoll, 2001; Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010).

Given that self-efficacy may be beneficial for an individual to deal with organizational demands (e.g., PTI), it can be argued that it facilitates both knowledge sharing and innovative behavior. Considering self-efficacy in the context of knowledge sharing, it becomes clear that knowledge sharing is dependent on the individual positive attitude towards sharing (O'Neill & Adya, 2007). Self-efficacy may be one of the fundamental conditions for an individual positive attitude, which then influences behavior. Research has acknowledged self-efficacy as an influencing factor for knowledge sharing awareness (Shaari, Rahman, & Rajab, 2014). Moreover, it was found that self-efficacy (as knowledge management system self-efficacy and individual self-efficacy) was positively related to knowledge sharing attitude (Chen, Chuang, & Chen, 2012; Tamjidyamcholo, Bin Baba, Tamjid, & Gholipour, 2013).

We assume that employees who believe in their capabilities to handle stressful situations, in other words, those having the coping resources (self-efficacy), will experience challenge stressors such as PTI as a motivational factor and opportunity to grow. This in turn will result in the display of innovative behavior through increased knowledge sharing. Therefore, we hypothesize the following:

Hypothesis 3: Self-efficacy moderates the mediating role of knowledge sharing in the relationship between PTI and innovative behavior – the higher the self-efficacy, the more positive the relationship.

2.4. The Moderating Role of Coworker Support

Next to the personal resources (e.g., self-efficacy), employees may be able to cope with stressors due to their organizational or surrounding support. Buch, et al. (2015) showed that the relationship between PTI and knowledge sharing is moderated by perceived job autonomy and perceived supervisor support: the higher job autonomy and perceived supervisor support, the more positive the relationship. However, we want to investigate whether the support of coworkers may help employees to strengthen the relationship between developmental challenge stressors and knowledge sharing, which could result into innovative behavior.

According to Susskind, Kacmar, Borchgrevink, and Zedeck (2003), coworker support is “the extent to which employees believe their coworkers are willing to provide them with work-related assistance to aid in the execution of their duties” (p. 181). The researchers argue that coworker support (whether formal or informal in nature) is vital to the accomplishment of work-related tasks, and likely supplements formal support offered from supervisors and managers. Moreover, Chiaburu (2010) emphasizes that coworkers are proximal to their colleagues, in immediate contact with them, and of equal status. In turn, close relationships between coworkers could facilitate helping behaviors and the subsequent trust that other coworkers will in turn reciprocate helping behaviors (Halbesleben & Wheeler, 2015). In line with that, a meta-analysis of Chiaburu, Harrison, and Zedeck (2008) shows that coworker support is generally associated with positive effects including work attitudes (more job involvement and satisfaction) as well as role perceptions (less role overload, conflict and ambiguity) and effectiveness.

Given that a positive work climate was found to be strongly related to innovative performance (Hammond et al., 2011), we argue that coworkers and their support is one of the major factors that creates a positive work climate, which would explain a possible role of coworker support in the relationship between PTI and innovative behavior. Indeed, the literature review of Cohen, Wills, and House (1985) highlights that social support enables employees to cope better with job stressors and enhance their sense of personal control. In fact, coworker relations have been found to be positively associated with psychological well-being and job satisfaction (Bergbom & Kinnunen, 2014), thus indicating that good coworker relations may have a buffering effect on challenge stressors.

Consequently, we assume that coworker support serves as an additional resource that will make training intensity to be perceived as less stressful, hence resulting in higher knowledge sharing behavior, which will lead to innovative behavior. Moreover, perceiving collegiality among employees may foster employees to both provide others with knowledge and also collect knowledge, which we see as an enabler for innovation. Therefore, we hypothesize the following:

Hypothesis 4: Coworker support moderates the mediating role of knowledge sharing in the relationship between PTI and innovative behavior – the stronger the coworker support, the more positive the relationship.

3. Methods

3.1. Sample and Procedure

The data were collected from an international metal company based in Norway from the corporate staff departments working with HR, technology, finance, energy, communication, legal and CSR. In order to reduce the potential influence of common-method bias (Podsakoff, Mackenzie, Lee, Podsakoff, & Zedeck, 2003), we collected the data in two waves (time 1 and time 2). All questionnaires were distributed with the use of a web-based survey tool.

In time 1, the survey was distributed to a total of 455 employees and measured the independent variable *perceived training intensity (PTI)* together with the possible moderators *coworker support* and *self-efficacy*, as well as the control variables. In order to reduce response distortion (Chan, 2009), the participants were informed that there will be no individual reports back to their leader or to the organization. The response rate was 46.10 percent (210 responses). However, after accounting for missing data 193 responses were left.

In time 2, which was 3 weeks after the first wave of data collection, two surveys were sent out. One survey was distributed to the same 193 employees of time 1 to measure the mediator variable *knowledge sharing (KS)*. The total of 172 employees responded in time 2, which is a response rate of 89.12 percent. The other survey was distributed to the employee's managers, which had to evaluate their employee's *innovative behavior*. The minimum amount of employees that were evaluated at the same time by a leader was 1 and the maximum 9 employees. 42 out of the total 65 leaders responded, which is a response rate of 64.61 percent. After the data were collected, all the responses were anonymized. The employee self-reports of time 1 and time 2, as well as the leader-rated data were then matched. Data with missing values was not taken into consideration.

The final sample consisted of N=113, out of which 48.67 percent were men and 51.32 percent were women. The age in the sample was relatively high (46.93 years on average), which could explain high level of tenure (73.45 percent having worked for 5 or more years in the company). Moreover, the sample consisted of highly educated individuals out of which 54 percent had a Master's degree and 25.66 percent a Bachelor's degree, respectively.

3.2. Measures

The measures for this study were adopted from existing research. All of the items were measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) unless otherwise noted. Moreover, all measures were obtained through employee self-reports, except for *innovative behavior*, which was manager-rated. A full list of all items can be found in Appendix 1.

Perceived Training Intensity

To measure PTI, we used the eight-item scale developed by by Kuvaas, et al. (2012) with a Cronbach's alpha of .90. Sample items include "By allocating resources to employee developmental programs, my organization clearly demonstrates that it expects its employees to continuously develop their work-related knowledge and skills" and "My organization spends considerable resources on training and developmental programs in order to ensure that its employees keep their work-related knowledge and skills up-to-date".

Innovative Behavior

Innovative behavior was measured by means of the five-item scale from Scott and Bruce (1994) with a Cronbach's alpha of .93. Managers rated their employees on a scale from 1 (never) to 5 (always). Sample items include "searches out new technologies, processes, techniques, and/or product ideas" or "generates creative ideas".

Knowledge Sharing

Knowledge sharing was measured by using the eight-item scale derived from De Vries, et al. (2006) and used by Kuvaas, et al. (2012) with a Cronbach's alpha of .79. This scale includes measures of both knowledge collecting, i.e. getting knowledge from coworkers, and knowledge donating, i.e. providing coworkers with knowledge. Some sample items are "When a colleague is good at something, I ask him/her to teach me" or "When I have learned something new, I make sure my colleagues learn about it too".

Moderating Variables

Self-efficacy was assessed by the eight-item general self-efficacy scale of Chen, Gully, and Eden (2001) with a Cronbach's alpha of .84. Sample items for self-efficacy include "I will be able to successfully overcome many challenges" and "I am confident that I can perform effectively on many different tasks". The measure for coworker support was obtained by using the seven-item scale of Baruch-Feldman, Brondolo, Ben-Dayana, Schwartz, and Barling (2002) with a Cronbach's alpha of .81. It includes the following sample items: "People I work with are helpful in getting the job done" and "My coworkers care about me".

Control Variables

Meta-analytic studies have found that the predictors of individual innovation can be summarized in three predictor types, i.e. individual factors, job factors and contextual factors (Hammond, et al., 2011). We wanted to control for variables in each of the three categories. To rule out that possible pre-existing socio-demographic individual difference will not account for our findings, we controlled for *age*, *gender*, *tenure* and *education* (measured on an ordinal scale ranging from 1 = high school graduate to 4 = doctorate). In the field of job factors, we controlled for task interdependence as a job factors, as it was found to be associated with individual innovation in previous research (Van Der Vegt & Janssen, 2003). Task interdependence was measured by the five-item scale of Van Der Vegt, Emans, and Van De Vliert (2000) with a Cronbach's alpha of .81. Moreover, meta-analytical studies showed that the relationship between leaders and followers is a critical contextual factor and related to innovative behavior (Hammond, et al., 2011). We therefore controlled for perceived supervisory support, which was measured on a four-item scale by Kuvaas and Dysvik (2010) with a Cronbach's alpha of .80.

3.3. Analysis

We analyzed the data performing several steps with SPSS 24.0. First, due to the small sample size ($N=113$) it was not possible to perform factor analysis in order to test reliability and construct validity of the measures used in the study. According to Field (2013), the size of the sample sufficient enough for conducting

factor analysis should be $N > 300$. However, as all of the measurement scales utilized in the analysis are validated by previous research (e.g., Chen, et al., 2001; De Vries, et al., 2006; Kuvaas, et al., 2012), it is argued that they have adequate psychometric properties, which were empirically proved by further research (e.g., Alexopoulos & Asimakopoulou, 2009). Therefore, reliability analysis was conducted by checking Cronbach's alphas α (Cronbach, 1951). Moreover, we computed descriptive statistics and performed Pearson correlation analysis.

Prior to performing regression analysis, the independent variable as well as moderator variables were mean-centered before multiplication in order to avoid multicollinearity issue (Kuvaas, et al., 2012). Thus, we subtracted the mean of all scores of the certain variable from each of the variable's scores (Field, 2013). Next, in order to test the proposed hypotheses, we performed hierarchical multiple regression analysis (Cohen, Cohen, West, & Aiken, 2002). The analytical procedure proposed by Muller, Judd, Yzerbyt, and Devine (2005) was followed. First, in Step 1 we tested the moderations of the overall treatment effect of PTI on innovative behavior. Step 2 accounted for the moderations of treatment effect of PTI on the mediator, knowledge sharing. Finally, in Step 3 we tested moderation of the effect of the mediator knowledge sharing on innovative behavior, as well as moderation of the residual treatment effect of PTI on innovative behavior (Muller, et al., 2005).

Moreover, to visualize and test the nature of moderation interactions, we plotted the roles of low, average and high levels of self-efficacy on the relationship between PTI and knowledge sharing, following the recommended steps of Field (2013). The obtained results were plotted around the mean centered score of the moderator self-efficacy with one standard deviation below and above this score using unstandardized regression beta coefficients. In addition, we tested whether the slopes were statistically significantly different from zero and from each other (Kuvaas, et al., 2012).

4. Results

4.1. Descriptive Statistics

The means, standard deviations, bivariate correlations and reliability estimates are represented in the Table 1. As stated before, all utilized scales have shown

internal consistency and high reliability with the lowest Cronbach's alphas $\alpha = .79$ and the highest $\alpha = .93$, which are substantially higher than $.70$ (C. Cooper, 2010). As expected, PTI correlates positively with innovative behavior ($r = .21, p < 0.05$); however, knowledge sharing correlates neither with PTI ($r = .16, ns$); nor with innovative behavior ($r = .78, ns$). Moreover, it appeared that the mean scores and standard deviations among such variables, as knowledge sharing, self-efficacy, and coworker support did not differ a lot, which might explain the high degree of correlation between them (e.g., correlation between knowledge sharing and coworker support ($r = .33, p < 0.01$)). In addition, perceived supervisory support correlated with most of the outcome variables at $p < 0.01$.

Prior to performing the regression, in order to check for multicollinearity between the variables, we conducted the multicollinearity diagnostics in SPSS. The lowest tolerance value obtained was $.39$, which is beyond the agreed threshold value of $.20$ (Field, 2013; Kuvaas, et al., 2012). This indicates that there is no observed multicollinearity between the independent variables in the sample.

4.2. Regression Analysis

The results of the hierarchical multiple regression analysis are presented in Table 2. In Step 1, we entered the control variables, PTI, self-efficacy, coworker support, and the two-way interaction terms (*PTI x Self-efficacy*; *PTI x Coworker support*). The obtained results did not reveal a statistically significant relationship between PTI and ratings of innovative behavior ($\beta = .10, ns$). Thus, Hypothesis 1 was not supported. The condition for the mediation effect (Baron, Kenny, & Reis, 1986), i.e. the significant relationship between PTI and innovative behavior, was not met ($\beta = .10, ns$). Thus, we could not expect that knowledge sharing mediates the relationship between PTI and innovative behavior and Hypothesis 2 is also not supported. However, the analysis at step 1 showed the possible trend towards significance between self-efficacy and innovative behavior ($\beta = -.39, p < 0.1$), which is a promising result for the further moderation analysis.

In Step 2, we put the same variables which were entered in Step 1, however changing the outcome variable, as in this step we aimed to test the moderation

Table 1. Descriptive Statistics, Correlations, and Scale Reliabilities.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Age	46.93	10.17	-										
Gender ^a	1.51	.50	.02	-									
Educational level ^b	3.61	.99	-.21*	-.12	-								
Tenure	2.64	.66	.55**	-.03	-.21*	-							
Coworker support (7)	4.23	.52	-.03	.17	-.12	.05	(.81)						
Task interdependence (5)	3.89	.69	-.23*	.04	.12	-.13	.44**	(.81)					
PSS (4)	4.02	.71	-.16	-.04	-.01	-.10	.66**	.52**	(.80)				
KS (8)	4.24	.45	-.13	.14	.05	.01	.33**	.45**	.28**	(.79)			
Self-efficacy (8)	4.22	.49	-.30**	.02	-.07	-.29**	.48**	.14	.35**	.17	(.84)		
PTI (7)	3.50	.77	-.26**	.07	-.04	-.23*	.31**	.35**	.38**	.16	.38**	(.90)	
Innovative behavior (6)	2.87	.91	-.34**	.02	.32**	-.30**	.12	.25**	.30**	.08	.03	.21*	(.93)

N = 113. Coefficient alphas are displayed on the diagonal. Number of items included in the final scales in parentheses.

PSS = perceived supervisory support; PTI = perceived training intensity; KS = knowledge sharing.

* $p < 0.05$; ** $p < 0.01$.

^a Men = 1; women = 2.

^b Coded from 1 (high school graduate) to 4 (doctorate).

effect of the PTI treatment on the mediator, knowledge sharing. The findings reveal that self-efficacy has a moderating effect on the relationship between PTI and knowledge sharing ($\beta = .35, p < 0.05$). However, in order to fully test Hypothesis 3, further regression analysis was essential.

In Step 3, we added the mediator knowledge sharing as well as the interaction terms *Knowledge sharing x Self-efficacy* and *Knowledge sharing x Coworker support*. As predicted from the previously obtained regression results, hypothesis 3 was not fully supported, although the added variables increased R^2 (from $R^2 = .30$ to $R^2 = .32$). This is because of no found mediating effect of knowledge sharing on the PTI - innovative behavior relationship. Thus, we discovered only partial support for Hypothesis 3. Furthermore, the partial support of Hypothesis 3 is also shown in Figure 2 where the statistically significant interaction term (self-efficacy) changes the direction of the PTI – knowledge sharing relationship. Specifically, results indicate that there is a positive relationship between PTI and knowledge sharing for employees having high levels of self-efficacy ($b_{high} = .17, p < 0.1$). The negative relationship between PTI and knowledge sharing can be observed when employees are low in self-efficacy ($b_{low} = -.17, p < 0.1$). There is, however, no relationship between PTI and knowledge sharing for employees with moderate levels of self-efficacy ($b_{moderate} = -.00, ns$). The slopes for the low versus high levels of self-efficacy are significantly different from each other ($t = 3.29; p < 0.001$). With regards to the effect size, added interaction terms ($\Delta R^2 = .05, p < 0.05$) indicate 33% increase in the total amount of variance explained due to the interaction. In comparison, the amount of variance for the dependent variable innovative behavior explained by both the interaction and mediation terms in the full model is lower ($R^2 = .32$).

Throughout the analysis, we did not find support for Hypothesis 4. However, as Table 2 shows, the significant moderating role of coworker support on the mediating role of knowledge sharing in the relationship between PTI and innovative behavior could be obtained after some more iterations. The effect size of the interaction term (coworker support) increased from Step 1 to Step 3 to $B = .19$, which suggests that with more iterations performed, coworker support could probably become a significant moderator.

Table 2. *Regression Analysis.*

	Innovative Behavior	Knowledge Sharing	Innovative Behavior
	Step 1	Step 2	Step 3
Intercept	2.56**	2.08***	2.89**
<i>Controls</i>			
Age	-.02*	-.01	-.02**
Gender ^a	.10	.10	.10
Educational level ^b	.21**	-.02	.22**
Tenure	-.21	.09	-.18
PSS	.38**	.07	.41**
Task interdependence	.02	.24***	.03
<i>Independent variables</i>			
PTI	.10	-.00	.10
Self-efficacy	-.39*	.05	-.35*
Coworker support	.10	.15	.09
<i>Interaction effects</i>			
PTI x Self-efficacy	.00	.35**	-.07
PTI x Coworker support	.12	-.03	.26
<i>Mediation effect</i>			
KS			-.13
KS x Self-efficacy			-.50
KS x Coworker support			-.27
<i>R</i> ²	.30	.33	.32
<i>F</i>	3.83***	4.56***	3.26***

N = 113. PSS = perceived supervisory support; PTI = perceived training intensity; KS = knowledge sharing.

p* < 0.1; *p* < 0.05; ****p* < 0.01.

^a Men = 1; women = 2.

^b Coded from 1 (high school graduate) to 4 (doctorate).

In addition, the regression analysis findings reveal that certain control variables were significantly related to innovative behavior in Step 1 and Step 3, such as perceived supervisory support ($\beta = .41, p < 0.05$) as well as age ($\beta = -.02, p < 0.05$).

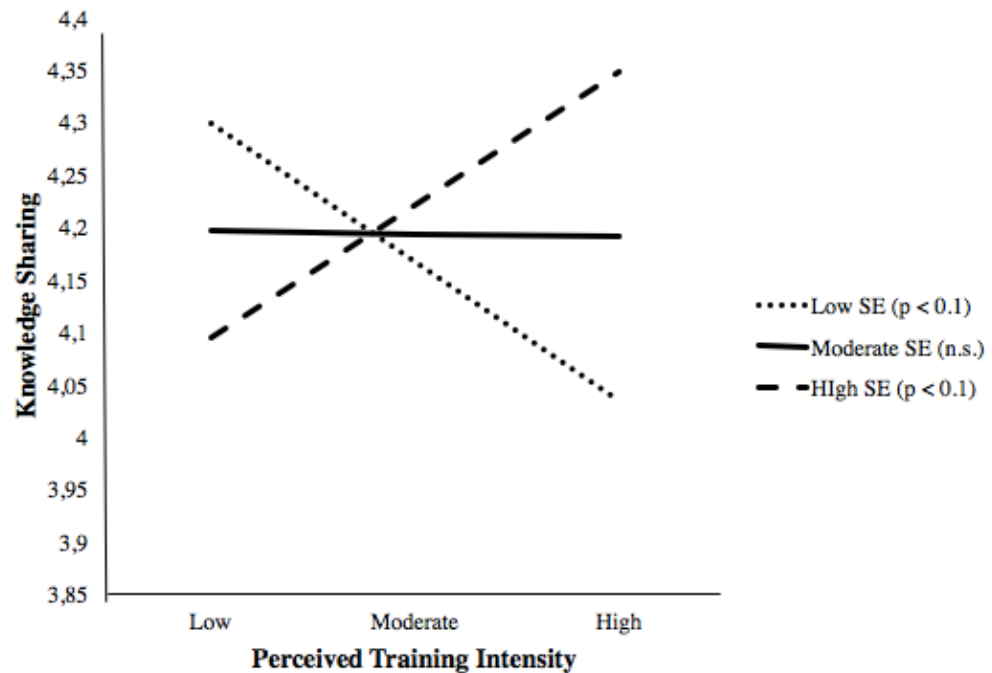


Figure 2. The moderating role of self-efficacy on the relationship between perceived training intensity and knowledge sharing.

5. Discussion

With this study we wanted to explore how employee's perception of a specific HRM practice (PTI) may result into a certain employee behavior (innovative behavior). PTI is hereby seen as a challenge stressor that holds the opportunity for growth and development. In particular, the purpose of the present study was to investigate the hypothesized positive relationship between PTI and innovative behavior and the mediating role of knowledge sharing. Moreover, we investigated the moderating roles of self-efficacy and coworker support as coping strategies on the relationship between PTI, knowledge sharing and innovative behavior.

First, we hypothesized a positive relationship between PTI and innovative behavior, which we did not find support for. A possible explanation of the non-significant findings is that a lot of trainings tend to focus on routine tasks, specific

knowledge, safety, or the performance in the current job. However, innovative behavior is characterized by combining elements in a new way, which requires the ability to think differently, question routines and trying out different ways (de Brabandere & Iny, 2010), rather than learning how to perform processes according to standard operating procedures. In addition, industry-specific factors of the sample may have influenced the results, given that the metal industry is a relatively stable environment, where innovative behavior may not be as required as in other industries, where fierce competition is more prominent. Another possible explanation may lie in the nature of the too distal concepts PTI and innovative behavior, which most likely made it impossible to account for a significant relationship between them. PTI is referred to as employee *perceptions* of certain organizational treatment, while innovative behavior is an actual employee *performance*. Even though PTI embraces the opportunity of growth and development, it represents a stressor and entails frequent and intense training requirements, which may overload employees. Thus, PTI may not leave enough time and space to experiment and engage in creative thinking, which would let innovative behavior flourish (Andrews & Smith, 1996). Due to the conceptual distance of PTI and IB, we aimed to investigate whether there would be a possible mediator explaining the relationship or other factors (moderators) that would influence this relationship.

Second, we hypothesized that knowledge sharing would mediate the relationship between PTI and innovative behavior, which we did not find support for. A possible explanation may be grounded into the yet inconclusive findings with regards to the relationship between PTI and knowledge sharing. While Kuvaas, et al. (2012) found a positive significant relationship between PTI and knowledge sharing, the results of the study of Buch, et al. (2015) indicate that this relationship only holds under the influence of certain moderators (perceived supervisory support and perceived job autonomy). The inconclusive findings on this relationship may be due to a possible curvilinear association between PTI and knowledge sharing (Buch, et al., 2015).

Moreover, even if PTI and knowledge sharing were related, perhaps knowledge sharing itself would not lead to innovative behavior, as it has to be applied or transferred in order to do so. However, in our study we operationalized

knowledge sharing only as a two-way exchange of knowledge without any focus on the application or transfer. This possible explanation is in line with other research findings, which indicate that knowledge sharing *and its application* (knowledge management capacity) play a mediating role between strategic human resource practices and innovative performance (Chen & Huang, 2009). Innovation, however, requires both creating and implementing novel ideas (Kaufmann, 1993). This means that that even though knowledge sharing may lead to the creation of new ideas, it does not mean that it leads to the implementation of the ideas. The same conditions favoring creation of novel ideas often impede the idea-implementation process (Miron-Spektor, Erez, & Naveh, 2011), highlighting the complexity of the innovation process and the influence of several other contextual factors.

Third, we hypothesized that self-efficacy moderates the mediating effect of knowledge sharing in the PTI and innovative behavior relationship. This hypothesis was partially supported. Self-efficacy is indeed a significant moderator of the relationship between PTI and knowledge sharing. The higher self-efficacy, the more positive the relationship between PTI and knowledge sharing. Our results indicate that when stress and organizational demands are high (i.e., PTI), high levels of individual self-efficacy help employees to cope with these demands. This results into increased knowledge sharing behavior. In contrast, the lower self-efficacy, the more negative the relationship between PTI and knowledge sharing. This indicates that individuals with low levels of self-efficacy do not have the necessary personal resources to cope with the demands and rather pull back, which results into a decrease of knowledge sharing (see Figure 2). If this is the case, PTI may push the more self-efficacious employees to actually share knowledge and engage in knowledge exchange, while low self-efficacious employees in a high PTI context will experience difficulties to cope with it and therefore not engage in proactive behaviors.

Consequently, our results indicate that the belief in one's own ability and skills helps to cope with stress and organizational demands for training, learning and development. According to our results, self-efficacy as a personal resource affects the confidence to overcome difficult situations and in addition also strengthens the motivation to share knowledge. This is in line with Shaari, et al.

(2014), who acknowledged self-efficacy as an influencing factor for knowledge sharing awareness. In addition, the moderating role of self-efficacy also speaks to the importance of taking individual differences into account when hypothesizing relationships between perceptions of HR practices and employee outcomes. However, self-efficacy is not a significant moderator in the full model. This is linked to the fact that we did not find support for a mediation role of knowledge sharing (see Hypothesis 2).

Fourth, we hypothesized that coworker support moderates the mediating role of knowledge sharing in the PTI and innovative behavior relationship, which we did not find support for. In fact, it seems that not coworker support, but perceived supervisory support is fundamentally important for innovative behavior. This was highlighted by the fact that perceived supervisory support is correlated with most of the outcome variables, and also in particular significantly related to innovative behavior. This underpins the critical role of the supervisor to foster knowledge sharing and innovative behavior at the workplace. Research shows that a positive supervisor-subordinate relationship as well as outcome expectations are factors that influence employees innovative behavior (Yuan & Woodman, 2010). Leaders who require from their employees new and non-conventional solutions can foster employee innovative behavior. Moreover, they may influence the innovative behavior by providing positive social recognition for innovative employees and can enhance the extent to which employee see themselves as innovative (Yuan & Woodman, 2010). Supervisory support was found to be in particular important for creative idea generation and idea implementation (Škerlavaj, Černe, & Dysvik, 2014).

In addition, some general findings need to be discussed as well. We found that age was negatively related to innovative behavior. This is in contrast to other researchers findings in which age influenced neither the quantity nor the quality of ideas submitted (Verworn, 2009) One explanation for our results may be the high tenure in our sample. This could suggest that older employees also stayed very long in the company, which may influence the routine of acting according to standard operating procedures and the ability to see processes in a different light (Lundmark & Björkman, 2011). Moreover, we found self-efficacy to be

negatively related to innovative behavior, which is in contrast to the existing research opinion (Hammond, et al., 2011; Ng & Lucianetti, 2016; Tierney & Farmer, 2011). It may indicate that self-efficacy follows a curvilinear relationship with innovative behavior, which suggests that too much self-efficacy would result into negative display of innovative behavior. This is in line with the research stream on the possible negative effects of self-efficacy. It indicates that high self-efficacy can lead to overconfidence in one's abilities (Stone, 1994) and therefore affect the resource allocation negatively, i.e. time and effort, which negatively influences performance (Vancouver, Thompson, Williams, & Murphy, 2001).

6. Limitations

Our study has certain limitations, which need to be taken into account when interpreting the master thesis results. First, the small sample size obtained ($N=113$) resulted in several weaknesses of the study. On the one hand, due to the small sample size, it was not possible to perform factor analysis to test the measures for reliability and construct validity. This means that we could only rely on the factor analysis results obtained from previous research (e.g., De Vries, et al., 2006; Kuvaas, et al., 2012) and check reliability coefficients. However, the scales utilized demonstrated high internal consistency in previous research (Kuvaas, et al., 2012). On the other hand, some of the hypothesized relationships could probably be veiled due to the small sample size (Shrout, Bolger, & West, 2002). For example, the effect size of the moderating variable coworker support ($B = .19$) indicates that it could be a significant moderator with a bigger sample size or when performing further iterations of the model.

Second, there could be no causal relationships derived from the obtained results, as the current study holds a cross-sectional study design (Bryman & Bell, 2015). However, the study was conducted in two points of time and both self-reports and managerial ratings were utilized in order to avoid common method bias (Podsakoff, et al., 2003). Still, one cannot assume that all of the potential sources of common method biases were diminished. For example, the measures can be impacted by the social desirability bias (Podsakoff, et al., 2003). Even though being reassured that the obtained results will be treated anonymously and there will be no direct reports to the leaders of the organization on the individual level, we suppose some employees still answered somehow in a socially desirable

manner. For example, the mean scores of the moderator variables coworker support ($M = 4.23$) and self-efficacy ($M = 4.22$) are relatively high, which suggests the presence of inflated item ratings. For the obtained results, such issue could threaten internal validity, if highly self-efficacious employees report less socially desirable answers than those having lower levels of self-efficacy.

Third, our data is hierarchical given that each employee's self-report was coupled together with the leader's rating of the specific employee. Thus, employees were hierarchically nested around their leaders. In order to fully and comprehensively test the model containing nested or hierarchical data, one should perform hierarchical regression modeling. This type of multilevel regression analysis was unfortunately out of scope of our master thesis, which did not allow us to control for the "leader/supervisor" effect in the study. Ideally, this effect should be avoided, so that only the individual-level variance unexplained by "leader/supervisor" effect will be examined (Harris, Wheeler, & Kacmar, 2011). Besides that, we still tried to diminish this effect by inserting dummy variables accounting for the leaders in the sample. However, the data was not sufficient enough to interpret the results obtained together with the dummy variables. One leader could evaluate only one employee, which did not allow us to draw any conclusions regarding the presence or absence of the leader effect in the sample.

Another important limitation is that it could be difficult to generalize obtained results towards various countries and cultures, as the study was conducted in a particular Norwegian company.

7. Future Research Directions

First, we suggest that it could be interesting to replicate the study with a more comprehensive sample size, presumably across different organizations within different countries. As previously pointed out, it is possible that certain hypothesized relationships could unveil in further empirical testing of the model. This would allow one to explore the generalizability of the obtained findings or hypothesized relationships. However, we also assume that it is possible that other variables not included in the study may serve as mediators for establishing relationship between PTI and innovative behavior. For example, one may include a more comprehensive measurement of knowledge sharing behavior as a

mediator, accounting also for the knowledge application (Chen & Huang, 2009). Moreover, it should also be considered to perform a longitudinal or experimental research design in order to obtain causality among proposed relationships.

With regards to the plausible research extensions of the obtained results, we would suggest to further inspect the nature of the moderating role of self-efficacy on the PTI – knowledge sharing relationship. Specifically, it could be interesting to explore the impact of self-efficacy on the curvilinear relationship between PTI and knowledge sharing suggested by (Buch, et al., 2015). Researches may be especially interested to investigate to what extent self-efficacy could buffer high levels of PTI that may increase beyond the levels of resources that employees possess to cope with a certain number of stressors (Buch, et al., 2015). In particular, with moderate to high levels of PTI, one employee being highly self-efficacious may be able to overcome the perceived stress and continue to share knowledge with coworkers, while excessive levels of PTI for another employee could result in knowledge hiding.

Future research could also discover the moderating role of creative self-efficacy (Tierney & Farmer, 2002) on the mediating relationship of knowledge sharing on PTI and innovative behavior. Škerlavaj, et al. (2014) suggest that moderate levels of creativity are most beneficial for the individual innovative work behavior. Therefore, it is plausible that individuals with moderate to high levels of creative self-efficacy could be more prone to be creative and implement their creative ideas. This recommendation is in line with a recent meta-analysis indicating that creative self-efficacy is positively related to individual innovative performance (Hammond, et al., 2011). In addition, other scholars have found that the increased belief in one's creative self-efficacy corresponds to the increase of individual idea generation (Ng & Lucianetti, 2016) as well as employee creative performance (Tierney & Farmer, 2011).

Furthermore, researchers may be particularly interested in examining the role of knowledge hiding in the PTI – innovative behavior relationship. Specifically, the findings of Černe, Nerstad, Dysvik, and Škerlavaj (2014) reveal that knowledge hiding could prevent employees from generating creative ideas, but it may also have negative consequences for the creativity of a knowledge hider. It may be reasonable to investigate whether the reciprocal distrust loop appears to affect employee's innovative behavior. For example, if PTI creates conditions for

knowledge hiding, employees could be more prone to engage in such a behavior, given that the lack of supervisory and coworker support is present. This in turn could prevent them from generating creative ideas, and as a result, from showing innovative behavior.

In addition, it could be beneficial for HRM research to further understand the relationships between micro and macro HRM perspectives; specifically, the relationships between certain employees' perceptions of HRM practices and organizational outcomes, such as innovative performance and creative performance. In general, it would be of interest to further investigate the concept of PTI, i.e., its antecedents, outcomes, as well as potential influences. In addition, in future it might be valuable to understand the effects of employees' perceptions of specific job and organizational demands and their possible impact on innovation and innovative behavior.

8. Theoretical Implications

Although we did not fully find support for our theoretical model, we want to highlight the importance of continuing the theoretical discussion between the macro and micro approaches of HR practices. We highlight the necessity to theoretically investigate perceptions of HR practices so that they are not shadowed by the dominating macro approach. Because perceptions of HR processes on individuals have not been adequately theorized so far (Wright & Boswell, 2002), we see the importance to theoretically distinguish between HR practices as one single system and employee perceptions of single HR practices such as training.

Second, our findings contribute to the field of stress research by showing that organizational training and learning demands (i.e. PTI) can be overcome by self-efficacy, an individual difference based coping strategy, which will enhance knowledge sharing. It hereby builds on the work of Buch, et al. (2015) who suggested to study self-efficacy as a possible moderator of relationship between PTI and knowledge sharing. This also sheds some light on the yet inconclusive findings of individual coping responses to stressors and demands (Cooper, et al., 2001; Häusser, et al., 2010).

9. Practical Implications

Despite the limitations of our study, the results may hold several important practical implications. The following practical implications may apply in case that the relationships in our study are causal in nature.

In order to cope with organizational demands and stress, individual differences seem to matter. Self-efficacy was found to significantly help in coping with organizational demands and expectations and strengthen knowledge sharing. Considering the growing technological change and fierce competition in the business world, it is very likely that there will be an increasing amount of learning, development and innovation expectations from organizations that affect the single employee. HR practitioners may consider these findings when it comes to hiring decisions. Having a stronger focus on coping strategies, in particular self-efficacy, in psychological testing may help practitioners to select the right employees that are able to cope well with increasing organizational demands in the future. This will contribute to the long-term success and competitive advantage of the company. Moreover, it may be advisable for companies to invest in programs that would support employees in strengthening their self-efficacy, which helps them to overcome stress.

According to meta-analysis it is a major concern for practice to which extent training would lead to a learning transfer at the workplace (Blume, Ford, Baldwin, & Huang, 2010). Even though there is a widespread belief in practice that training can lead to superior performance and other positive outcomes, our findings highlight that training opportunities as such will not lead to innovative behavior. For HR, our findings underpin the importance of contextual factors in order to spur innovative behavior at the workplace, in particular the perceived supervisor support. A supervisor who supports the employee in thinking outside of the box and who gives the employee the freedom to find different ways are key. We therefore suggest HR to select leaders carefully and train them accordingly, in particular in establishing good leader-employee-relationships. The findings may challenge HR practitioners to embrace a more strategic positioning in the company, i.e. from a pure training provider to a more strategic, innovation facilitation role, which is closely linked to business. In order to foster innovation, HR practitioners have to become the driving force that translates business requirements into competence building training concepts. Moreover, it is the role

of HR to raise the organizational expectations that the trained knowledge is applied and proactive behavior stimulated at the workplace. This can be done through a ‘train-the-trainer’-approach, where HR works closely together with leaders and trains them on how to foster and nurture innovative work behavior of their employees on a daily basis.

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Appendices

Appendix 1 – Measurements

Variables	Items
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Perceived Training Intensity (Kuvaas, et al., 2012)
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My organization spends considerable resources on training and developmental programs in order to ensure that its employees keep their work-related knowledge and skills up-to-date.

It is my impression that my organization emphasizes training and development of its employees to a greater extent than our competitors.

By allocating resources to employee developmental programs, my organization clearly demonstrates that it expects its employees to continuously develop their work-related knowledge and skills.

It is my impression that the “learning pressure” in my organization in terms of continuously updating the knowledge and skills of its employees is greater than in similar companies.

My organization demands that its employees continuously develop their work-related knowledge and skills through training and developmental programs.

By way of developmental programs such as performance-appraisal interviews, evaluations, mentor programs, and competence development and leadership developmental programs, my organization demonstrates in a salient and explicit way that it expects the employees to continuously develop their work-related knowledge and skills.

My organization expects me to participate in training and developmental programs in order for me to be prepared for future work assignments.

Knowledge Sharing (De Vries, et al., 2006)

I ask my colleagues about their skills when I want to learn particular skills.

I share information that I have acquired with my colleagues.

I regularly inform my colleagues of what I am working on.

When a colleague is good at something, I ask him/her to teach me.

I consider it important that my colleagues are aware of what I am working on.

When I have learned something new, I make sure my colleagues learn about it too.

I like to be kept fully informed of what my colleagues know.

When I need certain knowledge, I ask my colleagues about it.

Innovative Behavior (Scott & Bruce, 1994)

Searches out new technologies, processes, techniques, and/or product ideas.

Generates creative ideas.

Promotes and champions ideas to others,

Investigates and secures funds needed to implement new ideas.

Develops adequate plans and schedules for the implementation of new ideas.

Is innovative.

Self-efficacy (G. Chen, et al., 2001)

I will be able to achieve most of the goals that I have set for myself.

When facing difficult tasks, I am certain that I will accomplish them.

In general, I think that I can obtain outcomes that are important to me.

I believe I can succeed at most any endeavor to which I set my mind.

I will be able to successfully overcome many challenges.

I am confident that I can perform effectively on many different tasks.

Compared to other people, I can do most tasks very well.

Even when things are tough, I can perform quite well.

Co-worker support (Baruch-Feldman, et al., 2002)

My coworkers care about me.

People I work with are competent in doing their jobs.

People I work with take a personal interest in me.

(R) I am exposed to hostility and conflict from the people I work with.

People I work with are friendly.

The people I work with encourage each other to work together.

People I work with are helpful in getting the job done.

ID number: **0975243**
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- Preliminary Thesis Report -

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Master of Science in Leadership and Organizational Psychology

Summary

This preliminary master thesis report will provide an introduction to the research topic on the mediation effect of knowledge sharing on the relationship between employees' perceived training intensity and innovative behavior as well as the facilitation of this effect through the moderation of self-efficacy and co-worker support. We will utilize relevant theories, discussion and reflection to provide an insight into the topic presented.

The first part will focus on defining the concepts of perceived training intensity, knowledge sharing, and innovative behavior. We will also discuss the theoretical and empirical relationship between those constructs, as well as the mechanism of knowledge sharing mediation. We also will explain the reasons for including specific moderators in the model. The hypotheses will be stated, and the subsequent conceptual model proposed.

The second part briefly provides the relevant information regarding methods, sample and procedure of the hypothesized model, as well as proposed measures of the constructs.

In addition, we included the plan for the further thesis progression in the final part of the report.

1. Introduction

While HRM was previously considered as an administrative system supporting business, its role shifted to a more integrated perspective, where specific HRM practices are strategically linked to business priorities and innovation. This change can be found in literature as well. Traditional HRM literature has been primarily adopting a macro perspective, focusing on the relationship between the system of HR practices as such and broad organizational outcomes such as performance or innovation (Shipton, West, Dawson, Birdi, & Patterson, 2006). However, researchers have increasingly embraced a micro perspective, trying to shed light on the mechanisms through which this relationship is established (Lau & Ngo, 2004). Under the micro perspective, employee's reactions of specific HRM practices play an essential role and some authors emphasize the need to include employee's perceptions in HRM research (Escribá-Carda, Balbastre-Benavent, & Canet-Giner, in press; Kehoe & Wright, 2013; Nishii, Lepak, & Schneider, 2008). However, less amount of scholars has focused on how employees' perception of certain HRM practices results in the certain employee behavioral outcomes, such as innovation.

Training from a macro perspective has been found to lead to a range of beneficial outcomes, amongst other innovation (González, Miles-Touya, & Pazó, 2016; Rupietta & Backes-Gellner, 2012; Tharenou, Saks, & Moore, 2007). From a practical view, training and development as an HRM activity in organizations has been growing over the past years due to technological and organizational changes and are expected to continue (Spector, 2012). However, within the recent research, there is a scarce empirical evidence on the underlying mechanisms explaining how employees' perceptions of training, i.e. micro level perspective on training, may have an effect on their innovative behavior (Escribá-Carda, et al., in press). Therefore, we would like to study the employee perception of training intensity as a specific HRM practices and its relation to employee innovative behavior. Perceived training intensity (PTI) is defined as "employees' perception of organizational demand for, expectation toward, and frequency and duration of participation in formal and informal training and development activities" (Kuvaas, Buch, & Dysvik, 2012, p. 168).

In our study, we propose that knowledge sharing mediates the relationship between employees' PTI and their innovative behavior. There is widespread

agreement among researchers that knowledge sharing, in the context of today's knowledge economy, is critical for organizations to obtain significant long-term outcomes as well as attain sustainable competitive advantage (e.g., Akhavan, Hosseini, Abbasi, & Manteghi, 2015; van den Hooff & de Ridder, 2004; Wang & Noe, 2010). Specifically, the companies do not only need to get particular knowledge of the employees, but also facilitate the actual sharing of knowledge within project teams. Therefore, the concept of knowledge sharing has recently received a lot of scholars' attention, which could be seen from a comprehensive literature review on knowledge sharing by Wang and Noe (2010). In our master thesis, we assume that PTI will likely lead to employees' increased knowledge sharing (Kuvaas, et al., 2012), which, in turn, is expected to facilitate employees' innovative behavior. We argue that the reasoning behind such mechanism could be the following: employees' PTI may promote their personal growths as well as increase their job satisfaction and organizational commitment (Kuvaas, et al., 2012), which could enhance knowledge sharing. In line with that, increased amount of knowledge sharing will enable fruitful context for employees' innovative behavior. For example, Mura, Lettieri, Radaelli, and Spiller (2013) found that sharing best practices and sharing mistakes (referred to as the dimensions of knowledge sharing in their study) positively influence the implementation of one's innovative ideas.

Our contribution to the research is therefore as follows. First, we contribute to the HRM literature by addressing the call for better understanding the consequences of PTI on knowledge sharing (Buch, Dysvik, Kuvaas, & Nerstad, 2015; Kuvaas, et al., 2012). Moreover, limited research has investigated the perceptions of HRM practices, e.g. PTI and their individual outcomes, e.g. innovative behavior. By integrating knowledge sharing in our model, we aim to shed light on the mechanism through which this relationship may occur. Specifically, very few studies have empirically analyzed employees' perceptions of HRM systems as drivers of innovative behavior (Escribá-Carda, et al., in press). We improve the innovation literature by providing new mechanism for facilitation of the employee innovative behavior, referring to Afsar's (2016) concerns on further examination of the constructs that could more comprehensively explain innovative behavior. Furthermore, while Lopez-Cabrales, Pérez-Luño, and Cabrera (2009) proposed that knowledge serves as a

mediator between HRM practices and innovative activity, we significantly specify their model by emphasizing that knowledge *sharing* among employees could mediate the relationship between *PTI* and innovative *behavior*. Second, we aim to understand the underlying mechanisms of the proposed mediation effect of knowledge sharing. Therefore, we introduce the moderation effects on the PTI – knowledge sharing relationship as well as knowledge sharing – innovative behavior relationship. By taking the step further, we address the recent call in the HRM literature to examine whether *co-worker support* and employee *self-efficacy* could enhance the link between PTI and knowledge sharing (Buch, et al., 2015). We also extend the existing innovation literature by studying the impact of social and economic exchange on the relationship between employees' knowledge sharing and innovative behavior (see Mura, et al.'s (2013) study on the influence of social capital on the knowledge sharing – innovative behavior relationship). In addition, based on the recent Global Innovation Index (2016), which measures the level of innovation of a country, Norway ranks only 22nd and is placed much further down than all other Scandinavian countries, such as Sweden, Finland, and Denmark. Based on this, one can argue that there is a call for recent findings in the research on the factors influencing innovative behavior from the practitioner's side as well.

2. Theory and Hypotheses

2.1. Perceived Training Intensity and Knowledge Sharing

In our study we propose that knowledge sharing would mediate the relationship between PTI and innovative behavior. Based on Baron, Kenny, & Reis's (1986) study on moderation and mediation effects, an essential condition for mediation is that PTI is a significant predictor of knowledge sharing. As it is crucial to understand why PTI is argued to be related to knowledge sharing, we will start by presenting relevant theoretical argumentation.

Given the fast technological and organizational change, job demands are high for employees in the 21st century. One influential model of work characteristics is the job-demand-control (JDCS) model that identifies three major components of work quality: demands, control and support. These key characteristics can predict both adaptive (e.g. motivation, productivity, knowledge sharing) and maladaptive

(e.g. ill health, strain) outcomes, depending on whether they are either high or low (Karasek, 1979; Luchman, González-Morales, & Hurrell, 2013). Therefore, on the one hand, fulfilling the job demands (e.g. task requirements, workload or time pressure) can be psychologically stressful for an employee and therefore require mental and physical effort (Crawford, Lepine, Rich, & Kozlowski, 2010). However, on the other hand, job demands may be experienced as challenging. In the meta-analytical work Lepine, Podsakoff, and Lapine (2005) suggest that work stressors can take on two different forms – challenge stressors and hindrance stressors. While hindrance stressors block the individual from fulfilling the work by strains, challenge stressors had a positive effect on employee performance.

In this master thesis, we consider PTI, conceptualized by Kuvaas et al. (2012), under the perspective of job demands and challenge stressors. We hereby categorize PTI as a challenge stressor “because it involves expectations and demands for continuous learning and development, which may promote personal gain and growth, but which may also be experienced as stressful” (Buch et al., 2015, p. 625). Thus, PTI may be seen as an offer and opportunity to promote personal growth and achievement, but it can also be experienced as extra demands next to the already busy role-related duties. For example, an IT systems engineer is expected to be up to date with the latest software, systems and programming language, which can promote personal development, but at the same time be experienced as stressful due to constant changes. Thus, PTI differs from concepts such as perceived training opportunities (Dysvik & Kuvaas, 2008) or perceived investment in employee development (Kuvaas & Dysvik, 2009, 2010) to the extent that it involves demands and expectations for continuous development.

Lepine et al. (2005) argues that people feel motivated to fulfil organizational demands and expectations by believing that overcoming the work stressors they are likely to achieve valued outcomes. Hence, the relationship between PTI and knowledge sharing may be positive if employees believe they can cope with the demands. Empirical results obtained in the recent research of the PTI – knowledge sharing relationship are ambiguous. Kuvaas et al. (2012) found that employee’s perception of training intensity is positively related to knowledge sharing, while the study of Buch et al. (2015) revealed that this relationship only holds under certain conditions. Given these findings and considering that PTI is a relatively recent research stream, we would like to check

whether there is a significant positive relationship between PTI and knowledge sharing. This means, we will replicate the investigation of Kuvaas et al. (2012) and Buch et al. (2015) and try to find out whether the PTI is associated with knowledge sharing. We therefore hypothesize the following:

Hypothesis 1: There will be a positive relationship between perceived training intensity (PTI) and knowledge sharing.

2.2 The mediating role of Knowledge Sharing

2.2.1. PTI and Innovative Behavior

Escribá-Carda, et al. (in press) argue that *innovative behavior* is a particular kind of individual behavior which refers to the ability of individuals to generate new ideas, which are subsequently transformed into innovation (p. 1). Innovative behavior can be therefore seen as a multi-dimensional, overarching construct that captures all behaviors through which employees can contribute to the innovation process (De Jong & Den Hartog, 2007, p. 43). Because the creation of innovation implies individuals' development of new ideas, it is critical to comprehensively understand the aspects that facilitate IB (Escribá-Carda, et al., in press).

Recent research emphasizes the importance of understanding how the individual's perceptions of certain HRM practice (in our case, PTI) could lead to specific organizational outcomes, such as employee innovative behavior. Specifically, several recent studies (Fu, Flood, Bosak, Morris, & O'Regan, 2015; Knudsen & Schleimer, 2015) shed light on the link between HRM practices and innovation. For instance, Fu, et al. (2015) found that employees' innovative behavior mediates the relationship between the use of high performance work systems and firm innovation. Their findings reveal that HRM practices, such as training focused on rewards for generating new ideas, lead to employees' innovative behaviors. Furthermore, according to Knudsen and Schleimer (2015), organizational training programs are important paths that explain innovation performance. The positive relationship between PTI and innovation occurs because specific HR practices send clear signals that the organization values its employees, which in turn increases their confidence and changes their attitudes and behaviors, contributing to organizational performance (Escribá-Carda, et al., in press).

2.2.3 Knowledge sharing as a mediator

According to Jackson, Chuang, Harden, and Jiang (2006), *knowledge sharing* refers to activities aimed at transmitting knowledge to others. Van den Hooff and de Ridder (2004, p. 118) define knowledge sharing as “the process where individuals mutually exchange their (implicit and explicit) knowledge and jointly create new knowledge”. They argue that such process is important for translating individual knowledge to organizational knowledge. In past research knowledge sharing was seen as behavior convenient for others, based on the employee’s perceptions and attitudes towards the organization, and done possibly *at the expense* of sharers’ best interest. However, recent studies adopt a different notion of knowledge sharing as: a *self-interested* behavior, which individuals deploy to generate a norm of reciprocity among knowledge recipients, which might create future benefits in the short term; and an improvement process, which individuals can use to translate new ideas into workable innovations (Mura, et al., 2013).

PTI - Knowledge sharing. As argued before, there is a certain empirical evidence for the positive relationship between PTI and knowledge sharing (Kuvaas et al., 2012). For a full theoretical argumentation refer to the 2.1.

Knowledge sharing - IB. The link between knowledge sharing and employees’ innovative behavior has been to a large extent researched and established (e.g., Hussein, et al., 2016; Kim & Lee, 2013; Mura, et al., 2013). For instance, Mura, et al. (2013) proved that knowledge sharing generates a goodwill that the individual can spend when promoting and implementing a new idea. They argue that individuals can learn from the act of knowledge sharing and, by recombining old knowledge in new forms, might be more capable to translate new ideas into workable innovations. The findings of Kim and Lee (2013) also empirically demonstrate that knowledge sharing enhances innovative behavior. Specifically, they discuss that employees’ willingness to collect knowledge from and donate knowledge to colleagues has significantly positive effects on their service innovative behavior, indicating that knowledge collecting and knowledge donating play important roles in promoting employee innovative behavior. In addition, Cummings (2004) and Pulakos, Dorsey, and Borman (2003) argue that knowledge sharing can be regarded as the provision of task information and know-how to help others and to collaborate with others to solve problems,

develop new ideas, or implement policies or procedures (as cited in Wang & Noe, 2010, p. 117).

After all, the mediating role of knowledge sharing in the PTI – innovative behavior relationship could be theorized as follows. We draw our assumption from the studies of Lopez-Cabrales, et al. (2009) and Escribá-Carda, et al. (in press). First, Lopez-Cabrales, et al. (2009) have empirically established the mediation effect of *knowledge* on the relationship between HRM practices and innovative activity, while Escribá-Carda, et al. (in press) in their study assert that *exploratory learning* mediates the relationship between employees' perceptions of high performance work systems and innovative behavior. We argue that both knowledge itself and exploratory learning are highly related to knowledge sharing. Moreover, employees are more likely to take risks and experiment with new ways of doing things, when they perceive that they have easy access to the training they need and that has been suggested by themselves, when they know that the company ensures their training needs are met (Escribá-Carda, et al., in press).

Taken everything mentioned above into account, we expect PTI will positively relate to innovative behavior via knowledge sharing:

Hypothesis 2: Knowledge sharing among employees mediates the positive relationship between employee PTI and innovative behavior.

2.3 Moderating effects on the PTI – knowledge sharing relationship

The research stream on PTI and knowledge sharing is relatively new and has only been investigated to a limited extent, and even less studies have been focusing on the moderating effects between this relationship.

Kuvaas et al. (2012) found that intrinsic motivation, social exchange perception and economic exchange perceptions are moderating the relationship between PTI and knowledge sharing. Buch et al. (2015) found the relationship between PTI and knowledge sharing is moderated by perceived job autonomy and perceived supervisor support: the higher the perceived supervisor support, the more positive the relationship. The established moderating effects are considered as coping mechanisms of the stressor PTI (Kuvaas, et al., 2012; Buch, et al. 2015). Thus, in line with the recent call of Buch et al. (2015), we will investigate other variables that may buffer the relationship between PTI and knowledge sharing, such as *self-efficacy* and *coworker support*. This is in line with the consent that

most stressors are prone to moderating influences (Gilboa, Shirom, Fried, & Cooper, 2008).

2.3.1. Moderating effects of self-efficacy

Self-efficacy is a concept rooted in social cognitive theory of self-regulation. It describes a person's belief of one's own capabilities with respect to a certain behavior or to exercise control in a given situation (Bandura, 1991). It is different from self-esteem as self-efficacy is not a constant concept, but dependent on the belief to cope in a given situation or task (Stajkovic & Luthans, 1998). Thus, the belief of a person in one's efficacy "influences the choices they make, their aspirations, how much effort they mobilize in a given endeavor, how long they persevere in the face of difficulties and setbacks, whether their thought patterns are self-hindering or self-aiding, the amount of stress they experience in coping with taxing environmental demands" (Bandura, 1991, p. 257). Thus, self-efficacy can be seen as a resource to cope with stressors that will buffer the stress. By investigating self-efficacy as a moderator, we aim to build on the work of Buch et al. (2015) and shed some light on the yet inconclusive findings of individual coping response to stressors and demands (Cooper, O'Driscoll, & Dewe, 2001; Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010).

Self-efficacy can be seen as a personal resource that will influence behavior and performance by affecting the confidence to overcome difficult situations. Moreover, the belief in one's abilities and skills will strengthen the motivation and thus such a person will engage in the activities more enthusiastically building on their cognitive resources (Bandura, 1997). Considering self-efficacy in the context of knowledge sharing, it becomes clear that knowledge sharing is dependent on the individual positive attitude towards sharing (O'Neill & Adya, 2007). Self-efficacy may be one of the fundamental conditions for an individual positive attitude, which then influences behavior. Research has acknowledged self-efficacy as an influencing factor for knowledge sharing awareness (Shaari, Rahman, & Rajab, 2014). Moreover, it was found that self-efficacy (as knowledge management system self-efficacy and individual self-efficacy) was positively related to knowledge sharing attitude (Chen, Chuang, & Chen, 2012; Tamjidyamcholo, Bin Baba, Tamjid, & Gholipour, 2013).

As a result, we assume that employees who believe in their capabilities to handle stressful situations, in other words, those having the coping resources (efficacy), will experience challenge stressors such as PTI as a motivational factor and opportunity to grow. Therefore, we hypothesize the following:

Hypothesis 3a: The relationship between PTI and knowledge sharing will be moderated by self-efficacy – the higher the self-efficacy, the more positive the relationship.

2.3.1 Moderating effects of co-worker support

Next to the personal resources (e.g., self-efficacy), employees may be able to cope with stressors due to their organizational or surrounding support. Buch et al. (2015) showed that PTI and knowledge sharing is moderated by perceived job autonomy and perceived supervisor support: the higher the perceived supervisor support, the more positive the relationship. However, we want to investigate whether the support of co-workers may help employees to strengthen the relationship between developmental challenge stressors and knowledge sharing.

Cohen, Wills, and House (1985) argue in their literature review that social support enables employees to cope better with job stressors and enhance their sense of personal control. In fact, co-worker relations have been found to be positively associated with psychological well-being and job satisfaction (Bergbom & Kinnunen, 2014), thus indicating that good co-worker relations may have a buffering effect on challenge stressors. However, the contradictory argumentation does also exist among scholars, known as ‘reverse buffering effect’. Reverse buffering effect occurs when high levels of support rather contribute to the individual strains and do not help to cope with job stressors (Hwa, 2012).

Nevertheless, a meta-analytical investigation found evidence for the more positive effect of co-worker support including work attitudes (more job involvement and satisfaction) as well as role perceptions (less role overload, conflict and ambiguity) and effectiveness (Chiaburu, Harrison, & Zedeck, 2008). Consequently, we assume that co-worker support serves as an additional resource that will make training intensity to be perceived as less stressful, hence resulting in higher knowledge sharing behavior. Moreover, perceiving collegiality among employees may foster employees to both provide others with knowledge and also collect knowledge. In fact, empirical results show that co-worker collegiality has

an indirect influence on knowledge sharing by lowering greed and raising self-efficacy (both proximal determinants of knowledge sharing) (Lu, Leung, & Koch, 2006). Therefore, we hypothesize the following:

Hypothesis 3b: The relationship between PTI and knowledge-sharing will be moderated by co-worker support – the stronger the co-worker support, the more positive the relationship.

Figure 1 shows the conceptual model and hypotheses.

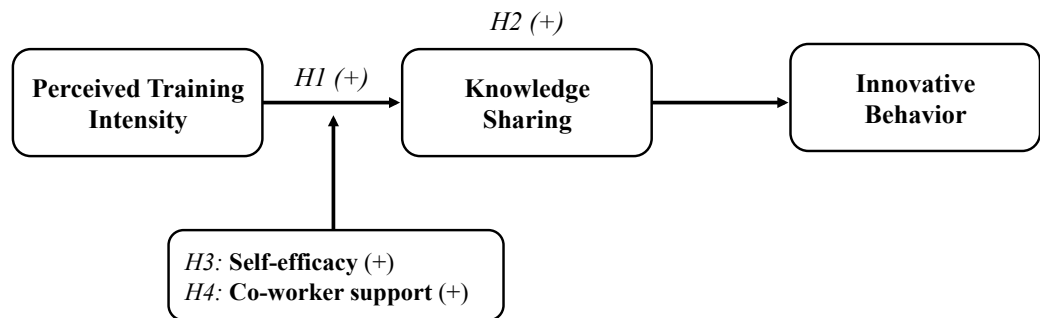


Figure 1. Conceptual Model and Hypotheses

3. Methods

3.1 Sample and Procedure

We will distribute a web-based survey to employees of R&D departments and their respective managers to an international company based in Norway working in the metal industry. We plan to send out the survey to approximately 500 employees, expecting a response rate of 50 percent and consequently planning with a final sample of about 250 employees.

The variables will be measured in two waves (time 1 and time 2) to reduce the potential influence of common-method bias (Podsakoff, Mackenzie, Lee, Podsakoff, & Zedeck, 2003). In the first wave, the independent variable *perceived training intensity (PTI)* will be measured together with the possible moderators of the PTI-KS-relationship, *co-worker support* and *self-efficacy*, as well as the control variables. In the second wave, the dependent variable *innovative behavior (IB)* together with the mediator variable *knowledge sharing (KS)* will be measured. Respondents who participated in the first wave (time 1) will also be

requested to participate in the second wave (time 2). Anonymity will be guaranteed by the use of the same identification numbers in both points in time and their matching.

3.2 Measures

All of the items will be scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) unless otherwise noted. PTI will be collected as a self-report measure of the employee, IB will be manager rated and KS will be as well a self-report by the employee.

Perceived Training Intensity

To measure PTI, we will use the scale developed by Kuvaas et al. (2012). Sample items include “By allocating resources to employee developmental programs, my organization clearly demonstrates that it expects its employees to continuously develop their work-related knowledge and skills” and “My organization spends considerable resources on training and developmental programs in order to ensure that its employees keep their work-related knowledge and skills up-to-date”.

Innovative Behavior

Innovative behavior will be measured using the scale from Scott and Bruce (1994). Some sample items that subordinates will fill out for their employees are “searches out new technologies, processes, techniques, and/or product ideas” or “generates creative ideas”.

Knowledge Sharing

Knowledge sharing will be measured using the scale derived from de Vries, Hooff, and Ridder (2006) and used by Kuvaas et al. (2012). This scale includes measures of both getting knowledge from and providing coworkers with knowledge. Some sample items are “When a colleague is good at something, I ask him/her to teach me” or “When I have learned something new, I make sure my colleagues learn about it too”.

Moderating Variables

Self-efficacy will be assessed by the general self-efficacy scale of Schwarzer and Jerusalem (1995). The measure for coworker support will be built on the social support scale of Caplan, Cobb, French, Van Harrison and Pinneau (1975).

Control Variables

To rule out that possible pre-existing socio-demographic difference will not account for our findings, we will include control variable. We will specifically control for age, gender, education and tenure as they have been associated with knowledge sharing (Ojha, 2005).

4. Plan for thesis progression

Table 1. *Proposed plan for thesis progress*

	Intended activities	Time
1	Feedback of Preliminary Thesis Report and finalizing the research model	January 2017
2	Preparation of Data Collection	February 2017
3	First wave of data collection	March 2017
4	Second wave of data collection	April 2017
5	Analysis and discussion	Mai/June 2017
6	Modifications & conclusions	July/August 2017
7	Final Thesis hand-in	September 1, 2017

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