Communication and participation as antecedents of affective commitment and the mediating role of psychological contract fulfillment: A multilevel analysis

Solfrid Bilstad Neraasen

Master of Philosophy in Work- and Organizational Psychology

Department of Psychology
UNIVERSITY OF OSLO

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Abstract

On the basis of social exchange theory, this study examines the impact of two Human Resources Management (HRM) practices, communication and participation, on employees’ perception of psychological contract fulfillment (PCF) and affective organizational commitment (AC). Furthermore, PCF is proposed as a mediating variable between HRM practices and AC. Data from 87 Norwegian organizations and 1055 employees was analyzed using multilevel regression analysis. As hypothesized, communication and participation were linked to employees’ AC. Unexpectedly, only communication was linked to PCF, while participation was not. A mediation effect of PCF was found to link only communication and AC. This study makes a contribution to psychological contract research, by being one of a small number of studies to empirically examine particular HRM practices as antecedents to PCF. Implications for practice are discussed.

Keywords: Affective commitment, HRM practices, psychological contract fulfillment, multilevel analysis, communication, participation
Introduction

Employees’ emotional bond to their organization, that is their affective commitment (AC) is considered an important determinant of loyalty and dedication. There is consensus that employees’ AC is linked to a number of important organizational outcomes such as job satisfaction, absenteeism, turnover, and performance (e.g., Mowday, Porter, & Steers, 1982; Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). While the consequences of AC have received much attention, less is understood about the antecedents of such attitudes (Conway & Monks, 2008). A growing body of research shows that Human Resources Management (HRM) practices can be used to increase and maintain employees’ AC (e.g., Paré & Tremblay, 2007; Kooij, Jansen, Dikkers, & De Lange, 2010; Kehoe & Wright, 2013). The framework of social exchange theory (Blau, 1964) is often used to explain the relationship between HRM and AC. Employees who receive favorable treatment by the organization, will feel an obligation to repay this treatment with positive behavior and attitudes, such as AC (Rhoades & Eisenberger, 2002).

In order to capture the complexity of the relationship between HRM and AC it is necessary to take a closer look into the indirect paths between these variables (Chen, Silverthorne, & Hung, 2006; Tremblay, Cloutier, Simard, Chênevert, & Vandenberghe, 2010). Takeuchi, Chen and Lepak (2009) suggest that researching separate subcomponents of HRM could make it easier to understand the underlying processes that affect employee outcomes. Consequently, the aim of this study is to explore the effects of two commonly used HRM practices, communication and participation, on employees’ AC. To explore this relationship further, I investigate the psychological contract as a possible intermediate variable between these HRM practices and employees’ AC.

The concept of the psychological contract is increasingly seen as a valuable framework to study the employment relationship (e.g., Zhao, Wayne, Glibkowsi, & Bravo, 2007; Bal, de Lange, Jansen, & van der Velde, 2008). In general, psychological contracts (PCs) can be described as an individual’s beliefs and expectations regarding the exchange relationship with the employer (Rousseau, 1989; Coyle-Shapiro & Kessler, 2003). Research has shown that the psychological contract is one of the key variables for explaining employee behavior and attitudes such as job satisfaction, performance and AC (Dabos & Rousseau, 2004; Sturges, Conway, Guest, & Liefooghe, 2005). Still, surprisingly few studies have focused on what organizations can do to influence employees’ PCs. Human resource practices are often thought of as important antecedents to PCs (Wright & Boswell, 2002), but very few studies have tested this empirically (e.g., Raeder, Knorr, &
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Hilb, 2012; Uen, Chien, & Yen, 2009; Westwood, Sparrow, & Leung, 2001). This study addresses this existing gap in the research literature by applying multilevel modeling to link organizational antecedents and PCs. The present study will therefore make an important contribution to this field of research by exploring communication and participation as antecedents to psychological contract fulfillment (PCF).

Previous conceptual studies have suggested that PCs mediate the relationship between HRM and employee outcomes such as AC (Paauwe, 2009; Aggarwal & Bhargava, 2009). This study, however, will be among a very small number of studies to test this empirically (e.g., Bal, Kooij, & De Jong, 2013). Finally, this study is a respond to the call for more use of multilevel models in the HRM area (Bowen & Ostroff, 2004). Data from two different sources is used. HRM practices are measured on the organizational level, while employees’ self-report measure PCF and AC.

In sum, the aim of this study is to empirically test 1) the relationship between communication, participation, and AC, 2) the relationship between participation, communication and PCF, 3) the relationship between PCF and AC, and 4) PCF as a mediator between participation, communication and AC. The proposed relationships are outlined in Figure 1 below.

![Figure 1](image-url)

*Figure 1.* Hypothesized mediation model: Communication and participation affect AC directly, and indirectly through PCF.
Theory

Affective commitment

There is consensus in the literature that organizational commitment is a key factor that links HRM with important outcomes, such as turnover, organizational citizenship behavior, and organizational performance (Mowday, et al., 1982; Sturges et al., 2005; Yang, 2012; Jiang, Takeuchi, & Lepak, 2013). The assumption is that organizational effectiveness can be achieved by developing a work environment where employees identify with their organization's goals, values and objectives, and develop a positive attitude toward their jobs (Takeuchi et al., 2009). Committed employees will be motivated to engage in behaviors that are beneficial to the organization, and therefore take on more responsibilities and work harder (Jiang et al., 2013).

The construct of organizational commitment has been researched extensively with different conceptualizations in the literature. Perhaps most important in regard to HRM practices is the concept of affective organizational commitment (Wright & Kehoe, 2007), as this has been found to have the strongest positive relationship with important outcomes such as job satisfaction, organizational citizenship behaviors, and job performance (Meyer & Allen, 1991; Meyer et al., 2002). As defined by Allen and Meyer (1990), AC refers to an employee’s emotional attachment to the organization. Affectively committed employees’ strongly identify with the organization’s goals and values. They are also highly involved in the organization’s activities, and feel a strong attachment and loyalty to the organization. In agreement with this view, AC has been linked to lower absenteeism and turnover (Mathieu & Zajac, 1990).

The antecedents of AC are typically categorized into organizational factors (size, structure, etc.), personal characteristics (gender, tenure, etc.) and work experiences (HRM practices, participative decision making, etc.) (Gardner, Moynihan, & Wright, 2007). Work experiences are found to be the most robust antecedent of AC (Meyer et al., 2002). The most commonly used theoretical explanation of the development of AC draws upon social exchange theory (Blau, 1964) and Gouldner’s (1960) ‘norm of reciprocity’. Previous research suggests that when employees perceive that organizational rewards and treatment are favorable and fair to them, they develop AC as a form of reciprocity toward organizations (Rhoades & Eisenberger, 2002). Consequently, when employees view HRM practices as beneficial, they will reciprocate with positive attitudes towards the organization, such as increased AC (Kinnie, Hutchinson, Purcell, Rayton, & Swart, 2005).
High involvement HRM is based on the notion that practices that increase employee involvement will have a positive impact for both employees and the organization (Lawler, 1986; Vandenberg, Richardson, & Eastman, 1999). While high involvement HRM systems have been linked to employees’ AC (Paré & Tremblay, 2007; Yang, 2012), less research has been done on particular HRM practices. Research on entire HRM systems makes it difficult for managers to find HRM practices that can increase employees’ AC in a cost effective way. This study examines the effect of communication and participation on employees’ AC, as these are considered essential to high involvement HRM (e.g., Lawler, 1986; Appelbaum, Bailey, Berg, & Kalleberg, 2000). Furthermore, communication and participation were selected for this study as these practices are likely to be centrally negotiated and implemented, and thus more likely to affect all employees’ in a similar way.

Communication and affective commitment

Rousseau (1998) suggested that communicating information related to the organization might enhance employees’ attachment to the organization, because this type of information sharing will increase the perception of organizational membership. In the present study, the extent of information provided regarding organizational policies and goals, organizational changes, and financial results (Mueller & Lee, 2002) is assumed to positively influence employees’ AC. Postmes, Tanis, and Wit (2001) suggested that this type of formal (termed “vertical” in their study) communication is particularly related to AC because it succeeds in clarifying the nature of ‘the organization’ for employees. Such information can be distributed to employees through a number of channels, such as direct communication by supervisors, newsletters, group meetings, company websites, and mission statements (Argenti, 1998).

Communication practices lie at the core of high involvement HRM (Paré & Tremblay, 2007; Vandenberg et al., 1999). According to Lawler (1986), effective communication and information sharing are essential to employee commitment for two reasons. First, openly communicating financial performance and strategy to employees implies that the organization trusts its employees. This will enhance mutual trust and gives employees a sense of importance. Secondly, when employees are well informed about organizational issues, such as goals and changes, they are better equipped to contribute to these goals, becoming more involved and more committed to the organization. This is consistent with a study by Yang (2012) that found high involvement HRM, with information sharing as one of the practices, to facilitate the development of employees’ AC.
While the constructs of communication and AC have received much attention from organizational researchers separately, only a small number of studies focus directly on the relationship between these variables. Researchers have thus argued that this is an area in need of more empirical testing (Chen, 2006; Marques, 2010).

Empirical evidence exists to support the link between communication and AC. In their meta-analysis, Mathieu and Zajac (1990) supported that communication was a strong contextual antecedent to commitment. Since then, several studies have indicated that effective communication is positively related to organizational commitment (e.g., Varona, 1996; Nuss, 2006; Ng, Butts, Vandenberg, Dejoy, & Wilson, 2006; Van Vuuren, De Jong, & Seydel, 2007). For example, Nuss (2006) who conducted a longitudinal study in a US Police Department and found that communication was linked to higher AC.

Communication practices have also been linked to employees’ AC in studies exploring entire HRM systems (Conway & Monks, 2008; Kooij et al., 2010). Most of the mentioned studies measure employees’ communication satisfaction, while the current study uses communication rated by an organizational representative. A recent study by Liao, Toya, Lepak, and Hong (2009) indicated that employees and managers experiences HRM practices differently. Still, Carriere & Bourque, (2009) found that communication practices implemented by the organization, are closely related to employees’ communication satisfaction with the practices in question. This suggests that communication practices measured from a managerial perspective also will be positively related to employees’ AC.

Finally, a study by Kinnie and colleagues (2005) found that communication was important for employee commitment. As a positive relationship between communication practices and organizational commitment has been supported in previous studies, I expect that:

**Hypothesis 1a: Communication practices have a positive effect on employees’ affective commitment.**

**Participation and affective commitment**

In Norway, the concept of participation (‘medvirkning’ in Norwegian) is well known from the Norwegian Working Environment Act (2006), and an important part of Norwegian working life (NOU, 2010). According to Meyer and Allen (1991), an employee's need for participation in decision making, autonomy, and decentralization of decision making are all linked to AC. Employee participation can include a vast number of
practices, ranging from direct participation of each individual, for example in problem-solving groups or team briefings, to more indirect or representative participation, for example through workplace committees (Wilkinson, Gollan, Marchington, & Lewin, 2010). As there is no universal agreement regarding what constitutes participation, a wide variety of definitions can be found in literature (see Wilkinson et al., 2010).

Participation practices, as an essential part of high involvement HRM, have been linked to employees’ AC in a number of studies (e.g., Appelbaum et al., 2000; Paré & Tremblay, 2007; Kehoe & Wright, 2013). By increasing employees’ participation in decision making, employees gain more task involvement and internal motivation (Lawler, 1986). For example, Appelbaum et al. (2000) found that providing employees with opportunities to participate in decisions was linked to increased organizational commitment. Participation practices also increase the sense of support and trust from management, something that according to social exchange theory will result in greater feelings of attachment (Lawler, 1996; Shore & Wayne, 1993). Furthermore, Macky and Boxall (2007) showed that a bundle of several HRM practices, participation included, positively influence employees’ organizational commitment.

A smaller number of studies that have focused directly on the relationship between participation and commitment have also support this relationship (e.g., Torka, Schyns, & Looise, 2010; Bhatti & Qureshi, 2007; Leana, Ahlbrandt, & Murrell, 1992). Farndale, Van Ruiten, Kelliher, and Hope-Hailey (2011) also used exchange theory to explain how employees’ perceptions of participation practices (operationalized as employee voice) were related to commitment. The majority of literature has supported a positive link between participation and AC. In accordance with previous literature, I submit:

*Hypothesis 1b: Participation practices have a positive effect on employees’ affective commitment.*

**Psychological contract fulfillment**

General agreement exists that PCs are valuable for understanding employees’ attitudes and behaviors (e.g., Zhao et al., 2007, Parzefall, 2008). The psychological contract can be defined as employees’ perceptions of mutual obligations between the employee and the organization (Robinson, Kraatz, & Rousseau, 1994; Rousseau, 1989). Psychological contracts are highly subjective, and are unique to each employee based on her or his particular experience with the employer (Shore & Tetrick, 1994). The norm of reciprocity
(Gouldner, 1960), along with social exchange theory (Blau, 1964), represents the main explanatory mechanisms behind the psychological contract (Rousseau 1995; Aselage & Eisenberger, 2003). When the organization is providing some inducements that represent the fulfillment of the contract, employees will reciprocate with positive attitudes and behaviors (Rousseau, 1989). Conversely, when an employee perceives that the organization has failed to fulfill the psychological contract, he or she is likely to reduce his or her own contributions in order to restore balance in the relationship (Coyle-Shapiro & Kessler, 2000). Breach of the PC have thus been linked with feelings of distrust, as well as reduced commitment and job satisfaction (Bal et al., 2008; Zhao, 2007). As the majority of previous studies focus on the negative effects of psychological contract breach (e.g., Zhao et al., 2007; Agarwal, & Bhargava, 2014), this study focuses on PCF. While recent research has started to pay attention to the positive outcomes associated with PCF (e.g., Chi & Chen, 2007; Coyle-Shapiro & Kessler, 2000), relatively little research has been conducted within this area (Dabos & Rousseau, 2004).

Psychological contracts develop from the interaction between the employee and the organization through several means, including HRM practices (Rousseau & McLean Parks, 1993; Westwood et al., 2001). HRM practices are suggested to affect the psychological contract because these practices form part of the organizations’ obligations towards its employees, and because employees perceive the practices as inducements. Therefore, the appropriate use of HRM practices can create a positive organizational environment that will influence whether employees perceive PCF (Suazo, Martinez, & Sandoval, 2009).

However, while HRM practices have been established important conceptually, empirical research on antecedents to PCs is scarce. Recent studies have found that HRM practices have positive effects on the psychological contract (Aggarwal & Bhargava, 2009; Bal et al., 2013; Raeder et al., 2012; Uen et al., 2009). However, a more careful look at how particular HRM practices might influence psychological contracts is still needed.

Communication and psychological contract fulfillment

HRM practices are seen as essential to employees’ psychological contracts, as the practices communicate implicitly or explicitly, what the employee can expect from the organization (Uen et al., 2009). While communication has been found to have many positive effects for the organizations and its employees (e.g., Chen et al., 2006; Carrière & Bourque, 2009), very few studies have explored the relationship between communication practices and PCF.
Guest and Conway (2002) examined the role of organizational communication in influencing perceptions of psychological contracts in British organizations. By surveying human resource managers they found that effective communication during recruitment created clearer psychological contracts. Their result suggests that when the contract between the parties is more explicit, it results in increased perception of fairness and trust. Extensive and effective communication strategies are expected to make the expectations and obligations clearer for both employee and employer. When both parties are in agreement of the terms of the contract, this will increase the likelihood of fulfillment (Rousseau, 2004). Guest and Conway (2002) linked both job-related and recruitment-based communication to greater PC explicitness and lower breach. Furthermore, top-down communication was also significantly linked to employees’ PCs.

While employees and employers often have different understandings regarding specific terms of the exchange relationship (Coyle-Shapiro & Kessler, 2000; Porter, Pearce, Tripoli, & Lewis, 1998). Guest and Conway’s (2002) study suggest that when communication practices can make expectations and obligations are clearer to both parties, PCF is more likely.

Sharing information about the company has been found to convey to the employees that the organization values and recognizes them (Lester & Kickul, 2001; Takeuchi, Lepak, Wang, & Takeuchi, 2007), something that may increase the likelihood of PCF. Moreover, having effective communication systems in place will also be able to provide employees with explanations when the organization is unable to fulfill certain obligations. For instance when the company is affected by factors beyond its control (Morrison & Robinson, 1997; Rousseau, 1995).

Conway and Monks (2008) found empirical support that communication practices were linked to employees’ PCs. In their study, open and honest communication was the HRM practice that was most valued in the employment relationship. Finally, a study by Katou (2013) found that the communication practices were linked to employees’ PCF. Based on the previous studies and arguments presented above, it seems likely that communication practices will positively influence PCF.

Hypothesis 2a: Communication practices are positively related to employees’ perception of psychological contract fulfillment.
Participation and psychological contract fulfillment

To my knowledge, very few studies have empirically explored the direct effect of participation practices on employees’ PCs. Participation is essential to employee involvement (Lawler, 1986). Guest and Clinton (2010) found that employees that experienced greater work involvement made more promises, and fulfilled more of their promises and obligations. This suggests an exchange process involving reciprocal obligations, and that participation practices might increase the likelihood of PCF.

The adoption of participation practices implies that the organization values its employees’ opinions and recognizes their contributions (Lawler, 1986). Participation practices are also a signal that management cares for the well being of its employees (Meyer & Allen, 1997; Macky & Boxall, 2007). Moreover, participation in decision making have been linked to positively influence perceptions of organizational support (Allen, Shore & Griffeth, 2003). Employees’ perception of organizational support is an antecedent to psychological contract fulfillment (Aselage & Eisenberger, 2003). When employees feel supported as the result of participation practices, they may perceive their supervisors’ support as contributing to the psychological contract (Agarwal & Bhargava, 2014).

The psychological contract is clearly linked to notions of equity and perceived fairness (Westwood et al., 2001), and employees’ feelings of trust and fairness are likely to play an important role when employees make their evaluations of PCF (Guest & Clinton, 2010). Participation practices are related to employees’ perception of fairness and trust (Scott, 1980). This suggests that high levels of participation will have a positive influence on employees’ PCs. Paul, Niehoff and Turnley (2000) suggested that when organizations fail to fulfill employees’ expectations regarding participation and involvement, this may constitute a breach in the psychological contract.

Two recent HRM studies investigating PCF have also found a positive effect of participation on employees’ PCs. Katou (2013) found a significant relationship between the HRM practice of participation and PCF. Finally, a study in Malaysia found that employee participation and involvement significantly influenced hotel employees’ feeling of psychological contract fulfillment (Hemdi, Hanafiah & Tamalee, 2013). Based on the studies above, it is likely that participation practices will influence feelings of trust and fairness, that will in turn impact employees’ perceptions of PCF. I suggest that:
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Hypothesis 2b: Participation practices are positively related to employees’ perception of psychological contract fulfillment.

Psychological contract fulfillment and affective commitment

Researchers have support that PCF plays an important role in explaining AC (Chen, Tsui, & Zhong, 2008; Coyle-Shapiro & Kessler, 2003). Employees who perceive that the organizations have not fulfilled their obligations as promised will evaluate the organization as untrustworthy, and negative feelings are likely to develop (Morrison & Robinson, 1997). Consequently, breach and violation of the psychological contract are associated with a decrease in commitment (e.g., Zhao et al., 2007; Chen et al., 2008). On the other hand, when the psychological contract is fulfilled, higher levels of commitment are expected to develop. According to the social exchange perspective, if employees perceive that their organization has fulfilled its promises in a fair, equitable, and balanced manner (Rousseau, 1995), employees will develop an implicit obligation to reciprocate with strengthened affective bonds to the organization (Parzefall, 2008). In other words, the higher the perceived PCF, the greater employees' affective responses should be in terms of organizational commitment. A number of studies have found a close link between fulfillment of the psychological contract and higher organizational commitment. For example, in a study of 16 multinational organizations in Taiwan, Chi and Chen (2007) found that the employees’ perception of PCF is a more important predictor of AC than actual changes in position, pay, and skill improvement. Coyle-Shapiro and Kessler (2000) and Sturges et al. (2005) also provided empirical support that PCF is positively related to employee commitment, adding that these attitudes will bring significant benefits to the organization in the form of increased efficiency. Based on the consistency of findings regarding the relationship between PCF and AC, I expect that:

Hypothesis 3: Employees’ perception of psychological contract fulfillment is positively related to affective commitment.

The mediating role of psychological contract fulfillment

Rousseau (1995) suggested that the psychological contract could mediate the relationship between HRM practices and work outcomes. In the following section I will argue that the hypotheses above combine to form a mediation model, and that PCF will mediate the relationship between the HRM practices and AC. While HRM practices are
considered essential for understanding employees’ AC (Takeuchi et al., 2007; Meyer et al., 2002), this relationship is not necessarily direct or unconditional (Tremblay et al., 2010; Chen, et al., 2006). Previous literature has suggested that the psychological contract is a mediator between HRM practices and employees’ behavior and attitudes (Paauwe, 2009). In fact, the literature review of Aggarwal & Bhargava (2009) presents a conceptual model that establishes links between HRM practices, the psychological contract and workers behaviors and attitudes, suggesting the psychological contract to be a mediator.

Limited empirical research has tested whether employees’ perception of PCF mediates the relationship between particular HRM practices and outcomes such as AC. The major aim of this study is therefore to identify whether employees’ perception of PCF is a mechanism through which communication and participation influence AC.

Social exchange theory suggests that HRM practices influence AC because employees interpret these practices as commitment and support from the organization, reciprocating with increasing their AC. Fulfillment of the psychological contract is considered to be one of the ways the organization communicates how much it cares about meeting employee needs. Accordingly, PCF can be considered an intermediate variable between HRM and AC. Of the few studies that have tested this relationship, results are inconclusive. Lopes and Chambel (2012) did for example not find PCF to mediate the link between HRM practices and AC. On the contrary, results of a multilevel study among 1058 employees in 17 healthcare units found that the psychological contract mediated the relationship between developmental HRM practices and AC (Bal et al., 2013). Moreover, the study by Chambel & Castanheira (2012) supported the mediating effect of PCF between HRM and AC. The authors argue that the HRM practice is linked to AC in two different processes. First of all, employees respond directly by reciprocating with higher AC. Secondly, HRM affects their perception of fulfillment of promises made by the organization, something that in turn increases AC. Finally, Giannikis and Nikandrou (2013) provided empirical support of a mediation effect of psychological contract breach between HRM practices and AC, and suggested that future studies test this relationship with particular HRM practices.

In sum, PCs represent long-term agreement between the employer and employee that contains terms of loyalty and trust. This agreement can be positively affected by HRM practices (Uen et al., 2009). A positive outcome from these inducements is that employees will have increased beliefs in an organization that they can trust and will increase their own
AC (Bal et al., 2013). Therefore, employees’ perception of PCF can be viewed as a mechanism that links HRM practices and employees’ AC. Accordingly, I submit:

*Hypothesis 4a: The fulfillment of the psychological contract mediates the relationship between communication practices and employees’ affective commitment.*

*Hypothesis 4b: The fulfillment of the psychological contract mediates the relationship between participation practices and employees’ affective commitment.*

**Method**

**Procedure**

Eight master students have collected data in the period from 2013 to 2016. The students started collecting data from their personal network and later expanded beyond these networks. Organizational representatives were contacted by telephone or email and asked to participate in the study. They received an email with information about the purpose of the master’s thesis, and the connection to the ongoing research project “Organizational antecedents of psychological contracts and work-related outcomes”, by Sabine Raeder, University of Oslo. Participants were also informed about confidentiality, anonymity, and the freedom to withdraw at any time.

Participating organizations were offered a copy of the final master’s thesis, and a report with their results. After agreeing to participate the organizations received URL-links to the questionnaires, and instructions for distributing this to the employees. Two different questionnaires were filled out in each organization, one representing the employee level (Level 1) and the other the organizational level (Level 2). At the organizational level, only one questionnaire was filled out per organization. And in each organization, typically 10-50 employees answered the employee questionnaire. Each questionnaire took about 15 to 20 minutes to complete. Reminders were sent after one or two weeks.

**Sample**

Data was collected from a sample of different organizations to compare the influence of HRM practices on the psychological contract and AC in a variety of organizational contexts. In total, 87 organizations and 1055 employees participated in the study. 326 organizations were originally approached, giving a response rate of 27%. The sample constitutes a ‘convenience sample’, as many of the organizations were recruited
using the network of the master students collecting the data. Organizations included are of different sizes and from both the private and the public sector. The majority of organizations belonged to health and education, industry, service, media, or technology sector. Within each organization, the number of employee respondents ranged from 1 and 227, with 13 respondents on average. The employee sample consisted of 55% women and 45% men, aged between 17 and 72 years, and the average age was 38 years. Tenure varied from 0 to 47 years, with the average employee working 6 years in the organization.

Measures

All measures have been validated in previous studies. Items used in the questionnaires were translated from English to Norwegian, and then back to English by a person unrelated to the study.

Communication. Communication was measured with the corporate communication scale from Downs and Hazen´s (1977; Mueller & Lee, 2002) Communication Satisfaction Questionnaire (CSQ). This has been one of the most frequently used instruments for measuring organizational communication effectiveness, and been internally consistent and reliable in a number of previous studies (e.g. Greenbaum, Clampitt, & Willhnganz, 1988). As the focus of our study was communication on the organizational level, the five items related to formal communication were used. The organizational representative was asked to which degree the organization provides employees with information about the organization and related goals, performance, finances and external situations influencing the organization. The 5-point scale ranged from 1 = strongly disagree to 5 = strongly agree. A sample item is “Employees get information about changes in our organization.” Cronbach's alpha was .68 based on the standardized items.

Participation. Employee participation was measured with four items developed by Delery & Doty (1996). The organizational representatives were asked to assess the degree to which the employees were able to have input into their work using a 5-point agreement scale. Higher scores reflected a greater amount of participation. A sample item is “Employees in this organization are often asked by their supervisor to participate in decisions.” Cronbach’s alpha of standardized items was .83.

Affective commitment. Employee’s AC to their organization was measured using the 8-item scale developed by Allen and Meyer (1990) in the employee survey. Being one of the most common measures for organizational commitment, this model has been extensively tested (e.g. Meyer et al., 2002). Responses ranged from 1 = strongly disagree to
7 = strongly agree. A higher score indicated higher commitment. A sample item is “This organization has a great deal of personal meaning for me.” Cronbach’s alpha of standardized items was .83.

*Psychological Contract Fulfillment.* Psychological contract fulfillment was evaluated from the employee perspective, and respondents were asked to assess the organization’s fulfillment of obligations. For the purpose of this study the employees’ perception of the fulfillment of the PC in its entirety was used (e.g., Lopes & Chambel, 2012; Chi & Chen, 2007; Raeder et al., 2012). A 3-item scale retrieved from Tekleab and Taylor (2003) was used. Employees were asked to consider statements such as “This organization has fulfilled its most important obligations to me”. In the survey, participants were asked to indicate the extent to which they disagreed or agreed with the statements on a 5-point Likert scale. Cronbach’s alpha for the standardized items was .88.

*Control variables.* The current study controlled for two variables on the employee level that were likely to influence the dependent variable. Tenure was included, as previous studies have suggested that affective commitment increases with tenure (e.g., Cohen, 1993; Mathieu & Zajac, 1990). Tenure was measured in number of years. The influence of gender on commitment has been inconsistent in previous studies (e.g. Meyer & Allen, 1991; Bal et al., 2008) and was thus included as a control variable. Gender was coded 1 for women and 2 for men.

**Analysis**

The present study used SPSS 22 for the statistical analysis. Data on two levels were analyzed, the employee level (Level 1) and the organizational level (Level 2). Means, standard deviations (SD), correlations, and reliability estimates (α) were calculated for all variables and are presented in two separate tables, as correlations are not weighted according to the clustering of data. Some of the employees did not complete the entire questionnaire, resulting in missing values of below 3%. As suggested by Schafer and Graham (2002), these values were replaced using the Expectation-Maximization method. With this method, the missing data was replaced with probable values based on the variance of the existing data. Both datasets were screened for invalid values. All explanatory variables were centered to increase the interpretability of the intercept in the models, and to ensure that they created a meaningful zero value (Hox, 2010). Grand mean centering was applied for Level 1 (employee) and Level 2 (organizational) variables by subtracting the overall mean of each of the variables.
Since the employee data was clustered within their each individual organization, multilevel analysis was the chosen method, to be able to test the relationships at two different levels. This method represents a compromise between modeling each unit separately and modeling all units simultaneously within the same model (Heck, Scott, & Tabata, 2010). The multilevel dataset also avoids problems of common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012), because data is stemming from two different sources. Furthermore, the number of organizations was above 50 and thus considered satisfactory for this multilevel analysis (Maas & Hox, 2005).

As there were two outcome variables, AC and PCF, the multilevel investigation was conducted in two separate analyses. Following the recommendations from Hox (2010), the multilevel regression analysis was done creating models in separate steps. First an intercept-only model, without any predictors, was calculated to determine the total unexplained variance in the model. The intercept-only model can be used to calculate the intraclass correlation coefficient (ICC), which gives an indication of the amount of between and within organization variance the data can explain. The ICC can be calculated by taking the sum of the between group and within group variance. This model is the baseline for comparisons to future models, providing an estimated mean of the outcome variable across all organizations. The second model included the control variables, gender and tenure. In the third, fourth and fifth model the predictor variables were included. First communication was added, then participation, and finally PCF. The sixth and final model included all predictor variables. To determine which model fit the data best, the Akaike information criterion (AIC) was compared for each step in the model. A lower score compared to the previous model indicates a better fit (Heck et al., 2010). The same procedure was followed to investigate the relationship between the variables and PCF.

Finally, the mediation of psychological contract fulfillment between the two HRM practices and AC was tested using the Monte Carlo method (Selig & Preacher, 2008). Compared to the Sobel test, this method has been found to produce smaller errors in the confidence intervals (Preacher & Selig, 2012).

Results

Descriptive statistics

Table 1 and 2 contain the descriptive statistics at employee level (Level 1) and organizational level (Level 2) of the predictor, control and outcome variables. Based on the mean values for the total sample, it is observed that the employees have, in general, a
slightly positive perception regarding the fulfillment of the psychological contract (M=3.90, on a 5-Point scale). On average employees feel some AC towards their organization (M=4.66, on a 7-Point scale). The HRM practices rated by the organizational representatives had a high mean value; with communication (M=4.29, on a 5-Point scale) being rated slightly higher than participation (M=4.15, on a 5-Point scale). Internal reliabilities ranged from .68 to .88. Only one scale had minimal acceptable reliability of .68, while the other scales had reliabilities between .83-.88, considered to be very good (De Vellis, 2003). The correlation between PCF and AC is relatively strong (r=.48, p<0.001), and has probably been inflated as a result of both values stemming from one sample at Level 1. The same is probably the case for the Level 2 variables, communication and participation, which have a moderately strong relationship (r=.26, p<0.01). The correlation between tenure and PCF is negative, suggesting that the chance of perceiving PCF is likely to decrease with time. The positive correlation between tenure and AC suggests that employees will increase their AC with time spent in the organization.

Table 1

<table>
<thead>
<tr>
<th>No.</th>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td>1.45</td>
<td>-</td>
<td></td>
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<td></td>
<td></td>
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<tr>
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<td>7.44</td>
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</tr>
<tr>
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<td>.92</td>
<td>-.06</td>
<td>-.08</td>
<td></td>
<td>.88</td>
</tr>
<tr>
<td>4</td>
<td>Affective Commitment</td>
<td>4.66</td>
<td>1.18</td>
<td>-.02</td>
<td>.07</td>
<td>.48</td>
<td>.83</td>
</tr>
</tbody>
</table>

*Note.* N=1055 for all variables. Scale reliabilities (α) are reported on the diagonal in parentheses.

**p<.001. *p<.05.

Table 2

<table>
<thead>
<tr>
<th>No.</th>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
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<th>2</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Communication</td>
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<td>(.68)</td>
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</tr>
<tr>
<td>2</td>
<td>Participation</td>
<td>4.15</td>
<td>.67</td>
<td>.26**</td>
<td>(.83)</td>
</tr>
</tbody>
</table>

*Note.* N=87 for all variables. Scale reliabilities (α) are reported on the diagonal in parentheses.

**p<.01.
Multilevel analysis

The results of the multilevel analysis are described in Table 3 and Table 4. Both tables include the estimated fixed effects (Est.) and the standard error (SE) for the estimate. As multilevel models contain different levels, this provides a more accurate estimate for fixed effects. The standard error for the estimate is supposed to decrease for each level added to the model (Heck et al., 2010).

Predicting affective commitment. The results of the multilevel investigation testing Hypotheses 1a, 1b, and 3 are presented in Table 3. Model 1 indicates that both the variance between employees within firms, and the variance between firms are significant. The unexplained variance between organizations and employees was calculated based on the intercept-only model. Converted to percentage, the calculated ICC suggested that 10% of variation in AC is due to organizational level effects. This is considered sufficient for multilevel modeling (Heck et al., 2010). Adding the control variables in Model 2 did not explain additional variance, although tenure had a significantly positive relationship to AC. Model 3 and Model 4 included the Level 2 variables, communication and participation. Communication and participation were added separately because of the correlation between the variables that would have caused a suppressor effect (MacKinnon, Krull, & Lockwood, 2000). Both communication and participation were significantly related to AC, confirming Hypotheses 1a and Hypothesis 1b. The results indicate that the more communication and participation practices the organization provides, the higher is the AC of employees.

Hypothesis 3 was tested in Model 5 by adding PCF as a variable. PCF was significantly related to AC, and Hypotheses 3 was supported. The result indicates that there is a positive relationship between PCF and AC. This led to a large reduction in AIC, indicating a better fit as compared to the previous models. The model explained 50% of the unexplained variance on group level. The variance between employees is explained through adding the Level 1 variable PCF. Differences in employees’ perception of PCF explain 21% of the variance between employees. Finally, Model 6 included all variables. When PCF is included in the model, communication and participation are no longer significantly related to AC. This suggests that PCF fully mediates the relationship between the predictors and AC. This assumption will be tested below. While the AIC did not change from the previous model, Model 6 explained 57% of the differences between organizations, more than any of the previous models.
HRM, PSYCHOLOGICAL CONTRACTS, AND AFFECTIVE COMMITMENT

Table 3
Multilevel Analysis Predicting Affective Commitment

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
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<td></td>
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</tr>
<tr>
<td>Intercept</td>
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<td>4.76(.07)***</td>
<td>4.73(.07)***</td>
<td>4.74(.07)***</td>
<td>4.70(.05)***</td>
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<td>.01(.07)</td>
<td>.04(.07)</td>
<td>.04(.07)</td>
<td></td>
</tr>
<tr>
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<td>.01(.00)*</td>
<td>.01(.00)*</td>
<td>.02(.00)***</td>
<td>.02(.00)***</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>.06(.10)</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td>.60(.03)***</td>
<td></td>
</tr>
<tr>
<td><strong>Random effects</strong></td>
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</tr>
<tr>
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<td>1.25***</td>
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<td>.13**</td>
<td>.13**</td>
<td>.07**</td>
<td>.06*</td>
</tr>
<tr>
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<td>3031</td>
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</tr>
</tbody>
</table>

*Note. AIC = Akaike Information Criterion.

***p<.001. **p<.01. *p<.05.
Table 4

*Multilevel Analysis Predicting Psychological Contract Fulfillment*

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
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<td>3.98 (.05)***</td>
<td>3.96 (.05)***</td>
<td>3.97 (.05)***</td>
</tr>
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<td>-.05 (.06)</td>
<td>-.05 (.06)</td>
<td>-.05 (.06)</td>
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<tr>
<td>Tenure</td>
<td>-.01 (.00)**</td>
<td>-.01 (.00)**</td>
<td>-.01 (.00)**</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td>.28 (.09)***</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
<td></td>
<td>.12 (.08)</td>
</tr>
<tr>
<td><strong>Random effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation between employees</td>
<td>.77 (.03)***</td>
<td>.76 (.03)***</td>
<td>.76 (.03)***</td>
<td>.77 (.03)***</td>
</tr>
<tr>
<td>Variation between organizations</td>
<td>.07 (.02)**</td>
<td>.07 (.02)**</td>
<td>.05 (.02)**</td>
<td>.07 (.02)**</td>
</tr>
<tr>
<td>AIC</td>
<td>2775</td>
<td>2771</td>
<td>2763</td>
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</tr>
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*Note.* AIC = Akaike Information Criterion.

***p<.001. **p<.01
Predicting psychological contract fulfillment. Results of the multilevel analysis investigating Hypotheses 2a and 2b are presented in Table 4. The ICC for the intercept-only model is 0.08, indicating that 8% of the unexplained variance in PCF can be found on the organizational level. Model 2 added the control variables. Tenure has a significantly negative relationship with PCF. This indicates that employees who have worked longer in the organization have less chance of perceiving their PCs as fulfilled. While Model 2 does not explain more of the variance than the previous model, the significance of tenure does lead to a slight decrease in AIC.

Hypotheses 2a and 2b predicted a significant correlation between the Level 2 variables communication and participation and PCF. These variables are included in Model 3 and 4. Communication is significantly related to PCF, and Hypothesis 2a is supported. Participation is not significantly related to PCF, disproving Hypothesis 2b. As communication is significant, Model 3 was the best fit indicated by the lowest AIC. This model explains 29% of the unexplained variance between organizations.

Psychological Contract Fulfillment as a mediator. Hypothesis 4 predicted that PCF would mediate the relationship between communication (H4a) and participation (H4b) and AC. As the previous hypothesis assuming that participation would be linked to PCF (H2b) was not supported, the conditions for mediation are not fulfilled. PCF does not mediate the relationship between participation and AC, and Hypothesis 4b is not supported. Communication is significantly related to PCF (H2a) and PCF is significantly related to AC (H3), fulfilling the conditions for a mediation effect. To test for a mediation effect, the Monte Carlo bootstrap web-tool was used (Selig & Preacher, 2008). The significance level was 5% and the confidence interval did not contain 0, ranging from .06 to .28. The conclusion is that PCF mediates the relationship between communication and AC, providing support for Hypothesis 4a.
Discussion

This study proposed and tested a multilevel mediation model providing insight into the relationships between HRM, PCF and AC. Data was gathered from organizational representative and employees across a diverse group of Norwegian organizations. The results show that communication and participation practices are positively related to employees’ AC. This is in line with previous studies that have suggested that employees reciprocate HRM practices with increased AC (e.g., Tremblay, 2010; Kehoe & Wright, 2013; Kinnie et al., 2005).

Furthermore, the results of this study confirmed the hypothesis that PCF mediates the relationship between communication and AC. Contrary to what was expected, participation was not significantly related to PCF, and therefore PCF did not act as an intermediate variable between participation and AC.

Consistent with studies by Vandenberg et al. (1999) and Kooij et al. (2010) the results of this study show that both communication and participation HRM practices are linked to higher levels of AC. In a meta-analysis of 83 studies (Kooij et al, 2010), the presence of communication and participation practices was positively related to AC. While both Vandenberg et al.’s and Kooij et al.’s studies relied on employees’ self report of the HRM practices, this study has succeeded in confirming this result with HRM being rated by the employer.
The positive link between communication and AC, as expected in Hypothesis 1a is consistent with previous empirical studies. For example, the study by Ng et al. (2006) found that management communication had positive main effects on organizational commitment. Communication was operationalized similarly to the present study, and measured the extent to which organizations provide organization-related information to their employees, such as information about changes in organizational policies and procedures, financial results, employee and group successes.

The result is also consistent with Kinnie and colleagues (2005), who found that communication was associated with AC in three different groups of employees, and that the effects were particularly strong for professionals. While previous studies linking communication and AC have been within one organization (Nuss, 2006), or a limited number of organizations (Varona, 1996), the present study contributes to extant research by establishing a positive relationship between communication and AC for various occupational groups and industries.

This study supported that participation practices are linked to greater AC among employees. The result of Hypothesis 1b strengthens the arguments and findings of previous studies regarding this relationship (e.g., Leana et al., 1992; Bhatti & Qureshi, 2007; Appelbaum et al., 2000; Meyer & Allen, 1997). The result of the present study is also in line with a Dutch study that found a link between participation and employees’ AC (Torka et al., 2010). The authors suggested that participation influences AC because the possibility of participation makes the organization more meaningful to the employee. The organization's performance becomes a part of the employee's own responsibility. Similarly to the present study, Torka et al. (2010) also explained the relationship between participation and AC on the basis of social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960). They assumed that individuals feel more obliged towards the organization when the organization is willing to grant them influence. The difference between the mentioned and the present study is the use of participation practices measured on the organizational level in the current study.

The result of this study also highlights the association between the psychological contract and AC. As predicted in Hypothesis 3, PCF is positively associated with employees’ AC. This result is in concordance with previous studies that confirm the positive and significant relationship between perceived PCF and

26
employees’ AC (e.g., Chi & Chen, 2007). For example, Coyle-Shapiro and Kessler (2003) examined the consequences of PCF on organizational commitment of a diverse sample of public-sector employees in the U.K. Like the present study, Coyle-Shapiro and Kessler’s study (2003) also explained the link between PCF and organizational commitment based on the norm of reciprocity. They suggested that by fulfilling employee obligations, employers are creating a need for employees to reciprocate, and this can take the form of enhanced commitment. The findings of the present study are also in line with meta-analytic work by Zhao et al. (2007), which indicated that when psychological contracts are unfulfilled or breached, employees respond strongly by reducing their commitment to the organization.

This study was motivated by the lack of empirical studies on antecedents to employee’s PCs. While previous studies have supported a relationship between HRM practices and employees’ PCs (e.g., Suazo, 2009; Bal, et al., 2013; Giannikis & Nikandrou, 2013), this study is one of few studies to empirically investigating the relationship between communication practices and employees’ perceptions of PCF. Consistent with Hypothesis 2a, communication positively influenced employees’ perception of PCF. This result is in line with previous studies, such as a study from 2002 where Guest and Conway found that communication from junior managers had a significant impact on employees’ psychological contracts. Guest and Conway argue that effective communication will lead to a more explicit and potentially more effective psychological contract. The results of this study are also consistent with the study of Conway and Monks (2008) who focused on HRM practices and resulting employee-level consequences in an organizational change perspective. Out of all the HRM practices in their study, communication (operationalized similarly to the present study as top-down information mechanisms) had the strongest relationship with employees’ PCs. The authors suggested that the Irish employees especially valued communication practices because they are implemented equally for all employees.

 Furthermore, the result of this study indicates that the effect of communication on AC is fully mediated by PCF, confirming Hypothesis 4a. This means that when organizations apply effective communication practices, employees are more likely to perceive PCF, and are thus more likely to reciprocate with increased AC. This finding is consistent with previous studies by Bal et al. (2013) and Giannikis and Nikandrou (2013). In their study, Giannikis and Nikandrou (2013) found that when comprehensive HRM practices are implemented, perceptions of PC breach are less
likely to occur, and employees therefore reciprocate with increased organizational commitment. This finding gives empirical support to the argument made by Wright and Boswell (2002) that psychological contract can be best viewed as a linking mechanism between HRM practices and employee behaviors. Furthermore, it addressed the call from Chen et al. (2006) to provide empirical support for the variables linking communication and commitment.

The result of this study indicates that participation is not significantly related to PCF, disproving both Hypothesis 2b and Hypothesis 4b. As there is no link between participation and PCF, there could not be a mediation effect. The lack of mediation effect between HRM and AC is consistent with the study by Lopes and Chambel (2012). While several of the HRM practices in their study were linked to both PCF and AC, no mediation affect appeared. The authors therefore suggested that HRM practices influence PCF and AC through independent processes. However, the results might have been influenced by the limited sample size (N=274).

While there is a lack of previous studies that explore the relationship, the lack of a significant relationship between participation practices and PCF goes against the results of previous studies by Katou (2013) and Hemdi et al. (2013). However, in both of these studies participation practices were included as a part of a larger group of HRM practices. Lawler (1996) claimed that participation has a stronger effect if accompanied by other supporting high involvement practices. This might be the reason why participation practices alone appear not to be sufficient for employees to experience that the organization is fulfilling its part of the PC.

Porter and colleagues (1998) found that when employers and employees agreed on the extent of employer inducements, employees reported a more salient psychological contract between the parties. Taking these findings into consideration, a possible explanation for the lack of a significant influence on PCF might be that employees and employers disagree on the extent of participation practices. This might be the case as studies indicate that management reports on HRM practices are frequently different from, and more positive than those of employees (Liao et al., 2009). The operationalization used in this study asked the employer raters to rate the extent of employees’ participation. This is an advantage as it can find effects of ‘actual’ HRM practices beyond employees’ own perceptions of HRM. As many of the previous studies have been vulnerable to common method variance, this could have inflated the relationship between the variables, explaining the different results.
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Several other possible reasons exist as to the lack of significant link between participation and PCF. Compared to other countries in the world, Norway stands out by a high degree of participation and codetermination, as well as a more democratic organizational structure (NOU, 2010, p. 23). This is also reflected in the high mean average of participation, suggesting that employees are empowered and allowed to participate in their work context. Paul et al. (2000) argue that employee involvement and participation has a snowballing nature, in that it raises employees’ expectations of even greater involvement. When these expectations eventually go unfulfilled, employees might feel that the organization is not providing them what they are entitled to receive. Consequently, while already enjoying a high degree of participation practices, employees from this Norwegian sample, might find that their employer is not fulfilling its obligation. The cultural context might also explain why results differ from Hemdi et al., (2013), as their study took place in Malaysia.

Another possibility for the lack of significant link between participation and PCF could be linked to the current problems of different operationalization of participation (Wilkinson et al., 2010). According to this meta-study, further research is needed to define participation more elaborately and to measure it more exactly based on that defined definition.

The result of this study indicates that employees in this Norwegian sample reciprocate participation practices with increased AC. However, PCF does not act as an intermediate variable in this relationship. Still, there are inconsistencies in literature regarding the role of participation and employee’s PCs that should be explored further.

Limitations and suggestions for future research

The results of this study must be understood in the context of its limitations. First, the context of the study is Norwegian organizations, thus the findings may be specific to this particular national setting and should therefore be generalized with care. Furthermore, the sample size on the employee level is of concern. For a sample size of about 50 organizations, the employee number is recommended to surpass 20 (Hox, 2010). In the present study, the average number of employees per organization is 14. Nevertheless, Maas and Hox (2005) argue that the number of employees per organization is less important than the number of organizations for this method.
Furthermore, no direction between the Level 1 variables can be conclusively determined in this study. One could argue that the relationship between PCF and AC could be reversed, so that employees with a high degree of AC might increase the chances of reporting PCF. Future studies could test this using longitudinal data.

Another potential method bias is the measure of the HRM practices. As previously mentioned, the scale used to measure communication has an internal reliability that is within the minimum acceptable range (.68). Future research on communication practices could include more items from the CSQ to increase reliability. Furthermore, the Level 2 variables are based upon the rating of only one person in each organization, thus allowing for the possibility of idiosyncratic data. Future studies should include more raters on the Level 2 questionnaires, as this would improve the reliability of these measurements. How the organizational representative rates the organizational variables can possibly have been influenced by for example tenure. Future studies could include this in the Level 2 questionnaire.

Moreover, studying HRM practices separately like in the present study, might fail to capture the mutually reinforcing nature of these attributes (Lawler, 1996; Vandenberg et al., 1999). The results of this study indicate that more research is needed to understand the relationships between HRM practices, PCF and AC. In particular, the relationship between participation practices and PCF should be explored further as there are discrepancies between the findings of this study and previous studies.

Finally, by adding more HRM practices to the multilevel model, a larger amount of the unexplained variance of PCF between organizations could be explained. Future studies could for example explore the effects of other high involvement practices, such as recognition, fair reward, and competence development (Paré & Tremblay, 2007).

**Implications for practice**

As AC is a crucial factor for organizational effectiveness and employee wellbeing, organizations are increasingly seeking to strengthen this form of emotional dedication (Meyer et al., 2002). First of all, this study clarifies the influence of organizational HRM on individual level perceptions of the employment relationship. The results from the present study imply that organizations can use communication and participation practices to enhance and maintain employees’ AC. The
recommendation based on these results is for organizations to continue to engage in communication and participation practices to maintain and develop employees’ AC.

The results of this study highlight the link between PCF and employees’ AC, and the effect of communication practices on AC is fully mediated through employees’ perceptions of PCF. This indicates that when implementing communication practices, HRM management should keep employees’ expectations in mind. The present study suggests that there is room for improvement, as employees with more tenure are less likely to experience PCF. This might be an indication that the organizations in question are not keeping their promises. Organizations should use open and effective communication to avoid misunderstandings or unrealistic expectations, making the promises and obligations clearer for each party.

**Contribution and Conclusion**

This study makes several contributions to both HRM and PC literature. First of all, by taking a multilevel approach that enables examination of cross-level relationships of organizational level HRM on the individual level outcomes of PCF and AC. Although the necessity of using multi-level analysis in HRM literature has been argued by various researchers (Bowen & Ostroff, 2004; Paauwe, 2009), this study is one of few to apply this analytical technique. By using two sources of data, and avoiding common method variance, this method is able to show the genuine impact of communication and participation on employees’ AC.

This study also makes a contribution to the under-developed field of PC antecedents, and confirms the effect of communication practices on employees’ perception of PCF. Furthermore, the present study contributes by demonstrating the mediating role of PCF in the relationship between communication and AC. The results of this study indicate that while participation practices are linked to AC, this relationship is not affected by PCF. Participation and communication are two commonly used HRM practices that have often been studied together. Separating them in this study indicates that they influence AC through different processes.

Finally, this study of 1055 employees across 87 Norwegian organizations makes a contribution by expanding PC research beyond the traditional Anglo-Saxon and more recently Asian context. Further studies are needed to in order to gain more insight into the role of PCF as a mediator between HRM practices and AC.
References


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