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Reactualized in Times of Crisis: The Role of Relatedness at Work

A Comparative Study of a Diaconal and a Commercial Organization

Abstract:

The Covid-19 pandemic has caused a switch to remote work and has given a boost to new digital technologies. These changes are altering the relational aspects of work and have had fundamental implications for workplace relationships, reactualizing the role of interpersonal relationships in organizations. This study investigates the significance of relatedness as a source facilitating work motivation and other work outcomes. Drawing on the self-determination theory (Deci & Ryan:1985; Ryan & Deci: 2017), the paper proposes and empirically tests a model for investigating the role of relatedness at work. Based on a sample consisting of 261 respondents from a diaconal and a commercial healthcare institution in Norway, the findings indicate that relatedness independently contributes to intrinsic work motivation. Further, no differences in path coefficients between the diaconal and the commercial organization were found. The article discusses how these findings from the current study, which was conducted before the Covid-19 outbreak, can give insights into the worklife during and after the pandemic.

Keywords:

relatedness, interpersonal relationships, intrinsic motivation, meaningful work, diaconal organizations, commercial organizations

1. Introduction

The Covid-19 pandemic and the subsequent lockdown of societies have restricted a large number of people worldwide to their homes. The rapid switch to remote work and the increased use of digital technology such as laptops, tablets, smartphones, and the internet have also changed how employees relate to one another. These new forms of technology have fundamental implications for workplace relationships. The Covid-19 outbreak has challenged managers and organizations to make attempts

to redesign everyday relational practices and routines. The role of relatedness in organizations is therefore being reactualized.

Relationships at work are fundamental to organizations such as diaconal healthcare institutions with professional employees. Interpersonal work relationships can be a source of enrichment that allows individuals and organizations to learn and flourish. On the other hand, relationships can be toxic and dysfunctional. Much of the existing research on work relationships has focused on formal relationships and roles (Heaphy et al: 2018), whereas the importance of informal relationships such as relatedness at work has received less attention.

Relatedness – or belongingness – is fundamental to human motivation and concerns personal contacts with others and the propensity of connectedness (Baumeister & Leary: 1995). Interpersonal relationships (relatedness) are also regarded as a central means of experiencing meaningful work (Michaelson, Pratt, Grant, & Dunn: 2014). As a response to the call for research investigating how interpersonal relationships may influence the meaning of work (Rosso, Dekas, & Wrzesniewski: 2010), this study empirically explores the role of relatedness in two different types of organizations, specifically investigating how relatedness is related to intrinsic work motivation among healthcare workers in a diaconal and a commercial healthcare institution. Hence, this study contributes to the knowledge base on interpersonal work relationships, which is reactualized in times of crisis.

Drawing on the self-determination theory (SDT) (Ryan & Deci: 2000), the study proposes and empirically tests a model. According to SDT, satisfying three basic psychological needs – autonomy, competence, and relatedness – is essential to intrinsic motivation and to individuals' psychological growth and well-being (Deci & Ryan: 2000), much like plants need water, sun, and nutrients to flourish. Motivation comes in different forms: Intrinsic motivation refers to engaging in an activity for the pleasure and satisfaction inherent in that activity (Deci & Ryan: 1985). An employee who feels engaged or intrinsically motivated by the work likely perceives those activities as important, and meaningfulness may be derived from feeling alive in the experience of working (Rosso et al.: 2010). For instance, healthcare workers in diaconal institutions that deliver care and welfare services may perceive these activities as engaging as well as meaningful. In this way, experiences of meaningful work and intrinsic work motivation are related concepts.

The current study contributes in different ways. First, it contributes to the interdisciplinary field of diaconia by studying a diaconal healthcare institution through the lens of organizational psychology and more specifically through motivation theory. This area has received little attention in diaconal studies. How can the field of diaconal studies more specifically benefit from including work-motivation literature? Diaconal institutions are characterized by delivering care, often through specialized welfare institutions with professional workers. Interpersonal work relationships play an important role in facilitating intrinsic work motivation (Jelstad:

2007), which in turn may affect the quality of the care delivery. Intrinsic motivation among employees is also linked to organizational outcomes such as creativity, organizational commitment, job satisfaction, and reduced turnover (*ibid.*). These outcomes are of relevance to diaconal institutions to deliver high-quality care and welfare services. Studying diaconal institutions through the lens of work motivation theory may in this way provide useful contributions to the interdisciplinary field of diaconal studies.

Second, it is well established and well known that autonomy and competence at work play an important role in facilitating intrinsic work motivation (Deci et al.: 2001; Humphrey, Nahrgang, & Morgeson: 2007). The significance of relatedness, however, is given less attention. Together with autonomy and competence, relatedness is grouped into the concept of need satisfaction in SDT (Gagné & Deci: 2005; Van den Broeck, Ferris, Chang, & Rosen: 2016). The current study adds to the knowledge base on work motivation by investigating the unique contribution of relatedness at work. Additionally, this article contributes to the field of meaningful work (Rosso, Dekas, & Wrzesniewski: 2010) and the literature on interpersonal relationships (Michaelson, Pratt, Grant, & Dunn: 2014). More specifically, this paper heeds the call for research investigating how interpersonal relationships may influence the meaning of work (Rosso et al.: 2010) by investigating the link between relatedness at work and intrinsic work motivation.

Third, the type of organization is often ignored in research. To increase the knowledge of SDT as a work-motivation theory, we need empirical research that investigates the significance of relatedness, intrinsic motivation, and meaningful work in different types of organizations. Pessi (2017a) argues that paid diaconal work is based on a variety of motives, yet that the employees' experiences of altruism in their work increase the perceived meaningfulness of their work. Diaconal work at its core "is about dealing with otherness" (Hofmann: 2017, p. 138). Professional employees such as nurses working in diaconal institutions therefore deal with others in the role of being a nurse as well as dealing with otherness. Whether nurses working in other types of organizations, such as commercial healthcare institutions, differ in their intrinsic motivation is an empirical question that this study investigates by comparing how relatedness is related to intrinsic motivation in the two different types of organizations and hence two different work contexts. Thus, the paper attempts to establish theoretical arguments in the field of SDT.

Lastly, the Covid-19 pandemic has caused a switch to remote work and increased the use of digital technology, which in turn has challenged individuals and organizations to redesign relational practices. What we already know about the role of interpersonal relationships at work before the pandemic is therefore of importance. The empirical data of the current study was gathered before the Covid-19 crisis and may therefore provide important insights for redesigning relational practices and routines at work in order to maintain and facilitate relatedness in new ways. Dia-

conal organizations and healthcare organizations are in a special position because the administrative staff may work remotely while the healthcare workers work in close physical contact with patients and experience interpersonal relationships with coworkers at the physical workplace.

2. Theory and Hypotheses: The Role of Relatedness in Organizations

The significance of interpersonal relationships in organizations is of interest in the literature of meaningful work (Wrzesniewski, Dutton, & Debebe: 2003; Pessi: 2017b), in the work-design literature (Grant: 2007, Humphrey, Nahrgang, & Morgeson: 2007), and within leadership literature (Uhl-Bien: 2006). Further, researchers within positive organizational scholarship (POS) have given attention to work relationships by research on high-quality connections as a powerful source for organizations (Dutton & Heaphy: 2003; Stephens Heaphy & Dutton: 2012). Current research is conducted through the lens of work motivation theory. Motivation is important for organizations and refers to the “energetic forces that initiate work-related behavior and determine its form, direction, intensity and duration” (Pinder: 2008, p. 11). Several theories provide different factors facilitating motivation, for example, need theories (Maslow: 1954), equity theory or social comparison theory (Adams: 1965), expectancy theory (Vroom: 1964), goal-setting theory (Locke & Latham: 1990), job characteristics theory (Hackman & Oldham: 1976, 1980), and SDT (Deci & Ryan: 1985; Ryan & Deci: 2000). SDT is looked upon as a useful theoretical framework in this study because it examines conditions that elicit and sustain rather than subdue and diminish intrinsic motivation. Intrinsic motivation refers to engaging in an activity for the pleasure and satisfaction inherent in the activity (Deci & Ryan: 1985).

Self-Determination Theory

Motivation theories are not united by common definitions, assumptions, focus, or explanations, but rather are united by their common aim of explaining *why* people behave as they do. SDT is based on a strong empirical foundation in the field of psychology and has provided a useful framework for understanding behavior in different domains, such as education (Vansteenkiste, Simons, Lens, Sheldon, & Deci: 2004), sport (Vallerand & Losier: 1999), and relationships (Deci, La Guardia, Moller, Scheiner, & Ryan: 2006). In addition, SDT has been applied to specific health-related behaviors, including smoking behavior (Williams, Gagné, Ryan, & Deci: 2002) and weight loss (Williams, Grow, Freedman, Ryan, & Deci: 1996). Even though SDT is based on a strong empirical foundation and is supported by

laboratory experiments and field studies in other applied domains, relatively few studies have tested the theory within diaconal organizations.

SDT is an organismic motivational theory suggesting that individuals are growth-oriented organisms who actively interact with their environment. The theory suggests that three psychological needs are universal and fundamental, and that the satisfaction of these needs is necessary for intrinsic motivation, psychological health, well-being, and optimal development (Ryan & Deci: 2000). The three needs are *relatedness, competence, and autonomy*. The needs are specified as nutrients that are essential for healthy development. Failure to satisfy the basic needs leads to poorer well-being. The focus of the theory is to what degree the three needs are satisfied rather than the strengths of the needs that are not central to SDT. Satisfying these needs leads to more autonomous forms of motivation, such as intrinsic motivation; further, intrinsic motivation leads to the psychological growth of the individuals (Van den Broeck, Ferris, Chang, & Rosen: 2016).

The need for *relatedness* concerns personal contacts or interactions with other people and the propensity of connectedness (Baumeister & Leary: 1995). According to Baumeister and Leary (1995), the need to belong is a fundamental human motivation. Relatedness can be distinguished from general social contact since only the latter includes interactions with people one dislikes. The need for relatedness or need to belong has two main features. First, people need frequent interactions with the other person. Second, people need to perceive a bond or relationship. The latter aspect provides a relational context to one's interactions, indicating that the perception of the bond is essential for satisfying the need to belong. Relatedness involves feelings of care and respect. The hypothesis that people are motivated to form and maintain interpersonal bonds is not new: Maslow (1954) placed "love and belongingness needs" in the middle of the motivational hierarchy, stating that belongingness needs do not emerge until physiological needs and safety needs have been satisfied. The need for *competence* is rooted in White's (1959) need for effectance and represents the individual's desire to feel capable of mastering their environment. The need for *autonomy* or self-determination represents acting with a sense of volition and is defined as people's desire to experience ownership of their behavior (Deci & Ryan: 2000). When action is experienced as autonomous, it is suggested that intrinsic motivation becomes operative. To be truly intrinsically motivated, one must feel free from pressures such as contingencies and rewards. In addition, previous theorists have posited that intrinsically motivated activity is based in the need for self-determination (deCharms: 1968).

Based on SDT, this study proposes hypotheses to be tested. Need satisfaction is separated into three separate variables to investigate the possible unique influence of relatedness. Previous studies that focused on relatedness in a work setting often investigated basic need satisfaction, which means that autonomy, competence, and relatedness are all included in one variable (Baard, Deci, & Ryan: 2004, Deci et al.:

2001, Lynch et al. 2005). The three needs described above are the chosen variables or antecedents in this study, and the variables are investigated separately (see Figure 1 for a schematic representation of the proposed hypotheses). Further, previous studies including need satisfaction typically investigated the relationship between need satisfaction and job satisfaction (Ilardi, Leone, Kasser, & Ryan: 1993; Lynch, Plant, & Ryan: 2005), need satisfaction and burnout (Van den Broeck, Vansteenkiste, De Witte, & Lens: 2008) or need satisfaction and performance/engagement (Baard, Deci, & Ryan: 2004; Deci et al.: 2001). This study focuses on the relationship between relatedness and intrinsic motivation. In addition, it explores whether intrinsic motivation yields positive outcomes such as performance and reduced turnover.

The SDT suggests that there is a positive relationship between job autonomy and intrinsic motivation. Work environments that support autonomy contribute to satisfying the need for autonomy, which in turn predicts intrinsic motivation (Gagné & Deci: 2005). In contrast, controlled environments are not enjoyable for the employees. The most direct source for satisfying the need for autonomy is most likely the degree to which the job itself provides freedom of job performance. Also, another theory proposes this link between job autonomy and intrinsic motivation: According to the job characteristics model (JCM; Hackman & Oldham: 1976, 1980), autonomy contributes to the critical psychological state “experienced responsibility,” which in turn predicts internal work motivation. Job autonomy in JCM is closely related to and consistent with managerial autonomy support in SDT, also referred to as a social context variable. In line with SDT and JCM, the following hypothesis is proposed (shown as relationship “a” in Figure 1):

Hypothesis 1:

Job autonomy is positively related to intrinsic motivation.

Intrinsic motivation is based in the need to be competent. According to SDT, the need for competence underlies intrinsic motivation, which means that people need to feel competent to enhance or maintain their intrinsic motivation. A positive relationship between competence and intrinsic motivation is explained as follows: The more competent at some activity a person perceives themselves to be, the more intrinsically motivated they are in that activity (shown as relationship “b” in Figure 1).

Hypothesis 2:

There is a positive relationship between competence and intrinsic motivation.

Of special interest in this study is whether relatedness (or belongingness) contributes to maintaining or enhancing intrinsic work motivation. The possible separate contribution of relatedness is investigated. Relatedness refers to personal contact with others at work and a sense of connectedness and belongingness to other people (Baumeister & Leary: 1995). Because of the lack of research investigating the role

of social factors on motivation (Morgeson & Campion: 2003; Parker & Wall: 2001; Rosso et al.: 2010), the predicted relationship between relatedness and intrinsic motivation relies on SDT, which posits that the basic need for autonomy, competence, and relatedness must be satisfied to experience intrinsic work motivation. Relatedness at work is predicted to be positively associated with intrinsic motivation. Although autonomy and competence are powerful influences on intrinsic motivation, theory suggests that relatedness also plays a role in the maintenance of intrinsic motivation (Deci & Ryan: 2000; Gagné & Deci: 2005).

However, there are situations in which relatedness is less central to intrinsic motivation than autonomy and competence are. People may engage in intrinsically motivated behaviors alone, such as hiking, suggesting that relational supports may not be an important factor in maintaining intrinsic motivation for some activities. SDT hypothesizes that intrinsic motivation is more likely to be present in contexts characterized by a sense of secure relatedness. Previous studies that have focused on relatedness in a work setting, have investigated basic need satisfaction which means that autonomy, competence, and relatedness are included in one variable (Baard et al.: 2004; De Cooman, Stynen, Van den Broeck, Sels, & De Witte: 2013; Deci et al.: 2001; Ilardi et al.: 1993; Kasser, Davey, & Ryan: 1992; Lynch et al.: 2005; Van den Broeck et al.: 2008). However, the study by Richer, Blanchard, and Vallerand (2002) investigates the relationship between relatedness as a separate variable and work motivation. The hypothesis is also tested in this paper by examining relatedness as a separate variable in a different setting within a diaconal and a commercial organization in Norway (see relationship “c” in Figure 1).

Hypothesis 3:

Relatedness at work is positively associated with intrinsic motivation.

These three hypotheses are of interest for exploring both in diaconal institutions as well as commercial organizations because intrinsically motivated employees yield positive outcomes for the organizations, such as reduced turnover and increased performance (Jelstad: 2007), which leads to the next hypotheses for investigation.

The relationship between intrinsic motivation and performance and the association between intrinsic motivation and turnover intention are also investigated in this study. Other motivation-related concepts such as organizational commitment (Meyer: 1997), job satisfaction (Judge, Parker, Colbert, Heller, & Ilies: 2001), and creativity (Amabile: 1996; Kaufmann: 2006; Runco: 2004) could also be chosen but are beyond the scope of this research. The argument for intrinsic work motivation as a predictor of performance is that, when an activity is interesting or enjoyable (intrinsic motivation), task performance is expected to be high and of good quality. For example, an intrinsically motivated employee is likely to deliver care services (performance) of good quality. Gagné and Deci (2005) cited evidence indicating that intrinsic motivation seems to have stronger effects on the performance of

complex tasks than simple tasks. Also, other studies have supported the positive relationship between intrinsic motivation and performance through satisfying basic psychological needs, which leads to intrinsic motivation, well-being, and performance.¹ Based on theory, the empirical findings presented above and the fact that tasks carried out by the respondents (healthcare workers) in this study can be described as complex rather than simple, the following hypothesis is proposed (shown as relationship “d” in Figure 1):

Hypothesis 4:

There is a positive relationship between intrinsic motivation and work performance. Intrinsic motivation is enhanced through satisfying basic psychological needs, which leads to psychological well-being and performance.

In addition to performance, work turnover is an issue of concern in diaconal organizations. Turnover is associated with negative organizational outcome. Money and time invested related to hiring and training an employee who leaves the organization are significant and are lost forever. *Turnover intention* is defined as the intent to leave an organization (Kuvaas: 2006a) and is related to actual turnover behavior (Richer et al.: 2002). An advantage of including turnover intention instead of actual turnover, as in this research, is that it includes the actual processes of implemented behavior. For example, bad working conditions may not necessarily lead to actual turnover, though they might lead to a turnover intention that might eventually develop into behavior (ibid).

Because self-determination is associated with psychological growth and well-being, it is hypothesized that intrinsic motivation or self-determined motivation leads to positive consequences. The study by Richer et al. (2002) showed a motivational model of work turnover: work motivation leading to work satisfaction, which again is negatively related to turnover intention. Kuvaas (2005) reported a negative relationship between intrinsic motivation and turnover intention. Studies concerning turnover intentions in the healthcare sector, specifically among nurses, were reported in Janssen, de Jonge, and Bakker (1999) and in Janssen, de Jonge, and Nijhuis (2001). Both studies reported a negative association between intrinsic motivation and turnover intention. Based on this, a negative relationship between intrinsic work motivation and turnover intention is hypothesized (see relationship “e” in Figure 1):

¹ The Kasser et al. (1992) study found a positive relationship between need satisfaction and performance. This was supported by the Baard et al. (2004) study as well as the Deci et al. (2001) study. A positive association between intrinsic motivation and performance was supported by Kuvaas (2006a, 2006b, 2007, 2009).

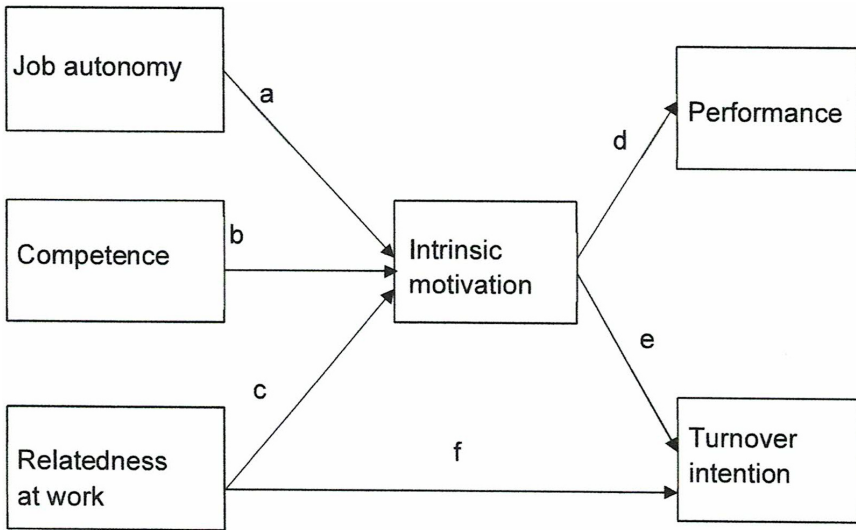


Figure 01 The Research Model

Hypothesis 5:

Intrinsic motivation is negatively related to turnover intention.

Regarding the association between relatedness at work and turnover intention (relationship “f” in Figure 1), a negative relationship is expected, in line with Richer et al. (2002), who found negative associations between feelings of relatedness and turnover intention items. It is likely that employees who experience a low degree of relatedness at work more often consider leaving their job than employees who experience a high degree of relatedness at work:

Hypothesis 6:

There is a negative relationship between relatedness at work and turnover intention.

The six hypothesized relationships are presented in Figure 1, and the results of the empirical testing of the hypotheses are given in Figure 2.

3. Diaconal and Commercial Organizations

Within organizational literature, there is a debate on how to divide sectors and organizations. A general model starts with the assumption that there are three sectors: (1) public sector, (2) private business or for-profit sector, and (3) private nonprofit sector (Jeavons: 1992). Organizations that are neither profit-maximizing

nor governmental are often referred to as third-sector organizations or nonprofit organizations (Morris: 2000). These organizations exist independently between the state (public) and the market (private for-profit). Civic sector and voluntary sector are terms used for this sector as well. The multiplicity of the third sector is also expressed by the term “plural sector” (Mintzberg: 2018). Private nonprofit organizations or ideal organizations (Haugen: 2018) are often distinguished from for-profits primarily in economic terms. Hence, nonprofit organizations can be looked upon as a large heterogeneous group of organizations that are not public and do not have a profit maximization purpose. It is common to relate assumptions of sector differences to types of ownership (Lorentzen: 2005). Profit organizations such as *commercial* organizations distribute profits to their owners; nonprofit organizations such as *diaconal* institutions are not prohibited from earning profits but must devote any surplus to financing future services or distribute it according to their purpose (Hansmann: 1987).

A useful way to further distinguish profit (commercial) and nonprofit (such as diaconal) organizations is to look at the primary purposes of the organizations as an important distinction (Jeavons: 1992). Nonprofit organizations are often born and exist primarily to give expression to religious, social, or moral values as well as completing some specific tasks such as providing social-welfare services. This study is limited to and focused on one specific part of the nonprofit organization category, that is, a diaconal healthcare institution defined as having a self-imposed identity based on a Christian tradition in addition to completing some specific tasks (Askeland: 2015; Askeland, Espedal & Sirris: 2019), primarily healthcare delivery. Diaconal healthcare institutions belong to the umbrella of faith-based organizations (FBO) and more specific faith-based healthcare organizations (FBHO) (Askeland, Espedal, & Sirris: 2019). Whether the diaconal healthcare institution (or faith-based healthcare organization) differs from the commercial healthcare institution in everyday work is empirically tested in this study.

The hypothesis put forward regarding differences or similarities in the two organizations says to expect no differences in intrinsic motivation between the commercial and the diaconal healthcare institution. The following presents three arguments for the proposed hypothesis: First, in line with De Cooman and colleagues (2011), no differences are expected in intrinsic motivation derived from the job content because we do not expect to find differences in the job characteristics. However, motivation derived from the organizational *mission* is expected to differ in the two organizations (De Cooman et al.: 2011); this, however, lies beyond the scope of this research to investigate. A second explanation as to why no differences between the two organizations are expected relates to the universality of the basic psychological needs in SDT, supported by Deci et al. (2001) in a cross-cultural organizational study. The basic assumption of SDT suggests that the psychological needs for relatedness, autonomy, and competence are universal and fundamental. Third, why

no differences in job autonomy, competence, and relatedness – and hence intrinsic motivation – are expected in the diaconal and the commercial organization may also be explained because of similar processes and structures in the two types of organizations operating in the same field. This discussion relates to DiMaggio and Powell's (1991) theory of isomorphism, which seeks to explain why there is a homogeneity of organizational forms and practices. Applied to the current research setting within the Norwegian healthcare sector this means common legal environments and the fact that both organizations depend on the same sources for funding and legitimacy may explain why diaconal and commercial healthcare institutions become more similar, and why differences between them are not expected.

4. Research Setting and Method: How the Study Was Conducted

Design

The primary purpose of this study is to test a theory, so that internal validity takes priority over external validity. This implies the importance of having a sample with variations in the variables in focus, and that the sample is as homogeneous as possible for nonrelevant factors (Calder, Phillips, & Tybout: 1981). I wanted to compare organizations that may differ in relatedness, autonomy, competence, and intrinsic motivation while staying more or less the same in other variables. Thus, the chosen organizations, one profit (commercial) and one nonprofit (diaconal) organization both operate within the same field, namely, the healthcare sector.

Sample

I distributed a questionnaire to employees by mail in 2006, accompanied by a letter emphasizing the confidentiality and anonymity of responses. A total of 261 questionnaires were returned representing an overall response rate of 49.0%. The response rate in the diaconal organization was 49.7% ($n = 155$) and 48.0% ($n = 106$) in the commercial organization. Of the total sample, 79.7% were women, the average age was 44.4 years, and the average organizational tenure was 8 years. This study was approved by the Norwegian Social Science Data Services.

Measurements

To measure relatedness, I used the validated scale, the measurement scale from the Basic Need Satisfaction Scale at Work², to measure *relatedness*, as in Deci et al. (2001). One item from the relatedness scale was unfortunately left out by mistake in this study, which means that only seven of the eight items were included in the study. However, the reliability coefficient for relatedness (see Appendix 1) indicates that the measurement scale was satisfactory. The concept of *competence* was measured by the 4-item scale for learning³, which was adapted to a work setting. Example items are “I feel able to meet the challenge of performing well in this work” (competence) and “I really like the people I work with” (relatedness). Regarding hypothesis 1 about a positive association between job autonomy and intrinsic motivation, *job autonomy* is defined as the degree to which the job provides freedom in scheduling the work and in determining the procedures to be used in carrying out the work (Hackman & Oldham: 1976). Job autonomy (three items) was measured from Hackman and Oldham’s Job Diagnostic Survey (JDS) using a 7-point Likert-type scale (Hackman & Oldham: 1980). Sample items are: “The job gives me considerable opportunity for independence and freedom in how I do the work” and “The job gives me a chance to use my personal initiative and judgment in carrying out the work.”

Regarding hypotheses 1, 2, and 3, *intrinsic motivation* was measured by a 6-item scale used by Kuvaas (2006a, 2006b), which was previously used in a Norwegian context. Two of the 6 items in the original scale were replaced with items from Kuvaas (2005)⁴. Examples of sample items included in the survey are “The tasks that I do at work are enjoyable” and “My job is very interesting.” Regarding hypothesis 4, *performance at work* was assessed by a 6-item scale previously used in a Norwegian setting (Kuvaas: 2006a, 2006b). Because the scale loaded on two different factors (performance and engagement), the 3 items related to performance were chosen in this study, and the 3 items concerning engagement were left out. The scale was further developed in different facets of work performance (Kuvaas & Dysvik: 2009). An example item in this study is “I often perform better than what can be expected.” Regarding hypothesis 5, *turnover intention* is defined as the intent to leave an organization. The concept of turnover intention was assessed by a 5-item scale based on prior measures (Kuvaas: 2006a). Sample items are “I often think about quitting my present job” and “I do not see much prospects for the future in this organization.”

2 Basic Need Satisfaction Scale at Work measures relatedness, competence, and autonomy at work. The measurement scale is available at <http://www.selfdeterminationtheory.org>

3 The measurement scale is available at <http://www.selfdeterminationtheory.org>

4 Because the former items loaded on a separate factor.

Variables that may affect the hypothesized relationships were included as *control variables*. The level of education was measured by four categories ranging from high school (coded as 1) to more than 6 years at university (coded as 4). Age was measured by year of birth. Pay level was measured by four categories of annual fixed pay ranging from under NOK 200,000 (coded as 1) to more than NOK 800,000 (coded as 5).

All items were on a 7-point Likert response scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Measurement scales for the variables relatedness, competence, and job autonomy were translated from English to Norwegian by a professional English-Norwegian translator. Another professional translator did the English backtranslation of these measurements. The backtranslation was compared with the original measurements by the author of this study, differences were noted, and final measurements were decided.

Analyses

The data were analyzed in different phases. After screening the data, I assessed a factor analysis (principal component analysis with varimax rotation) on all multiple scales to determine item retention. Following the rules of thumb by Hair et al. (2006), only items with a loading of .50 or higher were retained. Moreover, relatively stringent rules of thumb were applied, and items with a cross-loading of more than .35 on other included factors were removed (Kuvaas: 2009). An independent samples *t*-test was conducted followed by the effect size measure Cohen's *d* (Cumming et al.: 2007).

Tests for invariance were conducted by the structural equation modeling (SEM) procedure according to Byrne (2001). First, each sample was tested separately, and it was determined whether the fit of the independent models was adequate. The two independent models are called SEM Profit and SEM Nonprofit. After these preliminary analyses, a baseline model (Model 0) was estimated by simultaneous tests across the two organizations with no constraints. Second, model invariance was determined by comparing the baseline model (model 0) to models in which paths are constrained. A model that does not show a significant change in chi-square compared to the baseline model is deemed invariant or equal to model 0. To test the equivalence of each path coefficient in the model, I conducted six tests in which one of the six path coefficients was constrained to the baseline model. Because of the relatively small sample sizes (106 in the profit organization and 155 in the nonprofit organization), observed variables and not latent variables were used in the structural analysis.

AMOS was used for the analyses. One limitation of the AMOS program was the lack of information given in the missing data case. Goodness-of-fit indices were a bit nonstandard in the missing data case, and modification indices were

not available at all. Because both types of information were of interest, replacing the missing data was handled through the EM imputation method. This method is based on the missing data being completely random (MCAR). The few missing values in the sample were regarded as MCAR. Means and standard deviations obtained after the missing values were replaced by the imputed data showed no changes or only minor changes compared to the results before imputation. This agrees with previous experiences with EM imputation: "... some differences can be detected, but no consistent pattern emerges" (Hair, Anderson, Tatham, & Black: 1998, p. 61).

Several commonly used fit indices were used to assess the model fit. According to Jöreskog (1993), the chi-square is regarded as a *measure* of fit rather than a *test* statistic. Four additional fit indices that were relatively free of influence on sample size were used in this study: the nonnormed fit index (NNFI or TLI), the comparative fit index (CFI), the incremental fit index (IFI), and the root mean square error of approximation (RMSEA). A model is considered to have an adequate fit if values are greater than .90 for the NNFI, CFI, and IFI, and a value less than .10 for the RMSEA (Byrne: 2001: pp. 79-88). Moreover, a good fit shows NNFI, CFI, and IFI values close to .95 and an RMSEA value less than .05.

Limitations

This study was limited to a cross-sectional design. The data were collected at one point in time, making it impossible to conclude the causal ordering among the relationships examined in the study. Further, generalizations are limited by the fact that only two organizations were compared, both of which were in the health-care sector in Norway. In addition, the reliance on a self-reported questionnaire may cause concern about possible mono-method biases. Ratings provided by the same person may cause threats to the measures as well as relationships between measures. Harman's single-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff: 2003) addresses the issue of common method factors. The basic assumption of this technique is that a large amount of common method variance is present if a single factor appears from the factor analysis or one general factor accounts for the majority of the covariance among the measures. However, the principal component analyses generated 6 factors with eigenvalues of 1 or more and an explained variance of the factors ranging from 26.74% to 4.19%. From this it seems that in this study common method variance may not be a serious threat. Nevertheless, to reduce contamination of subjective measures, interrater reliability can be assessed (Viswesvaran: 2001). Manager evaluation of employee performance in addition to self-report performance would have strengthened the reliability of the job performance measurement in this study. In fields in which objective measures for performance are available, this could be applied. Otherwise, performance data by

supervisors as well as self-rated performance improve the reliability of the variable compared to the use of self-report only.

5. Findings: The Significance of Relatedness in Diaconal and Commercial Organizations

The results show that relatedness at work played an independent role and accounted for a unique variance to intrinsic motivation. Hence, relatedness contributes separately to intrinsic motivation when controlled for job autonomy and competence. Regarding the outcome variables, a positive relationship between intrinsic motivation and performance, a negative association between intrinsic motivation and turnover intention, and a negative relationship between relatedness and turnover intention were revealed. All six hypotheses were supported. No differences in path coefficients between the diaconal and commercial organizations were found, as shown in Figure 2. The findings are presented in more detail in the following.

Preliminary Analyses

The principal component analysis revealed that one of the work performance items had a loading that was too low, and that one competence item and one job autonomy item cross-loaded on intrinsic motivation (see Appendix 1). These three items were removed before scales were computed. The final scales showed acceptable reliability (coefficient alphas ranging from .71 to .90). Effect sizes are reported in Appendix 2. According to the rules of thumb by Cohen (2003), the effect size was small for all variables except work performance, which showed a medium effect size (Cohen's d of .43). An independent samples t -test was conducted to assess differences between the profit and the nonprofit organization (see Appendix 3). No differences in means were found for job autonomy, competence, relatedness, intrinsic motivation, turnover, or education level in the two organizations. Differences in means were found for wage level, age, and work performance. Means, standard deviations, and correlations for the study variables are presented in Table 1. The mean score of all six variables is given (relatedness, job autonomy, competence, intrinsic motivation, performance, and turnover intention); the standard deviations indicate how much variation there is around the mean. Correlations are also given between all the relevant/six variables.

Invariance Analyses

In line with suggestions made by Byrne (2001), each sample was tested separately and it was determined that the fits of the independent models were adequate

Table 01 Means, Standard Deviations and Correlations among Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Job autonomy			-								
2. Relatedness at work	5.78	.82	.09	-							
3. Competence	6.38	.74	.09	.34**	-						
4. Intrinsic motivation	5.14	1.08	.51**	.30**	.24**	-					
5. Performance	4.47	1.28	.16**	-.01	.15*	.18**	-				
6. Turnover intention	2.70	1.64	-.29**	-.28**	-.14*	-.40**	.05	-			
7. Age	44.54	10.82	.09	.03	.04	-.07	.09	-.18**	-		
8. Education level	2.46	1.07	.30**	-.17**	-.05	.12	-.08	-.00	.07	-	
9. Salary	2.34	1.05	.38**	-.04	.01	.18**	.09	-.07	.26**	.62**	-

N varies from 249 to 261. *p < .05, **p < .01 (two tailed).

(SEM Profit and SEM Nonprofit). A baseline model (Model 0) was estimated by simultaneous tests across the two organizations with no constraints. The fit of Model 0 was adequate (see Table 2). By inspection of the parameter estimates in Table 3, all six hypotheses regarding the relationships between the variables were supported.

Model invariance was determined by comparisons of the baseline model (model 0) to models in which paths are constrained. A model that does not show a significant change in chi-square compared to the baseline model is deemed invariant or equal to model 0. In order To test the equivalence of each path coefficient in the model, six separate tests were conducted, in which one of the six path coefficients was constrained to the baseline model in each analysis. Thus, how much unique influence the constraint of each path had on the chi-square value for the model was determined. Path f had the smallest influence on chi-square. path b had the second smallest influence, followed by path d, a, c and e. These six paths were constrained step-by-step in the order mentioned. The fit of the constrained model was compared at each step with the baseline model (Model 0) in which none of the paths was constrained. Table 3 shows the results of this explorative stepwise approach.

Results of the invariance analyses showed that the structural models fit the data in both samples. Constraining path f yielded no significant change in fit (Model 1): chi-square change = .002, $\Delta p = .973$. In addition, constraining path b yielded a nonsignificant change in fit as well (Model 2) compared to Model 0, $\Delta\chi^2/\Delta df = .005/2$, $\Delta p = .998$. Furthermore, constraining paths d, a and c did not yield any significant change in fit (Model 3, Model 4 and Model 5). Finally, the last path (e) was also constrained (Model 6), which also yielded a nonsignificant change in fit. None of the paths yielded any significant change in fit relative to both the baseline model and to the model preceding. These results suggest that the strengths of all the relations are equivalent across the profit and nonprofit organization. Figure 2 presents model 6, showing that all relations were equivalent across the organizations. The model was controlled for age, salary and education level, and independent variables were allowed to correlate. Results showed that all paths are judged equal in the two organizations.

To sum up, findings indicate that the hypotheses were supported: a positive association between job autonomy and intrinsic motivation (hypothesis 1), a positive relationship between competence and intrinsic motivation (hypothesis 2), a positive correlation between relatedness and intrinsic motivation (hypothesis 3), a positive relationship between intrinsic motivation and performance (hypothesis 4), a negative association between intrinsic motivation and turnover intention (hypothesis 5) and a negative correlation between relatedness and turnover intention (hypothesis 6). Further, no differences between in path coefficients were found between the two organizations.

The invariance analyses in the present study support the statement of SDT regarding the universality of basic psychological needs. Lack of differences in strengths of

Table 02. Results of the Invariance Analyses

Model tested	χ^2	df	p	$\Delta\chi^2/\Delta df$	Δp	NNFI	CFI	IFI	RMSEA
SEM both org (261)	52.19	21	.000	-	-	.874	.927	.929	.076
SEM Profit (106)	21.20	21	.447	-	-	.998	.999	.999	.009
SEM Nonprofit (155)	48.20	21	.001	-	-	.823	.897	.902	.092
Model 0 (no constraints)	69.37	42	.005	-	-	.889	.935	.940	.050
Model 1 (f constrained)	69.37	43	.007	.002/1	.973	.896	.938	.942	.049
Model 2 (f and b constr.)	69.38	44	.009	.005/2	.998	.902	.940	.944	.047
Model 3 (f, b, d constr.)	69.41	45	.011	.037/3	.998	.908	.942	.946	.046
Model 4 (f, b, d, a constr.)	69.59	46	.014	.22/4	.994	.913	.944	.948	.044
Model 5 (f, b, d, a, c constr.)	70.33	47	.015	.958/5	.966	.916	.945	.948	.044
Model 6 (all paths constrained)	71.21	48	.016	1.841/6	.934	.918	.945	.948	.043

Note: Results of the invariance analyses across organizations showing goodness of fit indices from the multigroup analysis. The number of cases is in parentheses. The letters a-f indicate paths in the model given in Figure 1. Model 0 is the baseline model for the invariance analyses evaluating structural equivalence. $\Delta\chi^2$ represents the difference in chi-square between Model 0 and the specific model in question, Δdf represents the difference in degrees of freedom between Model 0 and the specific model in question. Δp represents the probability value of the difference in chi-square (given the associated difference in degrees of freedom) between Model 0 and the specific model in question. SEM = structural equation model with observed variables, NNFI = normed fit index, CFI = comparative fit index, IFI = incremental fit index, RMSEA = root mean square error of approximation.

Table 03 Parameter Estimates for the Invariance Analyses

Model tested	a	b	c	d	e	f
SEM both org (261)	.33***	.22**	.19**	.20**	-.54***	-.39***
SEM Profit (106)	.31***	.24	.28*	.22*	-.46***	-.38*
SEM Nonprofit (155)	.35***	.23**	.14	.19*	-.62***	-.39**
Model 0 (no constraints)						
Model 1 (f constrained)						-.38***
Model 2 (f and b constr.)		.24**				-.38***
Model 3 (f, b, d constr.)		.24**		.20**		-.38***
Model 4 (f, b, d, a constr.)	.33***	.23**		.20**		-.38***
Model 5 (f, b, d, a, c constr.)	.33***	.23**	.18*	.20**		-.38***
Model 6 (all constrained)	.33***	.23**	.18*	.20**	-.54***	-.39***

Note: The number of cases is in parentheses. The letters a–f indicate paths in the model given in Figure 1. SEM = structural equation model with observed variables. The letters a–f show the paths between the variables, see Figure 2. Parameter estimates are standardized. Model 0 is the baseline model for the invariance analyses evaluating structural equivalence. *p < .05, **p < .01, ***p < .001.

relations between variables can be explained by need satisfaction that is considered to be universal (Deci & Ryan: 1985). Hence, employees in a commercial and a diaconal organization in which differences in pay level are present, yielded positive outcomes such as performance and through satisfaction of needs for relatedness, autonomy and competence. The present study supports the importance of relatedness, job autonomy and competence across types of healthcare organizations in Norway.

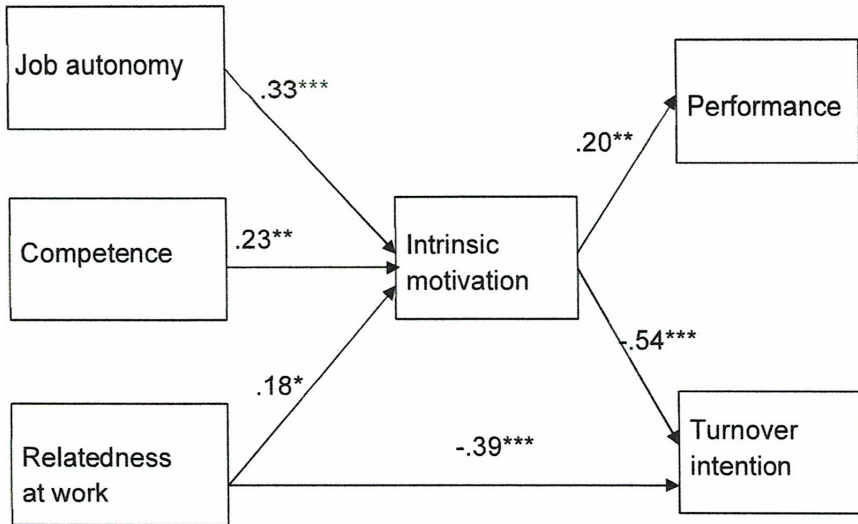


Figure 02 The Research Model with Parameter Estimates

6. Discussion, Implications, and Future Research: What Lessons Are Learned?

This study empirically explores the role of relatedness in a diaconal and a commercial healthcare organization. Of special interest is the finding that relatedness as a separate variable – and thus not as part of the basic need-satisfaction variable – plays an independent role in the maintenance of intrinsic work motivation, in line with Richer and his colleagues (2002). Hence, intrinsic work motivation is more likely to be present in contexts characterized by a sense of connectedness. Consistent with the hypotheses, relatedness, job autonomy, and competence were positively related to intrinsic motivation.

One of the main findings from the current study indicates that interpersonal relationships or relatedness may influence intrinsic motivation across types of

organizations, more specifically across a diaconal and a commercial healthcare organization. Hence, interpersonal work relationships can be understood as a way to experience intrinsic work motivation. Along the same line, researchers are increasingly interested in understanding the role of interpersonal relationships as a central way to experience meaningful work (Rosso et al.: 2010). Interpersonal relationships, for example, with coworkers, may have a strong influence on the meaning of work in terms of perceptions of meaningfulness (Rosso et al.: 2010). Coworkers may influence each other's interpretations of the meaning of their work through an interpersonal sensemaking process (Wrzesniewski et al.: 2003). In this way, interpersonal relationships may influence meaningful work as well as intrinsic work motivation as shown in this study. How, then, are intrinsic work motivation and meaningful work related? Meaningfulness of work may be considered as a factor contributing to intrinsic motivation such as in the job characteristics model⁵. Meaningfulness is also viewed as a factor contributing to intrinsic motivation, for example, by Thomas (2009) and by Pink (2009), who describe purpose as one out of three elements of true motivation. On the other hand, instead of considering meaning as a factor contributing to motivation, we can consider meaning as part of the motivation concept⁶ or as an outcome variable.⁷ In other words, the literature is not clear about how the concept of motivation and meaning are related. Future research on relatedness in diaconal institutions should investigate the interplay between relatedness, meaning, and motivation.

This study also investigated differences between the diaconal and the commercial healthcare organization. Invariance analyses in structural equation modeling showed that there were no differences in path coefficients between the diaconal and the commercial organization, when controlled for age, education level, and wage level. Why were no differences found? One possible explanation is because of similar structures and processes in the two types of organizations operating within the same field, the healthcare sector. The theory of isomorphism seeks to explain why there is a homogeneity of organizational forms and practices (DiMaggio & Powell: 1991). The existence of a common legal environment affects homogenization processes (coercive isomorphism). Also, formal education for healthcare workers and professionalization are important sources of isomorphism (normative isomorphism). The centralization of resources within the healthcare sector in Norway likely causes homogenization since the organizations are placed under pressure

5 In the Job Characteristics Model (JCM), experienced meaningfulness is established as one out of three critical psychological states leading to internal motivation.

6 Identified regulation is part of the concept of autonomous motivation. Identified regulation refers to engaging in an activity because of the personally meaningful outcome.

7 According to Ryan and Deci (2017), meaningfulness is regarded as an outcome of satisfaction of the three basic psychological needs for autonomy, competence, and relatedness (need satisfaction).

from the resource supply, in this case the state. Both profit-oriented and nonprofit hospitals in Norway are dependent upon state contracts. These are possible explanations for why we found no differences between the diaconal and the commercial health institution with the selected variables.

The current study indicates the importance of relatedness among coworkers in organizations. Relatedness among coworkers involves respect, active listening, and care for each other. Professional workers in diaconal institutions, such as nurses, are relational-oriented. Nurses are trained to listen, give, help, and empower others (patients). But how can relatedness between coworkers, such as between nurses, be nurtured? When professional workers/nurses themselves dare to share and show their vulnerability to colleagues, a space for coworkers to listen is available, which in turn may facilitate connectedness and relatedness. The ability to listen, to understand one another, and to develop a sense of connectedness is significant to experiencing relatedness at an *individual level*. To facilitate relatedness on a *structural or organizational level*, organizing for relatedness can be done, for instance, through social gatherings (Fjose: 2020).

The role of relatedness or interpersonal relationships among coworkers has been reactualized during the Covid-19 crisis, which has given a boost to new digital technologies and caused a switch to remote work. Based on findings from the current study, which was conducted before the Corona crisis, what lessons learned about the role of relatedness in diaconal and commercial healthcare organizations should be taken into consideration in times of crisis and after crisis? Individuals and organizations are challenged to respond and to make attempts to redesign everyday relational practices and routines. An example is the introduction of digital coffee breaks to maintain interpersonal relationships among colleagues. Build on knowledge from the current study and previous studies that indicate the importance of relatedness among coworkers in organizations, a natural next step is to explore *how* interpersonal relationships/relatedness at work can be maintained and facilitated in new ways in our new digital world, both at an individual level as well as an organizational level. Of special interest are healthcare organizations, which represent the case where the administrative staff may work remotely while the healthcare workers such as nurses do not work remotely.

Practical Implications

The study provides insights into leadership in diaconal and commercial organizations as well as insights into management educations. The practical findings in this study concern the facilitation of intrinsic motivation, which seems to yield positive outcomes such as increased performance and reduced turnover intention. The empirical results of this study indicate that relatedness at work, job autonomy, and competence are positively associated with intrinsic motivation and performance.

This is not a novel finding. However, this study more specifically suggests that managers in both diaconal and commercial organizations could expect positive outcomes from empowering these basic needs.

The implications of this research for diaconal organizations relate to how to support relatedness, autonomy, and competence. Relatedness involves caring for and showing respect for each other; the ability to listen, to understand one another, and to develop a sense of connectedness is important for motivating change and development at the individual level (Eide & Eide: 2007). Job autonomy is related to autonomy support in how managers impact employees' experience of job autonomy. Managerial support of autonomy implies that managers, such as diaconal leaders, provide choices, encourage self-initiation, acknowledge their employees' perspectives, and provide relevant information in a noncontrolling way (Stone, Deci, & Ryan: 2009). Competence may be supported through feedback and by providing optimally challenging tasks (Deci & Ryan: 1985).

7. Conclusion: The Role of Relatedness in Organizations

The findings in this study concern how relatedness, competence, and autonomy influence intrinsic work motivation. The results imply that facilitating relatedness as well as competence and job autonomy seem to increase intrinsic work motivation and performance as well as decrease turnover intention, regardless of the type of organization. Hence, the six proposed hypotheses were supported. The current study contributes to the SDT knowledge base in organizations by investigating relatedness separately and by contrasting a diaconal and a commercial organization.

This paper contributes to the interdisciplinary field of diaconal studies through the lens of organizational psychology and more specifically work motivation theory. This area has, with few exceptions, not received much attention in diaconal studies. Hence, the current study contributes to diaconal institutions that deliver care, often through specialized welfare institutions with professional healthcare workers.

One lesson learned from this study, which was conducted before the Covid-19 pandemic, is that relatedness plays an independent role in the maintenance of intrinsic work motivation for professional workers, such as nurses, regardless of the type of organization. The next step is to explore how interpersonal relationships at work can be maintained and practiced in our new digital world.

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Appendices

Appendix 01: Principal Component Analysis with Varimax Rotation

Items	1	2	3	4	5	6
My job is meaningful (IM)	.54			.33		
My job is interesting (IM)	.76					
Sometimes I find my work so exciting that I forget what is going on around me (IM)	.68					
The tasks that I do at work are themselves representing a driving power in my job (IM)	.75					
The tasks that I do at work are enjoyable (IM)	.80					
My job is so interesting that it is a motivation in itself (IM)	.82					
I often think about quitting my present job (TI)		.75				
I will probably look for a new job within the next three years (TI)		.87				
I may quit my present job next year (TI)		.85				
I will probably look for a new job next year (TI)		.92				
I do not see much prospects for the future in this organization (TI)		.59				
I really like the people I work with (RW)			.72			
I get along with people at work (RW)			.76			
I pretty much keep to myself when I am at work (RW) (R)			.54			
I consider the people I work with to be my friends			.69			
There are not many people at work that I am close to (RW) (R)			.60			
The people at work do not seem to like me much (RW) (R)			.58			
People at work are pretty friendly towards me (RW)			.66		.35	
I am able to achieve my goals in this job (C)	.40				.51	
I feel confident in my ability to learn this material (C)				.87		
I am capable of learning the material in this job (C)				.91		

Items	1	2	3	4	5	6
I feel able to meet the challenge of performing well in this work (C)				.78		
How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own work? (JA)					.77	
The job gives me considerable opportunity for independence and freedom in how I do the work (JA)					.83	
The job gives me a chance to use my personal initiative and judgment in carrying out the work (JA)	.41				.64	
I often perform better than what can be expected (P)						.85
The quality of my work is top-notch (P)	.33					.45
I almost always perform better than what can be characterized as acceptable performance (P)						.83
Initial eigenvalues	7.45	3.30	2.86	1.90	1.48	1.17
Percent of variance	26.74	11.79	10.23	6.75	5.29	4.19
Coefficient alpha for final scales	.88	.90	.77	.86	.83	.71

Note: Factor loadings less than .3 are not shown. IM = intrinsic motivation, TI = turnover intention, RW = relatedness at work, C = competence, JA = job autonomy, P = work performance, R = reversed item.

Appendix 02: Effect Sizes

<i>Variable</i>	<i>Cohen's d</i>
Job autonomy	.17
Relatedness at work	.025
Competence	.19
Intrinsic motivation	-.018
Performance	.43
Turnover intention	.02
Age	.26
Education level	-.18
Salary	.31

Appendix 03: Differences in Means Between the Profit and Nonprofit Organization

Variable	Nonprofit org		Profit org		T-test	Sig.
	N	Mean	N	Mean		
1. Job autonomy	153	4.61	105	4.88	-1.37	.17
2. Relatedness at work	155	5.77	104	5.79	-.20	.84
3. Competence	154	6.32	104	6.46	-1.48	.14
4. Intrinsic motivation	148	5.14	101	5.12	.197	.844
5. Performance	151	4.25	103	4.80	-3.46	.001
6. Turnover intention	153	2.68	104	2.72	-.18	.855
7. Age	154	43.40	105	46.22	-2.07	.039
8. Education level	155	2.54	106	2.34	1.51	.13
9. Salary	154	2.20	102	2.55	-2.61	.01