Examining the Relation Between Mindful Organizing and Affective Commitment Along With the Mediating Roles of Perceived Relatedness and Well-being

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Abstract

Background. Mindful organizing is characterized by a continuous exchange of ideas, thoughts, and information, allowing teams to work nearly error-free under high-risk circumstances. With rising numbers of research being done on the outcomes of mindful organizing, the number of inconsistencies is growing respectively. There are two opposing lines of research concerning the affective and attitudinal outcomes of mindful organizing, with one pointing to the detrimental and one to the beneficial effects of the construct.

Objectives. It is hypothesized that mindful organizing is positively linked to well-being, perceived relatedness, and affective commitment. Moreover, it is proposed that first, perceived relatedness explains the relationship between mindful organizing and well-being, and second, that well-being explains the link between mindful organizing and affective commitment.

Methods. By applying a cross-sectional study design, 80 employees took part in an online survey. Two mediation analyses were conducted.

Results. Results indicated that mindful organizing was positively linked to well-being, perceived relatedness, and affective commitment. However, no evidence for the mediating roles of perceived relatedness and well-being was found.

Conclusions. I conclude that mindful organizing has the potential to produce positive affective and attitudinal responses in employees, working in non-high-reliability organizations. Thereby, this paper makes valuable contributions to the mindful organizing literature, by resolving controversies regarding the proposed positive and negative outcomes of the construct.

Keywords: mindful organizing, well-being, affective commitment, relatedness, self-determination theory

Examining the Relation Between Mindful Organizing and Affective Commitment Along With the Mediating Roles of Perceived Relatedness and Well-being

Nowadays, organizations' environments are becoming increasingly competitive, complex, and uncertain. To successfully retain in the competitive market, organizations have to display continuous high performance (Singh et al., 2021). Past research has shown that certain organizations are especially skilled in exhibiting high performance for long periods of time. Those so-called "high-reliability organizations" (HROs) are flexible, adaptive, and able to quickly recover from demands and unexpected events (Weick & Sutcliffe, 2015). Weick and colleagues (1999) proposed the concept of mindful organizing (MO), explaining why teams within HROs are especially successful in displaying continuous levels of high performance. Accordingly, they defined MO as the collective capability of individuals (constituting a team) to detect discriminatory details about emerging issues and to act quickly in response to these details (Renecle et al., 2020; Weick et al., 1999). Thus, MO is not a static characteristic (that teams either possess or not), but rather a dynamic set of behaviors and abilities that teams can actively learn and engage in.

Even though the construct has received heightened attention over the past years, research is still in its' infant shoes. Previous studies focused on the antecedents of MO, such as leadership approaches, organizational practices, and participation climate (Sutcliffe et al., 2016), along with various conditions under which MO occurs. Only recently, researchers began to explore the outcomes and consequences of MO. Notably, the existing literature base is predominantly shaped by qualitative studies and is mostly limited to performance and safety-related behaviors in high-risk environments (Dierynck et al., 2017; Renecle et al., 2020). To date, only little is known about the effects of MO on employees' affective and attitudinal responses in the work environment, as for example (e.g.) turnover intention, commitment, job satisfaction, or well-being (Renecle et al., 2020). However, this is highly interesting as employees' affective and attitudinal responses to MO practices at work give valuable information about the usefulness of the construct in organizations (Ray et al., 2011). For instance, positive affective and attitudinal responses like job satisfaction can be markers of organizational success, providing important information for the whole organization (Bin, 2015; Judge et al., 2001).

Apart from research being inconclusive, the concept of MO is also surrounded by controversies. Indeed, there seem to be two opposing directions concerning the affective and attitudinal outcomes of MO. On the one hand, MO was conceptualized as a costly and demanding process, requiring continuous effort and attention from employees (Levinthal &

Rerup, 2006; Vogus & Welbourne, 2003; Weick & Sutcliffe, 2001). Consequently, MO is speculated to result in negative responses including exhaustion and turnover intention. On the other hand, it was proposed that MO can positively impact employees' affective and attitudinal responses by providing employees with job resources (e.g., social support, job control) (Renecle et al., 2020; Sutcliffe et al., 2016). Notably, some researchers criticized that team climate conditions have been neglected so far, suggesting that the concept of MO should be more socially embedded (Martínez-Córcoles & Vogus, 2020).

To fill this gap, this paper investigates the relationships between MO, well-being, affective commitment, and perceived relatedness (henceforth called relatedness). Thereby, the present work adds to the existing literature base on MO and expands it by shedding light on the affective and attitudinal responses associated with it. Within this research, the mediating role of well-being in the relationship between MO and affective commitment will be explored. Moreover, relatedness will be investigated as a potential mediator in the relationship between MO and well-being. Notably, more attention will be directed to the social processes surrounding MO. Lastly, while previous research on MO almost exclusively focused on HROs, the present work adds insight into the generalizability of the concept, as it will be investigated in non-high-reliability organizations (non-HROs).

Theoretical Development

Conceptual Background of Mindful Organizing

The concept of MO was founded by Weick, Sutcliffe, and Obstfeld (1999), after doing a review of research on HROs (e.g., nuclear power generation, air traffic control). Strikingly, they discovered that teams within HROs manage to work nearly error-free while displaying high performance for long periods of time (Renecle et al., 2020). Following this, the researchers proposed the concept of MO, stated as the ability of teams to quickly detect and correct emerging errors along with adapting to unforeseen events (Weick et al., 1999). Because teams that engage in MO are remarkably quick in detecting errors and unforeseen events, their pool of possible action capabilities is enlarged, which is the main reason for their effectiveness in dealing with difficult and unforeseen events (Renecle et al., 2020; Westrum, 1988).

The concept of MO is partly based on the classic mindfulness theory by Langer (1989), which takes place on the individual level. Accordingly, a state of mindfulness is achieved when individuals become aware of the events happening in their environment. Subsequently, the individual can form different response categories for various events, and based on that, the individual can deviate from the standard response to a situation by choosing

an alternative way of dealing with an event if needed (Rencele et al., 2020). Similarly, MO is characterized by the ability of teams to notice subtle signals (e.g., emerging errors) in their surroundings, and swiftly react to them in an adaptive way (Weick et al., 1999).

Therefore, individual mindfulness and MO partly overlap, as the act of noticing events in the external environment is central to both constructs. However, the constructs also differ. While individual mindfulness is an intrapsychic process, occurring within the minds of individuals (Morgeson & Hoffmann, 1999), MO is observable in the actions and interactions of team members through, for instance, meetings or feedback (Renecle et al., 2020; Schulman, 1993; Vogus & Sutcliffe, 2007a, 2007b; Weick et al., 1999). Therefore, it is only present to the extent that it is collectively performed (Levinthal & Rerup, 2006; Vogus & Sutcliffe, 2007a, 2007b, 2012; Weick & Sutcliffe, 2007). Notably, whereas the concept of individual mindfulness has been well researched over the past decades, relatively little is known about the concept of MO (Renecle et al., 2020; Vogus et al., 2010).

Well-being

Building on this background, what is known about the relationship between MO and positive affective states like well-being?

In the literature, there are various definitions for the concept of well-being. For this research, the definition of Keyes (2002) will be used, as it incorporates all three dimensions of well-being, capturing the construct in its whole scope. Accordingly, well-being is defined as "an individual's perceptions and evaluations of their own lives in terms of their affective states along with their psychological and social functioning" (Keyes, 2002, p. 203). There is consistent evidence showing that well-being at work is a crucial factor, associated with increased employee productivity (Krekel et al., 2019), lower turnover intentions (Boehm & Lyubomirsky, 2008; Keeman et al., 2017), as well as superior work performance (Lyubomirsky et al., 2005).

As stated, employees' affective responses to MO give valuable information about the usefulness of the construct at work (Ray et al., 2011), as positive responses may produce beneficial outcomes on multiple organizational levels (e.g., Bin, 2015). So far, only little research on MO and employees' affective responses is available.

However, recent work by Renecle and colleagues (2020) provides some direction, by illustrating that MO is positively linked to job satisfaction on the team level. Job satisfaction has been conceptualized as an attitude, including an affective, cognitive, and behavioral dimension (Zhu, 2013). Apparently, the process of MO strengthens teams' personal as well as

collective resources to cope with demanding work situations. That in turn, produces positive individual (and collective) outcomes (e.g., Renecle et al., 2020; Vogus et al., 2014).

Based on the assumption that both well-being and job satisfaction have an affective component, I expect that well-being (like job satisfaction) is positively linked to MO (Renecle et al., 2020). Thereby, controversies in the literature regarding the positive and negative responses linked to MO will be resolved. Therefore, the first hypothesis is the following:

Hypothesis 1. MO is positively linked to well-being.

Perceived Relatedness

Well-being

Research has shown that interpersonal relationships are a central aspect of work (Grant & Parker, 2009). Various theories proposed that individuals even have a need for relatedness, suggesting that relatedness is fundamentally important to humans. The most widely accepted theory is *self-determination theory* (SDT) by Deci and Ryan (2000). Accordingly, individuals have three innate psychological needs (autonomy, competence, and relatedness), which all must be satisfied to ensure optimal well-being. In this context, the need for relatedness is satisfied when individuals form close interpersonal relationships and feel connected to the individuals surrounding them (Deci & Ryan, 2000). Research by Rofcanin and colleagues (2019) suggested various ways in which employees can satisfy their relational needs. Employees may form new networks, give or receive feedback, or simply interact with colleagues.

Inherent to SDT, Deci and Ryan (2000) assume that satisfaction of the three needs is linked to heightened well-being levels. Since its publication, various studies confirmed this, resulting in an extensive base of evidence. Notably, this link has also been established in the work context. For instance, research by van Hooff and de Pater (2019), as well as Gomez-Baya and Lucia-Casademunt (2018) illustrated a positive link between relatedness at work and employee well-being.

Consistent with this theorizing, I expect that relatedness will be positively linked to employee well-being. Thereby, the existing base of literature on MO is expanded by linking the concept to SDT.

Hypothesis 2. Relatedness is positively linked to well-being.

Mindful Organizing

Researchers studying MO have criticized that the concept is not socially embedded enough (Martínez-Córcoles & Vogus, 2020). Meaning that even though MO is concerned with collectively enacted behaviors, only a few studies are available on the social processes

associated with MO. These imply, for example, the general group dynamics and the team climate, but also group members' relationships with each other. Thus, shedding light on the relationship between MO and its social aspects is highly relevant, as employees' perceptions of relatedness are fundamentally important for job satisfaction as well as affective commitment at work (Haski-Leventhal et al., 2019).

Previously, Sutcliffe and colleagues (2016) along with Vogus and colleagues (2014) suggested that MO is linked to higher levels of social support among team members. Accordingly, the ongoing exchange and discussion of thoughts and ideas, characterizing MO, is linked to heightened levels of social support. In line, research by Tucker and colleagues (2008) found evidence for a positive relationship between peer social support and employees' reporting of safety-related issues to colleagues.

As stated, past research suggested a positive link between social support and MO. However, there are no studies available yet, testing whether employees who are engaging in MO also feel more related to their coworkers. Social support and relatedness feelings are similar in the way that both constructs deal with interpersonal connections. Nevertheless, while social support deals with actions and behaviors aimed at helping and assisting others (e.g., Schaefer et al., 1981; Tardy, 1985), relatedness feelings are concerned with an individual's perception of closeness with other individuals (Deci & Ryan, 2000).

Based on this, I expect relatedness, like social support, to be positively linked to MO. Thereby, the existing base of literature on MO is expanded by linking the construct to the relatedness need and exploring the social processes linked to MO.

Hypothesis 3. MO is positively linked to relatedness.

Perceived Relatedness as a Mediator

As presented in *Hypothesis 1*, there is evidence in favor of a positive relationship between MO and well-being (Renecle et al., 2020; Vogus et al., 2014). Notably, past research suggested that this link could also be explained by a third variable (Renecle et al., 2020; Sutcliffe et al., 2016). Particularly, it was proposed that specific job resources, such as job control, could result from MO practices and lead to positive affective and attitudinal states among employees (e.g., Renecle et al., 2020). Due to the importance of employee well-being for outcomes like productivity (Krekel et al., 2019), it is highly interesting to further explore this notion.

Closely knit to human well-being is SDT, presented earlier in this paper. Central to SDT is (besides the two other needs) the need for relatedness, which has repeatedly been linked to well-being (e.g., Gomez-Baya & Lucia-Casademunt, 2018; van Hooff & de Pater,

2019). Based on the knowledge that MO is a team process (sustained by a continuous exchange of information), one might expect that over time, colleagues develop close interpersonal relationships. In turn, fulfilled interpersonal relationships should lead to a satisfied need for relatedness and increased well-being among employees, respectively.

Therefore, I propose that relatedness mediates the relationship between MO and well-being. I expect a partial mediation, implying that MO and well-being are also linked without the mediator. This part of the study expands the existing base of literature by clarifying the linking mechanisms of MO and positive affective states like well-being.

Hypothesis 4. Relatedness mediates the relationship between MO and well-being.

Affective Commitment

Well-being

Employees' commitment to their organizations is one of the most studied academic subjects over the past decades (e.g., Mowday, 1998; Petrova et al., 2020). This does not come by surprise, as previous studies illustrated the importance of organizational commitment for productivity, flexibility (Hakami et al., 2020), and overall financial performance (Bridges & Harrison, 2003). Meyer and Allen (1991) proposed the well-known *three-component model of commitment*, incorporating a normative -, continuance -, and affective commitment dimension. To date, this component model is widely accepted and used in research (e.g., Grego-Planer, 2020; Grund & Titz, 2022; Hadi & Tentama, 2020; Khan et al., 2021; Mercurio, 2015; Usman et al., 2021). Researchers agree that affective commitment represents the core of organizational commitment, as it has the strongest (beneficial) effects on psychological well-being and job performance (e.g., Ampofo, 2020; Evanschitzky et al., 2006; Meyer & Maltin, 2010; Rhoades et al., 2001; Rivkin et al., 2018).

Affective commitment has been defined as an individual's attachment to their organization, including the formation of strong ties, which directly impact the participation and emotional involvement of the individual towards their organization (Meyer & Allen, 1991). As such, affective commitment can be seen as individual's attitude toward their organization (Solinger et al., 2008). Indeed, a large base of evidence suggests that employees' affective commitment is positively linked to employees' affective states (e.g., well-being). For example, research by Jain and colleagues (2009), Meyer and Maltin (2010), as well as Rivkin and colleagues (2018), all found evidence for a positive relationship between employees' well-being and affective commitment to their companies.

Thus, I propose a positive relationship between employees' well-being and affective commitment. Thereby, the existing base of literature on affective commitment and well-being is extended and becomes even more substantial.

Hypothesis 5. Well-being is positively linked to affective commitment.

Mindful Organizing

Due to the rising popularity of MO in academic research, the concept has also been studied in relation to organizational commitment. Specifically, MO has been investigated in association with employees' affective commitment towards their organizations. The current base of literature is still small and dominated by research from Vogus and Sutcliffe.

Vogus and colleagues (2010, 2012) were the first to find evidence for a positive relationship between MO and affective commitment. Accordingly, the process of engaging in MO fosters the deeply held organizational values that inspired employees to join the organization they are currently working for (Sutcliffe & Vogus, 2014). By fostering those values, affective commitment to the organization increases. Notably, the relationship between MO and affective commitment has only been investigated in the context of HROs (e.g., nursing homes, hospitals), which limits the generalizability to other work settings.

Based on the theorizing by Vogus and Sutcliffe, I propose that MO will be positively linked to affective commitment. By investigating this relationship in work environments that are not specifically focused on highly reliable performance, the research findings will be more generalizable.

Hypothesis 6. MO is positively linked to affective commitment.

Well-being as a Mediator

As proposed in *Hypothesis 6*, there is evidence in favor of a positive relationship between MO and affective commitment (Vogus, 2011; Vogus & Sutcliffe, 2012). Since its discovery in 2011 and 2012 respectively, research evolved and offered new insights into the concept of MO. Indeed, recent work by Renecle and colleagues (2020) indicated that MO and affective commitment could be linked through a third factor, a mediator. Renecle and colleagues (2020) suggested that MO is linked to lower turnover intentions through the occurrence of job satisfaction. Thus, according to their reasoning, MO is positively linked to job satisfaction, which in turn is negatively linked to turnover intentions. Although the concepts of turnover and commitment are related, as high turnover intentions are thought to be an indication of low commitment to one's organization (Renecle et al., 2020), surprisingly little research on commitment and MO has been conducted so far.

Hence, building on prior research suggesting that MO is positively linked to affective commitment (Vogus et al., 2010; Vogus & Sutcliffe, 2012), and the assumption that turnover and commitment are related concepts, I propose that well-being has the potential to mediate the relationship between MO and affective commitment to the organization. Thereby, I assume that well-being and job satisfaction are comparable constructs (as argued in *Hypothesis 1*). Again, I expect a partial mediation. This part of the study sheds light on the linking mechanism of MO and affective commitment and thereby expands the current base of literature.

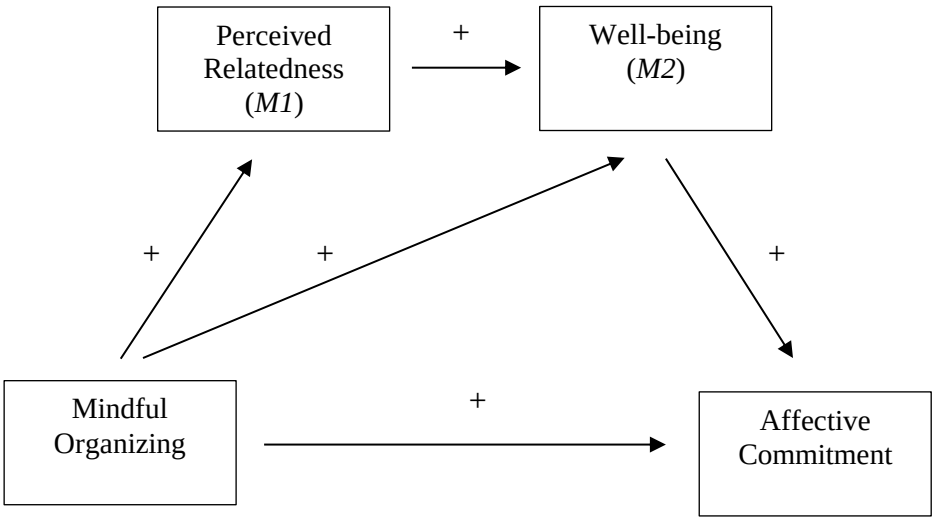
Hypothesis 7. Well-being mediates the relationship between MO and affective commitment.

The Present Study

Within this research, a correlational study was conducted to test the relationships between the following variables: MO, well-being, affective commitment, and relatedness. Moreover, Hayes' analysis for mediation (Hayes, 2018) was conducted to test whether relatedness mediates the relationship between MO and well-being, and whether well-being mediates the relationship between MO and affective commitment. Notably, although included in one conceptual model (Figure 1), the two mediation analyses will be conducted in separate statistical analyses (Figures 2 and 3). Due to the different identified inconsistencies and shortcomings in the literature (concerning commitment and employees' affective responses), I am interested in exploring the separate mediation effects.

Figure 1

Conceptual Research Model



Methods

Design

This research had a cross-sectional study design, allowing for the collection of data from different individuals on a single measurement point in time.

Participants

According to an a priori g*power analysis (*G*Power 3.1*), for this study a sample of $N = 77$ was required to achieve a power of at least .80 ($f^2 = .15$; $\alpha = .05$). The inclusion criteria required participants to be 18 years or older, employed, and sufficiently skilled in the English language to answer the questionnaire. Participants were expected to judge themselves, whether they possess sufficient English language skills, as this requirement was not checked by the research team. Lastly, participants had to fill out the questionnaire completely. Table 1 shows a summary of all demographic characteristics of the study sample.

Procedure

The present study was administered as an online survey via the use of the Qualtrics software, ensuring anonymous and secure data collection. Data collection started on April 6th and ended on May 12th. There was no compensation provided for participation. Convenience and snowball sampling was used to recruit the participants. Prospective participants were contacted via the professional and personal network (friends, family, and colleagues) of the research team, along with the use of social media platforms (Instagram, WhatsApp, LinkedIn, Facebook).

After clicking on the survey link, participants were redirected to the beginning of the survey. First, the information letter was presented (see Appendix A), including the content and purpose of the study, along with information about data security, anonymity, and the right to withdraw from the study. Second, the informed consent (Appendix A) was presented, and participants were asked to either agree or disagree by ticking the corresponding box. If a participant decided to take part in the study, they were redirected to the next page, assessing the participants' demographics. Following, participants were asked to fill in the main questionnaires (see Measures). If a participant decided to disagree with the informed consent, the individual was redirected to the end of the survey. The final survey page showed a statement, which thanked the participant for their time and indicated that the responses have been recorded. The total questionnaire took approximately 20 minutes to complete and was administered in the English language. The present study was approved by the Ethical Review Board of Utrecht University (Faculty of Social and Behavioral Sciences) with the approval number: 22-0732.

Table 1

Demographic Characteristics of the Sample

Characteristic	N = 80	% = 100	*M*	*S*	Min	Max
Age:	80	—	30.4	7.9	20	61
Sex:			—	—	—	—
Male	35	43.8				
Female	45	56.3				
Nationality:			—	—	—	—
German	25	30.1				
Irish	45	65.2				
Chinese	3	3.8				
other European countries:	5	6.5				
mixed nationality (European):	3	3.9				
Sector:			—	—	—	—
IT	11	13.9				
Education	10	15.2				
Health	8	10.2				
Service/Retail	6	13.6				
HR	6	7.8				
Law	6	5.1				
Consulting	3	3.9				
University	4	5.1				
Sales	2	2.6				
Engineering	2	2.6				
Finance	2	2.6				
Marketing	1	1.3				
Other	19	16.1				
Employment in years:			—	—	—	—
0 – 2	49	61.3				
3 – 5	18	22.5				
6 – 8	8	10.0				
More than 8	5	6.3				
Education:			—	—	—	—
Highschool	10	12.5				
Vocational tr.	2	2.5				
Bachelor’s d.	41	51.2				
Master’s d.	23	28.7				
Doctorate d.	2	2.5				
Other	2	2.5				

Note. Working sectors are combined out of open-question answers from participants.

Measures

Well-being

Well-being was measured by using the Mental Health Continuum-Short Form (MHC-SF) by Keyes and colleagues (2008), containing 14 items in total (see Appendix B). With this scale, emotional, social, and psychological well-being was assessed. The MHC-SF is a self-report scale that makes use of categorical response options to assess characteristics of positive mental health. An example item is “During the past month, how often did you feel satisfied with life? “. Individuals were instructed to select one of six options ranging from “Never” to “Every day”. The scale shows high internal consistency (Cronbach’s alpha >.80) and good discriminant validity in adolescents and adults (e.g., Keyes et al., 2008; Lamers et al., 2011). Further, the test-retest reliability was averaged at .68 (over three sequential three-month periods) and .65 (after nine months) (Lamers et al., 2011). Items 1-3 assessed emotional well-being, 4-8 social well-being, and 9-14 psychological well-being.

Mindful Organizing

Mindful organizing was measured with nine items from the Safety Organizing scale (SOS) by Vogus and Sutcliffe (2007a). Originally, the SOS scale was primarily used in health care contexts to measure the occurrence of medical errors, how they are dealt with, and how future errors can be prevented. The SOS scale measures the extent to which teams engage in MO by assessing each of the five dimensions of MO: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise.

For this study, the items were checked for their generalizability to other work contexts (apart from the medical sector) by the research team. The items seemed equally applicable in other work contexts, as the questions were phrased in general terms. The following adjustments were based on the validated Spanish version of the SOS scale (Renecle et al. 2020), who adjusted the scale to the context of a nuclear power plant. For the first item “When giving report to an oncoming nurse, we usually discuss what to look for” (see Appendix C), the word “nurse” was replaced by “employee”. Moreover, for the last item concerning patient crises, the word “patient” has been removed, as this research is not dealing with patients. An example item of the scale is “We spend time identifying activities we do not want to go wrong”. The response format was a 7-point Likert scale which ranges from “not at all” (1) to “a very great extent” (7). The SOS scale showed a high Cronbach’s alpha of .88 and good convergent validity (Vogus & Sutcliffe, 2007a).

Perceived Relatedness

Perceived relatedness was measured by the Need for Relatedness scale (NRS-10) (Richer & Vallerand, 1998), which consisted of 10 items (see Appendix D). This scale assessed employees' feelings of relatedness towards their colleagues. The scale both assessed the dimensions of acceptance (feelings of being listened to and understood by colleagues, 5 items) and intimacy (5 items), jointly capturing the concept of relatedness. An example item is "In my relationships with my colleagues, I feel supported". Responses were given on a 7-point Likert scale ranging from "do not agree at all" (1) to "very strongly agree" (7). Previous research identified high inter-item reliability, with Cronbach's alpha being .92 (Hollmbeak & Amorose, 2005; Kim & Gurvitch, 2020).

Affective Commitment

Affective commitment to the organization was measured by the 8-item Affective Commitment scale by Allen and Meyer (1990) (see Appendix E). The scale measured employees' emotional bonds to their organization, which is comprised of one's identification with the organization, a desire to remain in the organization, and a sense of involvement with the organization (Meyer & Allen, 1991; Mowday et al., 1979). The response format was a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). An example item is "This organization has a great deal of personal meaning for me". The scale builds a homogenous construct with high internal consistency reliability of .88 (Cronbach's alpha) (Shore & Wayne, 1993).

Data Analysis

With the use of the *Statistical Program for Social Sciences (IBM SPSS 28)*, all negatively coded items were reversed, and the mean scores were calculated for all measures. Next, the internal reliability of the scales was checked using Cronbach's alpha, along with the assumptions of linear regression (normality, linearity, homoscedasticity, multicollinearity, and independence of observations). Following, bivariate correlations were calculated between MO and well-being (*H1*), MO and relatedness (*H3*), well-being and relatedness (*H2*), MO and affective commitment (*H6*), and well-being and affective commitment (*H5*).

Afterward, by using *IBM SPSS 28'* PROCESS version 4.1 (Hayes, 2018), two separate mediation analyses were conducted. First, the role of relatedness in the relationship between MO and well-being was assessed (*H4*) (Figure 2). Following, in the second analysis, the role of well-being in the relationship between MO and affective commitment was investigated (*H7*) (Figure 3). Bootstrapping was used to assess mediation effects.

Results

Preliminary Analysis

As suggested by Hoaglin and Iglewicz (1987), the occurrence of extreme outliers was checked by applying the 3 IQR rule, as the commonly used 1.5 IQR rule displays a high inaccuracy rate in detecting outliers (Babura et al., 2018). No outliers were found. Afterward, I checked the assumptions for linear regression. The assumptions of linearity (by observing a scatter- and QQ-plot), homoscedasticity (values for Levene's test ranging from p = .18 to p = .65), multicollinearity (by observing VIF), and normality (checking histograms) were all met.

Primary Analysis

Bivariate Correlations Among Study Variables (Hypothesis 1-3,5-6)

To assess the relationships among the study variables, a correlation matrix was conducted. As observable in Table 2, all study variables were positively correlated. However, of the included demographic variables, only affective commitment was positively correlated with age.

Table 2

Descriptive Statistics and Pearson Correlation Coefficients (N=80)

	M	*SD*	*1*	*2*	*3*	*4*	*5*	*6*
1. Age	30.5	7.9	—					
2. Sex	—	—	-.10	—				
3. Well-being	3.1	0.8	.11	-.18	—			
4. Mindful organizing	4.6	1.2	.01	-.19	.50**	—		
5. Affective commitment	3.2	0.7	.25*	.03	.24*	.33**	—	
6. Perceived relatedness	4.7	1.1	.13	-.14	.29**	.57**	.56**	—

Note. $p < .05^{*}$; $p < .01^{**}$; $p < .001^{***}$.

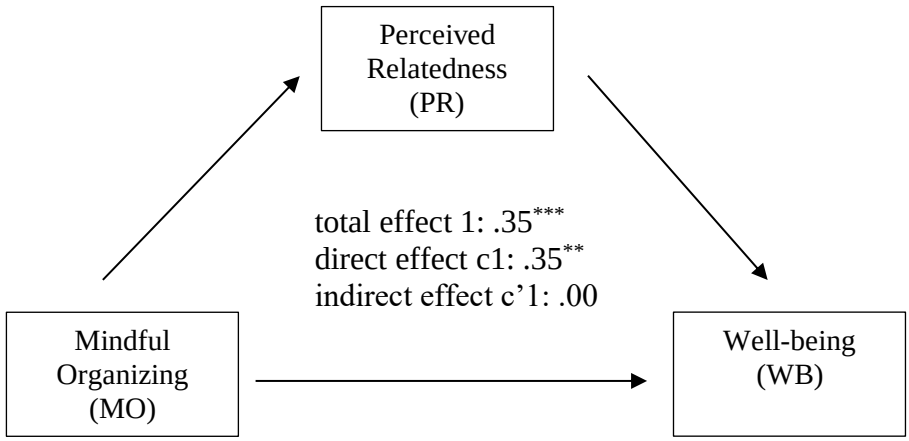
Mediating Role of Perceived Relatedness (Hypothesis 4)

Multiple regression analyses were performed to test the first mediation model (Figure 2). PROCESS 4.1 (Hayes, 2018) revealed a significant total effect, in which MO positively predicted WB b = 0.35, SE= .07, 95% CI [.213, .486], $t(78)$ = 5.11, p < 0.001, R^2 = 25.10%. Further, a significant direct effect of MO on WB was revealed when controlling for PR b = 0.35, SE= .08, 95% CI [.181, .514], $t(77)$ = 4.15, p < 0.01, R^2 = 25.09% (path c1). By using

bootstrapping, the indirect effect of MO on WB through PR was estimated. The indirect effect was insignificant b = 0.00, SE= .05, 95% CI [-.110, .099] (path c'1).

Figure 2

Statistical Model Illustrating the Mediating Effects of PR



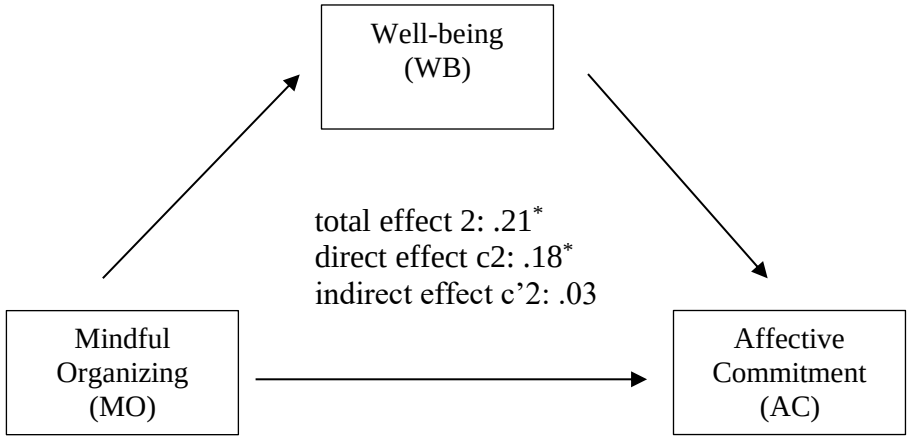
Note. $p < .05^{*}$; $p < .01^{**}$; $p < .001^{***}$.

Mediating Role of Well-being (Hypothesis 7)

Again, Multiple regression analyses were performed to conduct the second mediation analysis (Figure 3). PROCESS 4.1 (Hayes, 2018) revealed a significant total effect, in which MO positively predicted AC b = 0.21, SE= .07, 95% CI [.076, .346], $t(78) = 3.11$, $p < 0.05$, R^2 = 11.09%. Moreover, a significant direct effect of MO on AC was revealed when controlling for WB b = 0.18, SE= .08, 95% CI [.024, .336], $t(77) = 2.20$, $p < 0.05$, R^2 = 11.80% (path c2). By using bootstrapping, the indirect effect of MO on AC through WB was estimated. The indirect effect was insignificant b = 0.03, SE= .04, 95% CI [-.393, .109] (path c'2).

Figure 3

Statistical Model Illustrating the Mediating Effects of WB



Note. $p < .05^{*}$; $p < .01^{**}$; $p < .001^{***}$.

Discussion

Aim of the present study was to investigate the construct of mindful organizing (MO) and its outcomes. Seven hypotheses were proposed, which were theoretically built on past literature and grounded in self-determination theory (SDT) (Deci & Ryan, 2000). The results were partly in line with the proposed conceptual model (Figure 1).

In this research, evidence was found for a positive relationship between MO and well-being, thus supporting *Hypothesis 1*. Further, *Hypothesis 2* is supported as well-being was also positively correlated with relatedness. In line, evidence was found in favor of *Hypothesis 3*, illustrating a positive link between MO and relatedness. Moreover, in support of *Hypothesis 5*, the results displayed a positive link between well-being and affective commitment. Adding to that, *Hypothesis 6* was supported, as MO was positively linked to affective commitment. *Hypothesis 4* was not supported as relatedness did not mediate the relationship between well-being and affective commitment. Similarly, *Hypothesis 7* was not supported as well-being did not mediate the relationship between MO and affective commitment. Unexpectedly, relatedness and affective commitment were highly correlated ($r = .57$). This was surprising, as this relationship was not hypothesized in the conceptual model (Figure 1). A possible explanation could be that emotional involvement and the formation of strong ties with the organization (characterizing affective commitment), translate to the formation of ties with the individuals who constitute the organization. Thereby, the formation of ties with colleagues might also result in feelings of interpersonal closeness.

The results of the present research are partly in line with prior studies. *Hypothesis 1* is consistent with work by Renecle (2020) and colleagues, Sutcliffe (2016) and colleagues, as well as Vogus (2014) and colleagues, illustrating a positive link between MO and positive affective states. Further, supporting SDT (Ryan & Deci, 2000) and prior research by Sutcliffe and colleagues (2016) as well as Tucker and colleagues (2008), MO was shown to be positively associated with relatedness (*Hypothesis 3*). Further, *Hypothesis 6* is in line with work by Vogus (2010, 2012), illustrating that MO is linked to higher levels of affective commitment. In addition, the results of *Hypothesis 2* are in line with SDT and research by Gomez-Baya and Lucia-Casademunt (2018) as well as van Hooff and de Pater (2019), showing that relatedness is linked to higher levels of well-being. Lastly, in line with work by Jain and colleagues (2019), Rivkin and colleagues (2018) as well as Meyer and Maltin (2010), evidence was found for a positive link between well-being and affective commitment (*Hypothesis 5*).

To my knowledge, this study was the first to investigate the mediating role of relatedness in the relationship between MO and well-being. As stated, *Hypothesis 4* was not supported. A possible explanation could be that feelings of relatedness among colleagues are not necessary for MO to produce well-being. This idea is supported by the results of the present study, which illustrated a significant direct effect of MO on well-being, while controlling for relatedness (Figure 2). Perhaps, the continuous discussion and exchange of information and thoughts among colleagues, characterizing MO, is sufficient to produce well-being in employees. This study result is different from prior findings by Renecle and colleagues (2020). An explanation for the difference could be the choice of the mediator. Possibly, the variable relatedness is less conceptually similar to social support than hypothesized and may thus not serve as a job resource. While social support at work might be concerned with instrumental and task-relevant support (possibly improving the functioning of MO practices and thus well-being), relatedness might be more concerned with emotional support among colleagues (possibly less relevant for the MO process and thus well-being). Further, MO and well-being could also be linked through a different job resource. Renecle and colleagues (2020) suggested that job control, team effectiveness, learning, or empowerment could serve as linking variables. This notion merits further investigation.

Lastly, well-being did not mediate the relationship between MO and affective commitment (*Hypothesis 7*). Again, this finding is contrary to research by Renecle and colleagues (2020), who found evidence for the mediating role of job satisfaction. Possibly, well-being and job satisfaction are less conceptually similar than assumed. Both constructs

include an affective component. For job satisfaction, the component is represented by the "affective dimension" (Zhu, 2013), and for well-being, it is represented within the emotional well-being subscale. However, the concepts differ regarding the two remaining dimensions, as the well-being construct has another psychological and social dimension, whereas job satisfaction has a cognitive and behavioral dimension. Perhaps, job satisfaction might be heavily shaped by its cognitive or behavioral component (and less by the affective), reducing the intersection with the well-being construct. Consequently, the different constructs may have led to different statistical results.

Theoretical Implications

The current study adds to understanding MO practices and their outcomes in non-high-reliability organizations (non-HROs). Importantly, light is shed on the controversies and inconsistencies surrounding MO and its speculated beneficial (Renecle et al., 2020; Sutcliffe et al., 2016) or detrimental (e.g., Levinthal & Rerup, 2006) consequences.

The results of the present study illustrate that MO has the potential to produce positive affective and attitudinal responses in employees. First, to my knowledge, this study is the first to show a positive association between MO and well-being, illustrating the potential benefits of MO for individuals. Second, this work reveals that MO is strongly linked to affective commitment, clarifying that the construct is sustainable by possibly creating a lasting bond with the organization. Adding to that, the positive link between MO and affective commitment (Vogus et al., 2010, 2012) was now established with participants working in non-HROs, improving the generalizability of the findings. Third, relatedness was positively linked to MO and well-being, thus supporting SDT (Deci & Ryan, 2000). Responding to the criticism by Martínez- Córcoles & Vogus (2020), who argued that MO is not socially embedded enough, light was shed on the lacking social processes surrounding MO.

The findings presented challenge the view of MO as a demanding and effortful process (e.g., Levinthal & Rerup, 2006). Possibly, MO only leads to negative responses (e.g., turnover or exhaustion) in the specific HROs. As certain HROs (e.g., hospitals) are especially dependent on error-free performances, employees might be faced with high levels of performance pressure and thus experience little gain from MO (Hobfoll, 2001). Ultimately, MO might result in exhaustion. In contrast, as teams in non-HROs might be faced with less pressure, they may have the possibility to appreciate MO by, for instance, actively reflecting on past discussions within their teams. Thus, MO might unfold its positive effects. Future research could explore this by investigating whether MO is linked to higher levels of well-being in employees working in non-HROs. By using a cross-sectional study design, one could

compare whether there is a significant difference between participants' well-being scores in HROs (faced with high pressure) and non-HROs (faced with low pressure), which are both engaging in MO already. Based on this reasoning, I would expect people who work in non-HROs and engage in MO to experience higher levels of well-being, than individuals who practice MO and work in HROs.

Adding to that, the results of the present study are not in line with research findings by Renecle and colleagues (2020), who found that MO and positive affective states are linked through a third variable. In the present study, no evidence for such an effect was found. As already discussed, future research should investigate the potential role of other job resources (e.g., job control). Moreover, contrary to work by Renecle and colleagues (2020), in this research, well-being did not serve as a mediator between MO and affective commitment. As discussed, this raises the question of whether MO and affective commitment might be (at all) linked through a third variable. The present study yielded evidence for a significant direct effect of MO on affective commitment, while controlling for well-being (Figure 3). As explained by Vogus and colleagues (2010, 2012), MO fosters employees' organizational values that inspired them to join the organization in the first place, thereby creating affective commitment. Following, a mediator might not be relevant here, and practicing MO could be enough to foster affective commitment.

Practical Implications and Recommendations

The present study has important practical implications for individual employees and the whole organization. As individuals spend about one-third of their day at work, it is crucial to know what factors contribute to well-being and satisfaction. As the present work shows that MO is associated with heightened levels of relatedness and well-being, employees (within a team) could actively start to integrate MO practices into their daily work routines. As MO can be learned, employees could start by, for example, establishing rules of open communication or exchange and, over time, build up more advanced skills. Here, the overall goal of MO would be to either improve employees' well-being directly or indirectly through satisfying relatedness needs (in support of SDT) (Deci & Ryan, 2000).

Further, the results of the present study offer valuable insights into the usefulness of MO from an organizational perspective. Specifically, other than the known performance benefits of MO (Dierynck et al., 2017), this study illustrated a positive link between MO and affective commitment. This is highly interesting for organizations, as commitment is a crucial factor for establishing and sustaining a strong, and motivated workforce (Mearns et al., 2010).

In turn, a strong and motivated workforce is essential for organizational success in the competitive market (Wesley, 2012).

Due to the potential benefits that MO offers (e.g., regarding well-being and commitment), I would advise non-HROs to implement MO practices. As the present study was dominated by employees working in non-HROs, I would currently not make such suggestions for HROs. Future research should further clarify the affective and attitudinal responses linked to MO in HROs.

For organizations that have not been in contact with MO yet, I would suggest starting with a team-building workshop. Thereby, employees can learn about the principles of MO and its associated benefits, ask questions, and exchange thoughts and ideas with their colleagues and team members. After MO is implemented, the process should be checked regularly, to ensure optimal functioning.

Strengths, Limitations, and Directions for Future Research

The present study has several strengths. First, in response to criticism by Dierynck and colleagues (2017), as well as Renecle and colleagues (2020), indicating that the current literature is limited to qualitative studies exploring performance and safety-related outcomes in HROs, this work is one of the first quantitative studies to explore the construct of MO and its outcomes in non-HROs. Thereby, the external validity (generalizability) of the present research findings is enlarged by extending it to non-HRO work settings. Second, as already stated, the present study adds novelty by investigating MO and the neglected social processes related to it (Martínez-Córcoles & Vogus, 2020). The existing base of research is enlarged, by showing that MO is positively linked to relatedness.

Like every study, this research is not free from limitations. First, participants of the present study might have been susceptible to social desirability and volunteer bias. Perhaps, individuals who decided to take part in this research might be different (e.g., more outgoing, or active) than individuals who did not, which would introduce bias into the sample. To counteract this volunteer bias, future studies could draw a simple random sample from the population of interest (here individuals working in non-HROs).

Adding to that, participants might be prone to give socially desirable responses. Perhaps, individuals indicated to be more satisfied with their jobs than they are, to present themselves in a favorable light. Future studies could counter this bias by using the Marlowe-Crowne Social Desirability scale (MCSDS) (Vésteinsdóttir et al., 2017). Socially desirable responses can easily be detected by calculating the Pearson’s correlation coefficient between the study variable of interest and the MCSDS scores (Leite & Nazari, 2020). A high

correlation coefficient provides evidence that respondents gave socially desirable answers. Participants with high scores can then be excluded before conducting the main statistical analyses to counteract the bias.

Another limitation concerns the language in which the survey was administered. The questionnaire was offered in English only, and the non-native English participants (42%) were expected to decide (based on personal judgment) whether their language skills suffice. Possibly, some individuals participated in the study without understanding the questions accurately, thereby distorting the results. However, the majority (65%) of the sample had the Irish Nationality, thus not being affected by the language problem. Future research could include an assessment of the participants' language skills by, for instance, asking whether individuals understood all the questions.

Moreover, by means of data collection, a WEIRD sample (western, educated, industrialized, rich, and democratic) was used. Highly educated, western individuals working in the information technology and education sector were over-represented. Having WEIRD samples lead to low generalizability to the non-Western, less educated, and poorer population. For instance, the positive link that was found between MO and relatedness may be stronger when taking a sample with participants from a collectivistic culture. Individuals from collectivistic cultures might value group identity and social interactions differently (e.g., Al-Zahrani & Kaplowitz, 1993; Peterson & Stewart, 2020), which could influence MO practices and their effect on, for example, relatedness. Future research should investigate this notion and perhaps conduct this study again with a sample from a collectivistic culture.

There are also some limitations concerning the statistical analyses for the present research. First, by means of correlational analyses, the associations among the study variables were investigated. However, via the use of correlation, one is not able to make causal inferences about the direction of relationships or rule out alternative explanations for results. For example, although this research illustrated evidence for a positive association between MO and well-being, one cannot infer whether MO leads to higher well-being or the other way around. To arrive at more specific conclusions, one could conduct an experimental study. Experiments are beneficial, as they allow for precise control and thereby separate cause and effect variables (Falk & Heckman, 2009; Stangor, 2015). In this case, a field experiment could be advantageous, as MO is difficult to simulate in a laboratory setting. By using cluster sampling, one could sample two departments within an organization from the population, whose employees are not engaging in MO yet and show similar levels of well-being. Subsequently, within the scope of the manipulation, one would induce MO practices within

one department but not the other. After MO practices are established, one would again measure employees' well-being in both departments. If employees' well-being is higher within the department that practiced MO, one has evidence that MO leads to well-being among employees.

Adding to that, the present study shows some limitations concerning the complexity of analyses. Through *Hypothesis 4*, it was tested whether the relationship between MO and well-being can be explained by relatedness. However, besides relatedness, Renecle and colleagues (2020) proposed a variety of other job resources that might be responsible for linking MO and well-being. They proposed that learning, job control, team effectiveness, or empowerment could also serve as linking variables. Future research could further investigate this notion by incorporating a larger number of job resources. Furthermore, for all analyses concerning the study variable well-being, the total scale was used (MHC-SF). However, the well-being measure is constituted of three subscales, which might be linked differently to the remaining study variable. For instance, the social dimension of well-being might be stronger correlated with relatedness than the emotional or psychological dimension. Thus, future research could investigate the subdimensions of well-being and its relationships to the remaining study variables, to draw more detailed conclusions.

Conclusions

Taken together, the results of the present study provided support for the beneficial effects of mindful organizing on employees' affective and attitudinal states in non-high-reliability organizations. Specifically, mindful organizing was found to be positively linked to employee well-being, perceived relatedness, and affective commitment. Thereby, this study adds to the existing base of literature by exploring the controversy regarding the outcomes of mindful organizing. Further, based on the present work, I conclude that perceived relatedness and well-being do not serve as mediators in explaining the relationships between mindful organizing and their outcomes.

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Appendix A

Information Letter and Informed Consent

Research Project: Exploring the Relationship Between Mindful Organizing and Well-Being

Thank you for taking the time to read this information letter. Through this letter, we would like to ask your permission to participate in the research entitled "Exploring the Relationship Between mindful Organizing and Well-Being". Before you decide whether you wish to take part, it is important for you to understand why this research is being done and what it will involve. The purpose of this research is to further develop our understanding of the relationship between mindful organizing and well-being. This research is being undertaken as part of the Social, Health, and Organizational Psychology Master's program at Utrecht University, the Netherlands.

Background of the Research

Mindfulness and its effects on health and well-being is a rapidly growing area in the psychological literature in recent years. Mindful organizing can be described as the capability of teams to quickly react and recover from unexpected events. This research aims to explore the relationship between mindful organizing and well-being and to understand the extent to which leadership, relatedness, and commitment play a role in the relationship between mindful organizing and well-being. If you choose to participate in this study, you will be asked demographic questions about your age, gender, level of employment, year of working experience, and work sector followed by the main questionnaires. The questionnaires will ask about your collective mindfulness at work, your relationship with your team leader, your perceived relatedness, your commitment, and your well-being. The study will take approximately 10 minutes to complete.

Possible Advantages and Disadvantages of the Research

The study will not provide any individual benefits or advantages. However, the information provided by you through taking part in this study will help to increase the understanding of mindful organizing and its relationship with well-being. This means that you might help other employees in the future by participating in this study. The possible disadvantage of taking part in this study is that you are asked to give a time investment of 10 minutes. In addition, the questionnaire will ask questions about your work life and your well-being and there is a possibility that there will be questions that make you uncomfortable. You may decide not to answer these questions if you do not wish to.

Confidentiality of Data Processing

This research requires us to collect a number of personal data from you. We need this information to be able to answer the research question properly. The personal data is stored on a different computer than the research data itself (the so-called raw data). The computer on which the personal data is stored is secured to the highest standards and only the researchers involved have access to it. The data itself is also protected by a security code. Your participation in this study will be completely anonymous, meaning that you will be only identifiable by your research number. Your data will be stored for at least 10 years. This is according to the appropriate VSNU guidelines. You can read more information about privacy on the website of the Personal Data.

Authority: https://autoriteitpersoonsgegevens.nl/nl/onderwerpen/avg-europese-privacywetgeving

Voluntary Participation

Participation in this study is voluntary. You are free to decide whether you wish to take part in this study or not. If you do decide to take part, you will be asked to give your consent by indicating on the statement of consent form that you have read this information letter and understand what is involved in the research.

Independent Contact Person and Complaints Officer

If you have questions or comments about the study, you can contact our independent contact person, Associate Professor Dr. Catharine Evers at c.evers@uu.nl. Catharine will respond to any questions or complaints you may have. If you have an official complaint about the investigation, you can send an e-mail to the complaints officer to klachtenfunctionaris-fetcsocwet@uu.nl.

Contact Details of Data Protection Officer

https://www.uu.nl/organisatie/praktische-zaken/privacy/functionaris-voor-gegevensbescherming

If, after reading this information letter, you decide to take part in the research, please tick the box below indicating that you agree to participate.

Kind regards,

Orla Mullett, Josephia Scheel, and Dr. Laura Weiss

Utrecht University

Informed Consent

Statement of Consent

I herewith declare to have read the information letter concerning the research “Exploring the Relationship Between Mindful Organizing and Well-Being” and agree to participate in the research.

If you want to participate, please tick the box 'Yes, I consent', below to indicate you agree to participate in the research entitled “Exploring the Relationship Between Mindful Organizing and Well-Being”.

Appendix B

Adult Mental Health Continuum-Short Form (MHC-SF) for Measuring Well-being

Please answer the following questions about how you have been feeling during the past month. Place a checkmark in the box that best represents how often you have experienced or felt the following:

During the past month, how often did you feel ...	Never	Once or twice	About once a week	About two or three times a week	Almost every day	Every day
1. happy						
2. interested in life						
3. satisfied with life						
4. that you had something important to contribute to society						
5. that you belonged to a community (like a social group, or your neighborhood)						
6. that our society is a good place, or is becoming a better place, for all people						
7. that people are basically good						
8. that the way our society works makes sense to you						
9. that you liked most parts of your personality						
10. good at managing the responsibilities of your daily life						
11. that you had warm and trusting relationships with others						
12. that you had experiences that challenged you to grow and become a better person						
13. confident to think or express your own ideas and opinions						
14. that your life has a sense of direction or meaning to it						

Appendix C

Safety Organizing Scale (SOS) for Measuring Mindful Organizing

The following questions ask about team behaviors in your current job. Answer each question for the extent to which it characterizes the behavior of people with which you currently and regularly work. Please mark the box that best represents your perception:

Concept	SOS Survey Item(s)
Preoccupation with failure	1. When giving report to an oncoming employee, we usually discuss what to look out for.
	2. We spend time identifying activities we do not want to go wrong.
Reluctance to simplify interpretations	3. We discuss alternatives as to how to go about our normal work activities.
Sensitivity to operations	4. We have a good "map" of each other's talents and skills.
	5. We discuss our unique skills with each other, so we know who on the unit has relevant specialized skills and knowledge.
Commitment to resilience	6. We talk about mistakes and ways to learn from them.
	7. When errors happen, we discuss how we could have prevented them.
Deference to expertise	8. When attempting to resolve a problem, we take advantage of the unique skills of our colleagues.
	9. When a crisis occurs, we rapidly pool our collective expertise to attempt to resolve it.

Note. Item 1. and 9. have been adjusted (see Measures).

Appendix D

Need for Relatedness Scale (NRS-10) for Measuring Perceived Relatedness

The following questions ask about the relationships you have with your colleagues. Please answer the following questions and mark the box that best represents the degree to which you agree or disagree with the following statements:

Items	In my relationships with my work colleagues, I feel:
1.	supported
2.	close to them
3.	understood
4.	attached to them
5.	listened to
6.	bonded to them
7.	valued
8.	close-knit
9.	safe
10.	as a friend

Appendix E

Affective Commitment Scale (ACS) for Measuring Affective Commitment to the Organization

Below there are listed a series of statements that represent possible feelings that individuals might have about the organization they are working for. Please indicate the degree to which you agree or disagree with the statements presented below by checking one of the five alternatives:

1. I do not feel a strong sense of belonging to my organization. (R)
2. I do not feel “emotionally attached” to this organization. (R)
3. This organization has a great deal of personal meaning for me.
4. I do not feel like “part of the family” at this organization. (R)
5. I would be very happy to spend the rest of my career with this organization.
6. I enjoy discussing my organization with people outside it.
7. I really feel as if this organization’s problems are my own.
8. I think I could easily become as attached to another organization as I am to this one. (R)