

The Moderating Role of Needs–Means Fit in the Relationship Between Job Autonomy and Mental Health

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Abstract

This study investigates whether individual employees' needs moderate the relationships between job autonomy and mental health. Although it is well known that job autonomy has close relationships with mental health, we know little about the roles of employees' needs in these relationships. Using data from a nationally representative survey, this study found that higher order needs moderated the relationships between job autonomy and mental health, whereas lower order needs did not. That is, when more job autonomy was granted, employees with strong higher order needs had better mental health than did employees with weak higher order needs. These findings support the idea of needs-means fit. The findings have implications on which employees benefit more from job autonomy.

Key words: Job autonomy, Mental health, Higher order needs, Needs-means fit

INTRODUCTION

Job-related stress has been a growing problem for employees and organizations in recent decades. A survey of 500 U.S. employees reported that 48% of the respondents had extremely high levels of stress and that 38% were experiencing manageable but constant stress (Medical Benefits, 2003). The respondents believed that these high levels of stress were associated with more absenteeism and lower productivity.

Mental health problems, including stress, often lead to job dissatisfaction, absenteeism, and lower productivity (Cooper & Cartwright, 1996; Ganster & Schaubroeck, 1991; Siu, 2002; Wright & Hobfoll, 2004). Employees are exposed to many sources of mental health problems in workplace settings, including excessive workloads, unmet needs, and interpersonal conflicts with supervisors and coworkers. For the last several decades, the literature has suggested a variety of methods to reduce occupational mental health problems. For example, Bond, Flaxman, and Bunce's (2008) study showed that when employees were given more control over their job, their psychological distress decreased. Based on a job characteristics model (Hackman & Oldham, 1976), Kemp et al. (1983) found that intrinsic job characteristics contributed to the improvement of mental health. Since mental health has not been clearly defined to date (Nikolaidis, 2013), we include a variety of constructs in this concept such as psychological distress, stress, stress-related symptoms, psychological well-being, mental strain, and depression.

We focus on job autonomy as a means to alleviate mental health problems because employees can manage stressful environments more effectively when they are given job autonomy. Moreover, job autonomy often has a positive influence on other outcomes, such as employee attitudes and organizational performance (Ahuja et al., 2007; Hackman & Oldham, 1976; Shirom, Nirel, & Vinokur, 2006). *Job autonomy* refers to the degree to which individual employees are granted the freedom and discretion to determine how to do their job (Dodd & Ganster, 1996; Hackman & Oldham, 1976). If employees are given discretion and freedom to make work-related decisions, their mental health problems can be mitigated. Job autonomy is in a peculiar position among core job dimensions in the job characteristics model in that autonomy is linked to employees' decision-making participation and is given to employees by their managers or supervisors rather than by the job itself (Kemp et al., 1983).

Some previous studies have specifically examined the relationship between job autonomy and mental health. For instance, Shirom et al. (2006) noted that job autonomy was negatively related to burnout of medical specialists. Similarly, in a quasi-experimental study, Bond et al. (2008) found that job autonomy decreased the psychological distress of customer service employees. Although many studies have reported that job autonomy improves mental health (Bond et al., 2008; Bond & Flaxman, 2006; Schreurs et al., 2010; Van Yperen & Snijders, 2000; Vigoda-Gadot, 2007), these benefits may not hold for all employees. For instance, in a longitudinal study of a U.K.-based manufacturing company, Parker (2003) found that job autonomy did not have significant correlations with job anxiety and job-related depression. Likewise, for a sample of technology professionals, Moore (2000) found that job autonomy did not have a significant relationship with work exhaustion.

The variations in the previous findings imply that job autonomy's effects on mental health may be contingent on employees' individual characteristics. Because job autonomy is one way to fill higher order needs (Hackman & Oldham, 1976), we examine how individual employees' needs moderate the relationship between job autonomy and mental health. Some employees put more emphasis on higher order needs, such as a sense of achievement and self-actualization, than on lower order needs, such as high compensation and job security, and other employees are more concerned with lower order needs (Park, 2012). When job autonomy is granted to employees with strong higher order needs, those employees will have better mental health than employees with weak higher order needs.

The main purpose of this study is to examine whether the relationship between job autonomy and mental health is independent of or contingent on individual employees' needs. The findings of the current study provide theoretical and practical implications on which employees benefit more from job autonomy.

THEORY AND HYPOTHESES

Job autonomy and mental health

Job autonomy may contribute to better mental health by providing employees with the ability to manage stressful situations. Karasek (1979) argued that if workers must repress their desires because of low decision authority, the bottled-up desires can remain internally as mental strain. This argument hints that autonomy in workplaces can help employees reduce mental strain by providing them with the ability to work through stressful situations (Park & Searcy, 2012). Shirom et al. (2006) argued that when employees are given greater job autonomy, they can cope with stressful situations more effectively because they can use their resources and skills more flexibly.

In a study of a financial services organization, Bond et al. (2008) found that job autonomy was effective in reducing employees' psychological distress. A meta-analysis by Humphrey et al. (2007) revealed that job autonomy had a

negative relationship with mental health problems such as anxiety, stress, and burnout. Recently, Nixon et al.'s (2011) meta-analysis showed that job autonomy had a negative association with symptoms of stress, such as headaches and sleep disturbance. Based on the findings reviewed above, we propose the following hypothesis:

Hypothesis 1: Job autonomy will be positively related to mental health.

Higher Order Needs as a Moderator: Needs–Means Fit

Some studies have found that job autonomy has a positive relationship with mental health (e.g., Bond et al., 2008; Bond & Flaxman, 2006), but other studies have found no significant relationship between the two (e.g., Moore, 2000; Parker, 2003). These inconsistent findings suggest that the relationship between job autonomy and mental health may differ depending on individual employees' characteristics. Since job autonomy is closely related to higher order needs (Hackman & Oldham, 1976), we focus on individual employees' needs as one of those characteristics. The literature has suggested that higher order needs of individual employees play an important role in shaping work motivation and job satisfaction (e.g., Hackman & Lawler, 1971; Hackman & Oldham, 1976).

Some employees may value lower order needs, such as pay, fringe benefits, and job security, and others may value higher order needs, such as a sense of achievement, recognition, challenge, and self-actualization (Hackman & Lawler, 1971; Herzberg, 1966; Maslow, 1943; Park, Appelbaum, & Kruse, 2010). People with strong higher order needs place a higher valence on the achievement of goals than do those with weak higher order needs (Abdel-Halim, 1980). For example, people with a strong desire for control prefer making their own decisions to having decisions made for them (Burger & Cooper, 1979). In a more recent empirical study, Ghorpade, Lackritz, and Singh (2006) found that individuals with stronger higher order needs sought tasks that were meaningful and significant to them.

Because employees can acquire a sense of achievement and self-actualization through job autonomy, job autonomy is a means to fulfill higher order needs (Ghorpade et al., 2006). Individuals who seek to meet higher order needs respond positively to occupations that give them more autonomy because they value the kinds of opportunities and internal rewards from such jobs (Hackman & Oldham, 1976). In a study of a telephone company, Hackman and Lawler (1971) found that when more job autonomy was given to employees, employees with strong higher order needs tended to have higher motivation and job satisfaction, to be absent less frequently, and to do higher quality work than those with weak higher order needs.

Hackman and Lawler's (1971) finding illustrates a dynamic that we call *needs–means fit*, a concept that refers to how well the means provided to meet a specific need match with their actual need. This concept is a specific form of needs–supplies fit in a perspective on person–organization fit. Needs–supplies fit occurs when employees' needs and the rewards provided by the organization coincide (Cable & DeRue, 2002; Gostautaitė & Buciumiene, 2010; Kristof, 1996). Job autonomy may be a specific form of rewards to employees with certain needs.

When job autonomy is granted to employees with strong higher order needs, employees will perceive that their needs are being met (i.e., *needs–means fit*). To the extent that employees perceive that their needs are met, they will have better mental health than employees who perceive that their needs are not being met. On the other hand, if the means provided to meet a specific need do not match with the actual need (i.e., *needs–means misfit*), employees will not be happy. For example, even if job autonomy is granted to employees with strong lower order needs (e.g., good pay and job security), employees' mental health will not improve much because their primary needs at the moment are not to obtain a sense of achievement or self-actualization. Thus, job autonomy may be more effective for employees with strong higher order needs than for those with weak higher order needs, whereas autonomy may not be relevant to the degree of lower order needs that employees have.

The concepts of needs–means fit and needs–means misfit lead to the following hypotheses about the moderating roles of individual employees' needs.

Hypothesis 2a: Job autonomy will have a stronger relationship with mental health when job autonomy is given to employees with strong higher order needs than when given to employees with weak higher order needs. That is, higher order needs will moderate the relationship between job autonomy and mental health.

Hypothesis 2b: Lower order needs will not moderate the relationship between job autonomy and mental health.

METHODS

Sample

To examine the proposed hypotheses, this study used the data set from a survey of the National Study of the Changing Workforce (NSCW). This survey was conducted from a representative sample of the U.S. labor force via a computer-assisted telephone interviewing system by the Families and Work Institute in 2008. The survey covered almost all industries of the economy in USA. The sample was selected by a regionally stratified random-sampling strategy. Each interview took an average of 50 minutes to complete. The response rate was 55% for eligible

households (Galinsky, Aumann, & Bond, 2009). The NSCW has two data sets: one that consisted of a total of 3,502 people, and another that consisted of only 2,769 people who were employed at the time of the survey. We used the latter data set because our hypotheses and variables are concerned with people who are employed. We excluded participants who did not complete all survey items related to the variables in our study, resulting in a final sample size of 2,254.

The average age of the final sample was 46. Eighty-three percent of the respondents were White, 8% were African American, and 9% were of other racial groups. Fifty-five percent of the respondents were female, and 66% were married or living with someone as a couple. Twenty-four percent of the respondents had a high school education or lower, 31% had some college, 27% had a bachelor's degree, and 18% had a graduate degree. Eighteen percent worked in executive or managerial occupations; 31% worked in professional or technical occupations; 16% worked in production, operation, or repair occupations; and 35% worked in sales or service occupations. The average respondents earned \$51,224 per year.

Measures

Job autonomy. This construct was assessed with four items, which are similar to items on decision authority in the Job Content Questionnaire developed by Karasek (1979). Items for this and other scales are listed with their factor loadings in Table 1. Participants gave their responses on a 4-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). The Cronbach's alpha of these items was .80. The items were reverse coded and averaged into a composite score, with higher scores indicating that employees perceived more job autonomy.

Table 1. Results of Confirmatory Factor Analysis of Items

Item	Loading
Job autonomy	
1 I have the freedom to decide what I do on my job.	.78
2 It is basically my own responsibility to decide how my job gets done.	.55
3 I have a lot of say about what happens on my job.	.72
4 I am given a lot of freedom to decide how I do my own work.	.62
Higher order needs	
5 Doing work that challenges me to learn new things.	.50
6 Working in a job where I can make decisions about how my job gets done.	.53
7 Having work that is meaningful to me.	.44
8 Having a job where my ideas are listened to.	.53
9 Working for an organization where I feel that I can be myself.	.48
Lower order needs	
10 Being well paid for my skills and effort on the job.	.44
11 Having a secure job that I don't have to worry about losing.	.50
12 Have a job with good benefits like health insurance.	.48
Stress symptoms	
13 Been bothered by minor health problems such as headaches, insomnia, or stomach upsets?	.76
14 How often have you had trouble sleeping to the point that it affected your performance on and off the job?	.78
15 How often have you had trouble falling asleep when you go to bed?	.96
16 How often have you awakened before you wanted to and had trouble falling back asleep?	.94
Stress	
17 How often have you felt nervous and stressed?	.85
18 How often have you felt that you were unable to control the important things in your life?	.74
19 How often have you felt that things were going your way?	.52
20 How often have you felt that difficulties were piling up so high that you could not overcome them?	.81

Higher order needs. This construct was measured by five items, which are similar to items used by Warr, Cook, and Wall (1979). The survey asked how important the respondents considered factors such as challenge and meaningfulness in deciding to take a job. These items assessed the degree to which individual employees valued higher order needs in their jobs. Respondents answered on a 4-point Likert scale ranging from 1 (*extremely important*) to 4 (*not important*). The Cronbach's alpha of these items was .82. The items were reverse coded and

averaged into a composite score, with higher scores indicating that they had stronger higher order needs.

Lower order needs. Lower order needs were assessed by three items. The survey asked how important the respondents considered factors such as job security and compensation in deciding to take a job. Respondents answered on a 4-point Likert scale ranging from 1 (*extremely important*) to 4 (*not important*). The Cronbach's alpha of these items was .72. The items were reverse coded and averaged into a composite score, with higher scores indicating that they had stronger lower order needs.

Mental health. Mental health has been measured in a variety of ways in previous studies. In this study, mental health was assessed with stress and stress-related symptoms. The survey asked how often they had experienced stress and stress-related symptoms in the last month. Responses were made on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Stress was measured by four items, which were selected from the original 14 items in the Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein (1983). The Cronbach's alpha of these items was .73. The third item was reverse coded, and the four items were averaged into a composite score, with higher scores indicating more frequent stress. Stress symptoms were also measured by four items, including minor health problems and sleeping problems. These items were some of stress-related symptoms which Nixon et al. (2011) exemplified. The Cronbach's alpha of these items was .78. The items were summed and averaged into a composite score, with higher scores indicating more frequent instances of stress symptoms.

Control variables. We controlled for several variables that were likely to influence the dependent variables (stress and stress-related symptoms). The control variables consisted of age, gender, marriage, education, and wage. Age was measured by a continuous variable. Women and married or cohabiting employees were coded 1; and all others were coded 0. Based on the sample's characteristics, we used four education levels (high school or less, some college, bachelor's degree, and graduate degree) and five wage levels (from 20,000 or less to 80,000 or more).

Analytic Strategy

We conducted a series of confirmatory factor analyses to evaluate the construct validity of the main variables (job autonomy, higher order needs, lower order needs, stress, and stress-related symptoms) using LISREL 8.50. The goodness-of-fit-indices for the 5-factor model indicated a good fit with the data (RMSEA = .03, SRMR = .03, NFI = .96, CFI = .97, GFI = .98, AGFI = .97). Also, the 5-factor model fit the data best among all possible models (from the 1- to 5-factor models). For instance, the 5-factor model fit the data better than the 4-factor models, in which the items for two subconstructs of mental health were loaded on a common factor ($\Delta\chi^2_{(4)} = 503, p < .01$) and the items for higher and lower order needs were loaded on a common factor ($\Delta\chi^2_{(4)} = 735, p < .01$).

Hierarchical regression analysis was employed to test hypotheses. In the first step, job autonomy was entered with control variables to test Hypothesis 1. As the second step, higher order needs and the interaction of job autonomy with higher order needs were added to test Hypothesis 2a. In the final step, lower order needs and the interaction of job autonomy with lower order needs were added to test Hypothesis 2b.

RESULTS

Table 2 displays the descriptive statistics and the zero-order Pearson correlations between the variables. Job autonomy had a positive correlation with higher order needs ($r = .16, p < .01$) and a negative correlation with lower order needs ($r = -.05, p < .05$). This independent variable was negatively correlated with stress symptoms ($r = -.16, p < .01$) and stress ($r = -.24, p < .01$). Interestingly, higher order needs had a high correlation with lower order needs ($r = .52, p < .01$). This indicates that employees with strong higher order needs also had strong lower order needs.

Table 2. Descriptive Statistics and Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Job autonomy	3.06	0.74	(.80)				
2. Higher order needs	3.14	0.55	.16**	(.82)			
3. Lower order needs	3.33	0.56	-.05*	.52**	(.72)		
4. Stress symptom	2.39	0.97	-.16**	.04	.04*	(.78)	
5. Stress	2.45	0.85	-.24**	.00	.07**	.57**	(.73)

^a $N = 2,254$. *M* = mean; *SD* = standard deviation. Cronbach's alphas are on the diagonal.

^b * $p < .05$. ** $p < .01$.

Table 3 presents the results of the OLS regressions to examine the relationship between job autonomy and mental health and the moderating roles of employees' needs in that relationship. In Models 1 and 2, job autonomy had the

negative relationships with stress-related symptoms and stress ($b = -.17$ and $-.24$, $p < .01$, respectively), the two components of mental health in this study. That is, employees with more job autonomy had better mental health. This result supports Hypothesis 1.

Table 3. OLS Regression Results to Test the Moderating Role of Employees' Needs

	Symptom	Stress	Symptom	Stress	Symptom	Stress
	Model-1	Model-2	Model-3	Model-4	Model-5	Model-6
Constant	3.19 (.12)**	3.80 (.10)**	1.43 (.47)**	2.77 (.40)**	2.39 (.54)**	3.71 (.46)**
Gender	.24 (.04)**	.14 (.04)**	.22 (.04)**	.13 (.04)**	.23 (.04)**	.13 (.04)**
Age	-.00 (.00)†	-.01 (.00)**	-.00 (.00)†	-.01 (.00)**	-.00 (.00)	-.01 (.00)**
Education	-.05 (.02)*	-.04 (.02)*	-.05 (.02)*	-.04 (.02)*	-.05 (.02)*	-.04 (.02)*
Marriage	-.16 (.04)**	-.15 (.04)**	-.16 (.04)**	-.15 (.04)**	-.16 (.04)**	-.15 (.04)**
Wage	-.01 (.02)	-.03 (.02)†	-.01 (.02)	-.03 (.02)†	-.01 (.02)	-.03 (.02)*
Autonomy	-.17 (.03)**	-.24 (.02)**	.33 (.15)*	.07 (.13)	.06 (.17)	-.25 (.14)†
High-order needs			.57 (.15)**	.33 (.13)**		
Low-order needs					.24 (.16)	.02 (.13)
Interactions						
Autonomy x High-order			-.16 (.05)**	-.10 (.04)*		
Autonomy x Low-order					-.07 (.05)	.00 (.04)
<i>F-values</i>	22.02**	41.99**	18.72**	32.43**	16.81**	31.58**
<i>R</i> ²	.06	.10	.06	.10	.06	.10

^a $N = 2,254$.

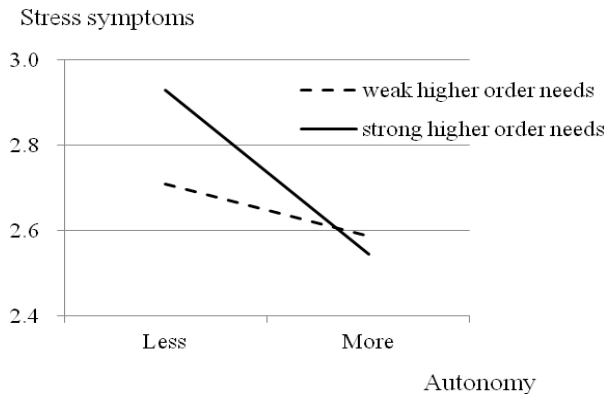
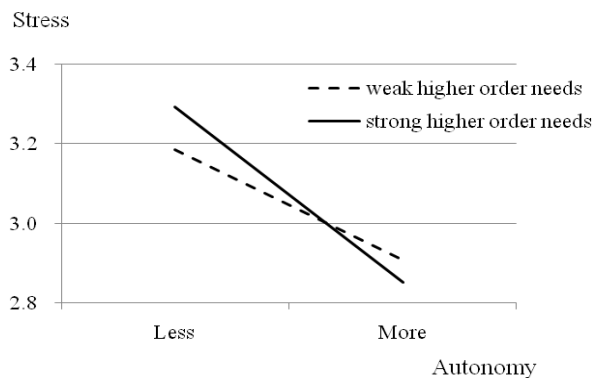
^b Standard errors are in parentheses.

^c * $p < .05$. ** $p < .01$.

Models 3 and 4 present the results of the OLS regression analyses to investigate the moderating role of higher order needs in the relationship between job autonomy and mental health (stress symptoms and stress, respectively). The interaction terms had negative, significant associations with stress symptoms ($b = -.16$, $p < .01$) and stress ($b = -.10$, $p < .05$). The relationship between job autonomy and mental health was stronger when job autonomy was granted to employees with strong higher order needs than when it was granted to employees with weak higher order needs, which supports Hypothesis 2a. These results provide examples of the needs-means fit between higher order needs and job autonomy.

In contrast, Models 5 and 6 show that the interaction terms between job autonomy and lower order needs had no significant relationships with stress symptoms and stress ($p > .10$), which supports Hypothesis 2b. These results are examples of needs-means misfit between lower order needs and job autonomy.

The moderating roles of higher order needs are illustrated in Figures 1 and 2. The sample was divided into employees who perceived less ($mean - one SD$) and more ($mean + one SD$) job autonomy and those who had weak ($mean - one SD$) and strong ($mean + one SD$) higher order needs (Aiken & West, 1991). The figures showed the similar pattern. That is, employees had lower levels of stress symptoms and stress when more job autonomy was granted to them, regardless of the needs that they had. However, the relationship between job autonomy and mental health varied significantly depending on how strongly employees valued higher order needs. Specifically, when considerable job autonomy was not granted, employees with strong higher order needs experienced higher levels of stress-related symptoms and stress than did employees with weak higher order needs. Conversely, when more job autonomy was provided, employees with strong higher order needs experienced lower levels of stress symptoms and stress than did employees with weak higher order needs. These findings reveal that while job autonomy had a positive relationship with mental health regardless of the level of higher order needs, this relationship was more considerable for employees with strong higher order needs than for employees with weak higher order needs.

Figure 1. Moderating Role of Higher Order Needs on Stress Symptoms**Figure 2. Moderating Role of Higher Order Needs on Stress**

Still, the unresolved issue in the above analyses is whether job autonomy had significant relationships with mental health, even for employees with weak higher order needs. In other words, the question is whether job autonomy would play an important role in increasing the mental health of employees with weak higher order needs. To answer this question, we followed the recommendations of Aiken and West (1991) and tested the significance of the simple slopes of the relationships for employees with weak higher order needs. Indeed, job autonomy had significant relationships with stress symptoms ($t = -3.08, p < .01$) and stress ($t = -4.33, p < .01$), even for employees with weak higher order needs. That is, independent of how strongly employees valued higher order needs, more job autonomy was associated with higher levels of mental health.

DISCUSSION & CONCLUSION

Using a nationally representative sample, this study found that job autonomy was positively related to mental health. Moreover, job autonomy was related more strongly to mental health when it was granted to employees with strong higher order needs than to employees with weak higher order needs. On the other hand, lower order needs did not play a significant role in job autonomy's relationships with mental health.

The findings of this study contribute to research on autonomy and mental health. This study is unique in that it investigated needs-means fit. That is, when managers or supervisors provide employees who have higher order needs with autonomy to fulfill those needs, their mental health can be greatly enhanced. This study provides evidence that job autonomy does not fit with lower order needs (needs-means misfit) but does fit with higher order needs (needs-means fit); specifically, in improving mental health, the findings suggest that autonomy might not be associated with how much lower order needs an employee has but how much higher order needs she or he has.

In addition, this study found a positive relationship between job autonomy and two aspects of mental health (stress symptoms and stress), and this finding is consistent with Karasek's (1979) position and with self-determination theory (Deci, Connell, & Ryan, 1989; Deci & Ryan, 2000). Karasek argued that employees who have low decision latitude face mental health problems from stress. This argument implies that job autonomy helps prevent mental health problems. Self-determination theory posits that satisfying needs for autonomy is linked to general job

satisfaction and psychological well-being. Consistent with both theories, this study confirmed that job autonomy has a positive relationship with mental health.

The findings of this study provide practical implications. First, job autonomy appears to be appreciated by and beneficial for all employees. In this study, even employees with weak higher order needs had better mental health when more job autonomy was given to them. Thus, to improve employees' mental health, supervisors and organizations need to provide all the employees with more job autonomy.

Second, job autonomy was particularly beneficial to employees with strong higher order needs, compared to employees with weak higher order needs. As indicated in Figures 1 and 2, if employees with strong higher order needs were not given sufficient job autonomy, their mental health levels were even lower than those of employees with weak higher order needs. Therefore, supervisors and organizations should be cautious to identify which employees have strong higher order needs.

Limitations and Future Research

Although this study provides important findings, it has several limitations, which should be addressed in future research. First, the direction of causality among job autonomy and mental health is an open question, as in any other cross-sectional study. It is important, however, to mention some previous studies related to the causality issue to stimulate further study. For example, in a quasi-experimental study, Bond et al. (2008) found that job autonomy at Time 1 had a negative relationship with psychological distress at Time 2.

Second, because the data were collected via employee self-reports, they may suffer from common method bias, which could have inflated the relationships between the key constructs. However, due to the sensitive nature of autonomy, mental health, and individual needs, self-reported data may be more accurate. As Spector (2006) noted, moderate correlations between key variables in this study may be a sign that common method bias is not a significant issue. Moreover, because each construct and most of the items in those constructs were scattered throughout the survey, it would have been very difficult for respondents to connect the dependent and independent variables, and thus common method bias might be minimized by this psychological separation (Podsakoff et al., 2003). In addition, given that there is evidence of construct validity between those variables, self-report bias does not seem to be a serious problem for this study's results.

Finally, measures for stress-related symptoms in the NSCW survey were disproportionately inclined toward problems sleeping, although they included other minor health problems, such as headaches and upset stomachs. In their meta-analysis, however, Nixon et al. (2011) found that having problems sleeping was more significantly related to stressors than to other symptoms. To account for a variety of aspects of stress, future research should include other symptoms, such as fatigue and dizziness.

This study provides evidence that job autonomy may be more beneficial for employees with strong higher order needs in terms of mental health. However, few studies have examined the role of lower order needs as a moderator. Thus, future research could examine whether managerial and HR practices that satisfy lower order needs (e.g., sufficient pay and job security) also improve the attitudes and mental health of employees with strong lower order needs to a greater degree than employees with weak lower order needs.

This study clarified that if an HR practice does not match with the actual needs of employees, it will likely be ineffective in improving their mental health. Because this study is the first to examine the idea of needs-means fit, future research might investigate whether the concept also applies to the relationships between other variables.

Biography of authors

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