Original Article

The relationships between sense of coherence and self-compassion to job stress with the mediating role of affective control

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Abstract

The purpose of this study was to provide a model for predicting job stress on the basis of self-compassion, sense of coherence (SOC) and affective control. To this end, we used structural equation modelling (SEM). The sample in this research consisted of 330 staff of steel companies selected via simple random sampling. For collecting data, Antonovsky's sense of coherence, Williams et al.'s affective control, self-compassion, and job stress questionnaires were used. Data were analysed via Sobel and Bootstrap statistical tests using SPSS and AMOS, Ver. 22. The results revealed that the direct effect of SOC, self-compassion, and affective control on the staff's stress was significant. The indirect effect of self-compassion and SOC on job stress through affective control mediation was also significant. In total, 20% of job stress variance was explained by the variables of the model. Considering the direct and indirect effects of the exogenous and mediating variables on staff job stress, it can be concluded that job stress can be reduced by enhancing affective control, SOC, and self-compassion.

Introduction

Job stress is one of the important phenomena in social life and a serious threat to the health of the workforce in the world today (Kortum, Leka, & Cox, 2010). Stress and, in particular, job stress is a psychological problem and a harmful physical and emotional response that occurs when environmental requests exceed an individual's perceived adaptive capabilities (Azadeh, Saberi, Rouzbahman, & Saberi, 2013; Romswinkel, König, & Hajek, 2018; Van Blyderveen, Lafrance, Emond, Kosmerly, O'Connor, & Chang, 2016). It has now been recognized that stress has been associated with many physical and mental illnesses (Hirokawa, Ohira, Nahayoshi, Kajiura, & Imano, 2016; Romswinkel, König, & Hajek, 2018; Van Blyderveen et al., 2016). High stress and, consequently, inadequate occupational health can reduce workers' productivity and cause the economic loss of 10 to 20 percent of Gross National Product (GNP) per country (Kortum, Leka, & Cox, 2010).

Modern organizations consider job stress as an important workplace issue (Hoboubi, Choobineh, Kamari Ghanavati, & Keshavarzi, 2017). The most important causes of job s tress include: job, home-work interface, and psychological state (Azadeh et al., 2013; Kortum et al. 2010; Romswinkel et al., 2018; Van Blyderveen et al., 2016).

Sense of Coherence

Sense of coherence (SOC) refers to as a personality trait that enables individuals to be strong enough to comprehend and manage life events in a meaningful way (Antonovsky, 1993; Kövi, Odler, Gacsályi, Hittner, Hevesi et al., 2017). There is a direct relationship between SOC and healthy adaptation (Torsheim, Aaroe, & Wold, 2001) Therefore, high levels of SOC are associated with a reduced risk for various health problems and may

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protect individuals against stress (del-Pino-Casado, Espinosa-Medina, López-Martínez, & Orgeta, 2019). Results indicated that people with a high level of SOC have a low level of stress (He, Lopez, & Leigh, 2012).

Self-compassion is a positive self-attitude (Phillips, 2018) that can play an important role in coping with stressors (Jacobson, Wilson, Solomon Kurz, & Kellum, 2018). Self-compassion can serve as a motivation for avoiding the repetition of past mistakes (Phillips, 2018) and for lowering stress (Bluth, Roberson, & Gaylord, 2015).

The purpose of affective control for individuals is to learn how to recognize and control emotions in different situations (Gross, 1998). Two reasons why affective control is of importance are that, firstly, many people suffer from a lack of ability to control emotions (Cole, Michel, & Teti, 1994), and secondly, affective control impacts on many aspects of life, mental health, physical health, and social communication (Dunham, 2008). Affective control is one of the factors necessary to adapt life-threatening events of life (Szczygieł, Buczny, & Bazińska, 2012).

Motivated and skilled staff is one of the key and important factors in the success of companies (Swart, Mann, Brown, & Price, 2012). However, research results indicate a high prevalence of mental disorders, especially job stress, among people in the country (Zare, Choobineh, & Keshavarzi, 2016). With this presumption, the high level of job stress among staff reflects the lack of attention to psychological and personality issues. On the other hand, the results in the information banks (IranDoc, SID, MagIran, Google Scholar, ProQuest, Scopus, Science Direct, ERIC, Web of Science, PubMed and Iran Medex) showed that the job stress model was designed for the first time based on the variables of sense of coherence, self-compassion and affective control, so such an investigation would seem necessary; besides, the implementation of such plans can strengthen the health and work psychology. Therefore, the purpose of this research was to design the causal model of job stress among staff based on the sense of coherence, self-compassion and affective control.

Method

Participants

The population of the research (N=2000) was the staff of the steel companies in Bonab, Iran in 2018. On the basis of the type of the design, the number of variables of the study, and Morgan's table, 330 participants were selected using the simple random sampling.

Instrument

The Short Form of the Sense of Coherence Questionnaire

This form was designed by Antonovsky (1987). The questionnaire consists of 13 questions with 7 options. The scoring method is based on the Likert scale. It also has three subscales: comprehensibility, manageability, and meaningfulness (Antonovsky, 1987). In Iran, Mohammadzadeh et al. (2010) translated and analyzed the questionnaire with 375 male and female students. Cronbach's alpha for the males was 0.75, and for females 0.78. The concurrent validity of this scale with psychological hardiness 45-item scale was 0.54. Moreover, the total scorecard validation coefficient was 0.66. The researchers also examined the validity of the questionnaire, the relationship between Comprehensibility, Manageability, and Meaningfulness subscales, and the total score of the questionnaire. The following results were obtained: 0.86, 0.81 and 0.76, indicating that the scale is both reliable and valid (Mahammadzadeh et al., 2010).

Self-compassion Scale

This scale was developed by Neff (2003), which has 26 items and is responded to on a 5-point Likert scale. It is comprised of 6 subscales including self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identified (Neff, 2003). The reliability coefficient of the test-retest was 0.93 and Cronbach's alpha in the study of Thailand and Taiwan was 0.86 and 0.95 in the United States. Basharpoor (2014) showed Cronbach's alpha coefficient for the subscales and the total scale scores in the Iranian student population ranged between 0.61 and 0.89 (Basharpoor, 2014).

The Affective Control Scale

The affective control scale was designed by Williams, Chambless and Ahrens (1997). This scale is a tool for measuring the level of control of individuals on their emotions and includes 42 questions comprising four subscales of anger, depressed mood, anxiety, and positive affect. The questionnaire is scored on a Likert scale, in which each individual identifies his success rate on a 7-point scale (Williams et al., 1997). In Iran, Tahmasebian, Khazaie, Arefi, Saeidipour and Hoseini (2014) using Cronbach's alpha coefficient calculated the internal consistency of the questionnaire across different groups. The findings indicated that the internal consistency of the questionnaire calculated by the Cronbach's alpha coefficient was (0.782) for the school students, (0.818) university students, (0.889) teachers, (0.935) professors, and (0.909) nurses. Also, in order to verify the validity of the questionnaire, the relationship between anger,

depressed mood, anxiety, and positive affect with the total score of the questionnaire was computed. The results were: 0.765, 0.751, 0.871, and 0.844, respectively. The results showed that the scale was both reliable and valid (Tahmasebian et al., 2014).

The HSE Job Stress Questionnaire
This 35-question questionnaire with seven domains was developed by the Health and Safety Executive (HSE) Management of the United Kingdom in the late 1990s to measure the occupational stress of workers and staff in seven areas (Cousins, MacKay, Clarke, Kelly, Kelly & McCaig, 2004). These seven areas are as follows: demand, control, managerial support, colleagues' support, relationships, role, and change. The benefits of this questionnaire include the range of issues and the low number of questions (Cousins et al., 2004;MacKay, Cousins, Kelly, Lee, & McCaig, 2004). In Iran, Azad and Gholami (2011) used exploratory and confirmatory factor analysis, Pearson correlation coefficient, and Cronbach's alpha to explore the construct and concurrent validity. The results demonstrated a strong correlation between the factors extracted from the factor analysis and the items of the HSE questionnaire (0.92, 0.73, 0.75, 0.63, 0.87, 0.85, and 0.22 respectively for the role, relationships, managerial support, colleagues support, control, demand, and change). The reliability of the questionnaire using Cronbach's alpha and the split-half method was 0.78 and 0.65, respectively (Azad & Gholami, 2011).

Procedure
The data were collected by Antonovsky's sense of coherence, Williams et al.'s affective control, self-compassion, and job stress questionnaires. After informing the staff of the research project and obtaining their consent to participate in this study, the researcher started distributing and later collecting the questionnaires. All the data were collected within four weeks. The presence of the researcher at the workplace assured that all of the staff completed questionnaires so that the research would not have an inadequate number or missing questionnaires.

We use structural equation modelling (SEM), which was aimed at examining the relationship among the observed and latent variables. The data were analysed using Pearson correlation coefficient, Bootstrap and Sobel via SPSS, Ver.22.0 and AMOS, Ver. 22.0 and $p < 0.05$ was considered statistically significant.

Results

The sample of this research consisted of 330 participants including 42 engineers, 34 administrative officers, and 254 workers with the mean and standard deviation of age

31 ± 5.27, ranging between 18 and 55 years old. The results presented in Table 1 show that there is a significant negative relationship between SOC, self-compassion as well as affective control and the staff's job stress. In other words, as the amount of SOC, self-compassion and affective control increases, the level of job stress declines. In structural equation modelling, normal distribution is one of the important assumptions that should be considered. One of the general criteria for studying the normality of the data is to calculate the statistics of skewness and kurtosis. The absolute value of the skewness coefficient of less than 2 and the kurtosis coefficient of less than 7 indicate a normal distribution of variables.

Table 1. Descriptive statistics and correlations between variables

Item	M (SD)	Kurtosis (Skewness)	(1)	(2)	(3)
1. Job stress	88.30(18.19)	0.469(0.081)	-	-	-
2. SOC	54.36(10.38)	1.247(0.426)	-0.168**	-	-
3.Self-compassion	78.85(10.79)	0.267(0.003)	-0.260**	0.207**	-
4. Effective control	202.21(29.28)	0.936(0.085)	-0.340**	0.174**	-0.076

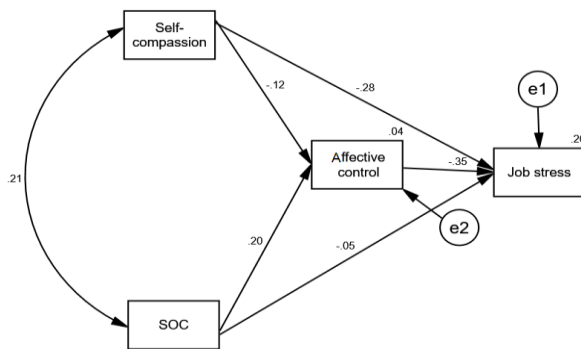Note. SOC: sense of coherence; SD: standard deviation. **Correlation significant at the 0.01 level (2-tailed)

According to Table 1, since all the variables of the study have an absolute value skewness coefficient of less than 2 and an absolute value of the kurtosis coefficient of less than 7, there is no violation of the normality of the data. The Durbin-Watson test was also used to check the autocorrelation, in which case is 1.91, indicating that the errors are independent.

Table 2. Fit the proposed pattern with data based on fit indexes

Index	X^2	Df	X^2/df	GFI	AGFI	IFI	CFI	RMSEA
Pattern	10.13	4	2.53	0.949	0.911	0.931	0.952	0.07

Note: X^2 = chi square; df = degrees of freedom; X^2/df = chi square ratio to degree of freedom; GFI = goodness of fit; AGFI = adjusted goodness of fit index; IFI = incremental fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation.

Figure 1. The standard coefficients of the final research model. Note: SOC = sense of coherence.

The bootstrap test was used to determine the direct effect of independent variables in the model. The results indicated that self-compassion and SOC in interaction with the mediating role of affective control are involved in explaining the job stress of staff, in which case the variance of job stress through variables of the model is explained by 20% in total. Figure 1 shows that the direct effects of affective control (-0.35), SOC (-0.05) and self-compassion (-0.28) were significant in estimating job stress. Also, the results of the Sobel test showed that the indirect effects of self-compassion (t-value = 2.02) and SOC (t-value = 3.2) through affective control mediation on job stress were also significant. In order to evaluate the fit of the proposed model, AMOS version 22.0 was used. The results showed that affective control in the model can play the role of a mediator between SOC along with self-compassion and job stress because goodness of fit Index (GFI), adjusted goodness of fit index (AGFI), incremental fit index (IFI) and comparative fit index (CFI) values in the modified model are more than 0.9. Also, in appropriate models, the ratio of chi-square to degree of freedom (X^2/df) should be in the range of 1 to 3, and this holds true in this model. Meanwhile, the root mean square error of approximation (RMSEA) should be less than 0.09, which is 0.07 in this model, indicating that that the validity of this model is good. Therefore, the proposed model is completely saturated. The results are presented in Table 2.

Discussion

The purpose of this study was to investigate the relationship between SOC and self-compassion, and job stress of steel company staff through affective control mediation. The results indicated that the suggested conceptual model of the study based on the relationship between SOC and self-compassion, and job stress, with respect to the mediating role of affective control, has a

good fit.

Also, the results of Bootstrap and Sobel test indicated that the variables SOC and self-compassion interacting with the mediating role of affective control are related to job stress. Totally, 20 percent of the variance in job stress is explained by the variables of the model. In this model, the direct effect of SOC on job stress is -0.05. In other words, by increasing the numerical value of SOC, the level of job stress is reduced. This is confirmed by the findings of previous researchers (Anyfantakis, Symvoulakis, Linardakis, Shea, & Panagiotakos, 2015; Dezutter, Wiesmann, Apers, & Luyckx, 2013; Flannery Jr & Flannery, 1990; He et al., 2012; Kikuchi, Nakaya, Ikeda, Okuzumi, & Takeda, 2014; Kupka, Altshuler, Nolen, Suppes, & Luckenbaugh, 2007; Kurowska & Kubak, 2011; Madhu, Siddiqui, Desai, Sharma, & Bansal, 2019; Petrie & Brook, 1992; Sairenchi, Haruyama, Ishikawa, Wada, Kimura & Muto, 2011; Torsheim et al., 2001; Valtonen, Raiskila, Veijola, Laksy, & Kauhanen, 2015). It can be said that the concept of SOC is an instrument that shows the general orientation of staff toward life and feelings of confidence, satisfaction and happiness in life and in the world around them (Delgado, 2007; Oelofsen & Richardson, 2006). This instrument makes it possible for individuals to perceive the internal and external stimuli received in life and workplace in an organized, predictable and comprehensible manner. In other words, SOC makes life more understandable, controllable, and meaningful to the individual and, by modulating the effects of stress, his ability to cope with stressful situations increases (Delgado, 2007; Flannery Jr & Flannery, 1990; Madhu et al., 2019; Torsheim et al., 2001). In this study, the results of the bootstrap test showed that the direct effect of self-compassion (-0.28) was significant in job stress estimation. This means that the increase in self-compassion of staff results in the reduction of their job stress. This is in line with the findings of previous studies that showed it is needed to reinforce staff's level of self-compassion in order to reduce their stress (Barnard & Curry, 2011; Birnie, Speca, & Carlson, 2010; Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013; Krieger, Hermann, Zimmermann, & grosse Holtforth, 2015; Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Neely, Schallert, Mohammed, Roberts, & Chen, 2009; K. Neff, 2003; Neff, Rude, & Kirkpatrick, 2007; Raes, 2010; Samaie & Farahani, 2011; Sirois, 2014). Findings of Bluth et al. (2015) as well as Birnie et al. (2010) indicate that self-compassion causes one to change their orientation toward their own self and their relationship with those around them, and to change the

self-aggressive and attacking style and replace it with care and compassion. In fact, self-compassion as a protective factor and a potential buffer can, by making physiological changes, increase the sense of satisfaction and thus reduce stress. On the other hand, high self-compassion employees, due to less focus on the negative aspects of events show a stronger immune response to stressors. In addition, the result of the bootstrap test showed that the direct effect of affective control (-0.35) in estimating occupational stress is significant. In other words, increased emotional control of employees reduces job stress. These findings are in line with Zvolensky, Leyro, Bernstein, and Vujanovic (2011) and Janke, Driessen, Behnia, Wingenfeld and Roepke (2018), which demonstrated that lowering emotional control reduces the incidence tolerance of discomfort in dealing with various issues in life, which can cause stress in people. In this study, the Sobol test was used to investigate the indirect effects of independent variables through affective control mediation on job stress. The results showed that the indirect effect of SOC with affective control mediation (t-value = 2.3) on job stress was significant. In other words, affective control can play a role in the relationship between SOC and job stress. Also, the indirect effect of self-compassion through affective control mediation (t-value = 2.02) was significant. Consequently, if self-compassion and affective control are observed simultaneously in an individual, it reduces the amount of occupational stress disorder in a person. The results are consistent with the those of Johnson, Farris, Schmidt, and Zvolensky (2012), Armentia and García-Villamisar (2014) and Rawlings, Claridge, and Freeman (2001), which showed that affective control could play a role as a mediator between psychological and personality variables; that is, affective control can adjust the rate and intensity of correlation between psychological and personality variables. With regard to the results and consideration of associative network model, it can be concluded that information storage, process, recovery and reminding in workers with job stress is highly associated with their emotional status. In other words, in these people, negative emotions such as anxiety, aggression, and depression act as a filter negatively affecting all their cognitive functions such as attention, memory, decision making and interpretation, and create inertia beliefs. The factor, in turn, leads to an increase in the symptoms of stress in these individuals (Johnston, Boehm, Healy, Goebel, & Linden, 2010). The findings of this research, in addition to confirming the associative network model, also corroborate the theory of mood-congruent memory. Based on this theory, the collusion of information processing in memory for negative and unpleasant information not only leads to retention and exacerbation of negative emotions such as depression and anxiety in individuals, but also renders a person's ability to control emotion ineffective, which is one of the main symptoms of job stress.

Conclusion

The results of the study showed that the affective control variable in the relationship between extrinsic and intrinsic variables (SOC and self-compassion with job stress) has a mediating role and this variable can be used to adjust the relationship between SOC and self-compassion and job stress of staff. Based on the findings in order to increase mental health and reduce job stress and other mental disorders, it is necessary to carry out training workshops in this field. Among the limitations that the researchers were trying to minimize was control of the workplace due to the crowding and passage of other staff and the probability of not responding correctly to questions on the part of the participants due to fear of losing their job.

Conflict of interest

The authors of this article declare that there was no conflict of interest.

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