



A New Look at the Relationship Between Job Stress and Organizational Commitment: a Three-Wave Longitudinal Study

Samir A. Abdelmoteleb^{1,2}

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Abstract

Based mainly on the results of cross-sectional studies, the dominant trend in the extant literature on job stress and organizational commitment posits a one-way directional relationship in which job stress negatively impacts organizational commitment. Moreover, research shows that job satisfaction fully mediates this relationship. The present study revisits the conceptual and methodological issues related to these relationships by employing a three-wave longitudinal design with 252 employees in two industrial organizations to test a model that involves a mutual relationship between job stress and organizational commitment in which job satisfaction partially mediates this reciprocal relationship. This proposed model was tested against and was preferable to numerous competing models. This study presents a new framework with more elaborate relationships between job stress, organizational commitment, and job satisfaction. It contributes to the current body of knowledge by revealing a dynamic relationship between organizational commitment and job stress (i.e., a feedback loop) and the dual mediating roles of job satisfaction in this mutual relationship, thereby providing greater insight into the mechanism by which these variables are interrelated. On a practical level, based on the supported mutual relationships between job stress, organizational commitment, and job satisfaction, focusing on the factors that commonly have beneficial effects on these three constructs is expected to intensify employees' well-being and provide more flexibility to intervening organizational actions aimed at managing these variables.

Keywords Job stress · Organizational commitment · Job satisfaction · Longitudinal study

Job stress, i.e., the adverse reactions employees experience in response to job stressors (Spector, Chen, & O'Connell, 2000a), is thought to be one of the antecedents of organizational commitment. Although organizational commitment is a multidimensional construct that consists of multiple forms (Allen & Meyer, 1990; Johnson, Chang, & Yang, 2010), in this study, organizational commitment indicates “identification with, involvement in, and emotional attachment to the organization” (Allen & Meyer, 1996, p. 253), or affective organizational commitment. The understanding of the relationship between job stress and organizational commitment has been both inconsistent and incomplete. Although a large number of studies have reported a negative impact of job

stress indices on organizational commitment (e.g., Cropanzano, Rupp, & Byrne, 2003; Jamal, 1990, 2005; Tourigny, Baba, Han, & Wang, 2013), other studies have not supported this link (Majchrzak & Cotton, 1988; Parasuraman & Alutto, 1984). Elangovan (2001) found that job stress did not have a direct relationship with organizational commitment; instead, job satisfaction, i.e., the extent to which individuals have positive affective emotions and attitudes toward their jobs (Cramer, 1996), mediated this relationship. However, most prior studies on the relationship between stress and commitment have used a cross-sectional design, and their ability to identify the direction of this relationship has thus been problematic.

This issue is particularly relevant to the proposed mediating role of job satisfaction. Although the causal relationships implied by mediation take time to unfold, the cross-sectional approach assumes that these relationships are instantaneous (Selig & Preacher, 2009). Accordingly, the application of a mediation model to cross-sectional data may lead to severe bias (Maxwell & Cole, 2007; Selig & Preacher, 2009),

✉ Samir A. Abdelmoteleb
sabdelmoteleb@ksu.edu.sa

¹ College of Business Administration, King Saud University, Riyadh, Kingdom of Saudi Arabia

² Port Said University Faculty of Commerce, Port Said, Egypt

ultimately suggesting a substantial indirect effect between two constructs through a mediator even when there is no real mediation effect (Maxwell, Cole, & Mitchell, 2011). Surprisingly, however, the majority of field studies on mediation have been based on cross-sectional data (Maxwell et al., 2011). Even the few cross-lagged studies in the literature have used only two time points and thus have not been sufficiently informative with regard to the direction of influence among the study variables. The use of two waves is insufficient because this type of design cannot determine the form of change over time (i.e., steady, delayed, or consistent) (Gottman & Rushe, 1993; Singer & Willett, 2003). Furthermore, a two-wave design cannot distinguish true change from measurement error, which may lead to the erroneous conclusion that true change is occurring, although a longer temporal view would suggest the opposite. Therefore, Singer and Willett (2003) insisted that two-wave panel studies are only marginally better than cross-sectional studies. Accordingly, Ployhart and Vandenberg (2010) limited longitudinal research to studies of change that contain a minimum of three repeated measurements.

Importantly, the potential impact of organizational commitment on job stress is underresearched, as the majority of studies in the stress-organizational commitment literature posit that the relationship between organizational commitment and job stress is a one-way directional relationship. In other words, most researchers have focused on job stress as a predictor of organizational commitment rather than on the role of organizational commitment as an antecedent of job stress. Generally, there have been few studies that investigate the effect of organizational commitment on employees' well-being. In their two-wave study, Panaccio and Vandenberghe (2009) found that organizational commitment predicted employees' subjective well-being. Although this study is informative, there is a need to extend this line of research given that this study conceptualized well-being as a combination of four indices including positive and negative affect, job satisfaction, and life satisfaction and did not focus particularly on the negative facet of the construct of well-being. Moreover, we need more in-depth insight into the nature of this relationship; as Meyer and Maltin (2010) posited, although many researchers have investigated the link between well-being and organizational commitment, more research effort revealing the mechanism by which commitment exerts its effect on well-being is needed given that virtually all of these studies were correlational in nature. Therefore, investigating the mechanism by which organizational commitment can impact well-being/job stress would contribute to the literature.

In addition, Kalliath, O'Driscoll, and Gillespie (1998) found evidence of a negative effect of organizational commitment on emotional exhaustion and depersonalization in a group of nurses. However, the negative impact of organizational commitment on depersonalization was not replicated in

a group of technicians working in the same organization. One justification, the authors gave for this inconsistency is the nature of the occupation. However, we could claim that the cross-sectional design of that study is another possible reason, given that the authors reported similar levels of emotional exhaustion and depersonalization for these two occupational groups. We also identified two other studies that referred to the potentially negative impact of organizational commitment on job stress (Somers, 2009; Wasti & Can, 2008). However, their findings were based on a cross-sectional design, which precluded the claim that organizational commitment is one of the antecedents of job stress.

Importantly, we could not identify a single study in the literature that has examined the potential mutual relationship between job stress and organizational commitment. Clarifying the proper sequential relationships between job stress and organizational commitment has theoretical and practical implications. Conceptually, investigating such a potential reciprocal relationship should be particularly informative, as it determines the extent to which a dynamic relationship between job stress and organizational commitment exists. A reciprocal model takes a broader view and considers influence processes that dynamically unfold in time and the feedback loops between two constructs (Mason, Conrey, & Smith, 2007). This view, in turn, would yield important insights into how job stress and attitude may predict each other. Thus, scholars may need to look differently at current models related to the job stress-organizational commitment relationship to reflect such mutual relationships or adopt new approaches that consider the potential for dynamic relations. Relatedly, in light of the interrelationships between job satisfaction and both job stress and organizational commitment, we need to know more about the mechanism by which job stress and organizational commitment are related. Does a stronger case of cross-lagged relationships between these constructs support a mediating role of job satisfaction? If this is the case, is it sufficient to keep to the current mediating role of job satisfaction, in which high strain first leads employees to highly perceive job demands (job dissatisfaction) and then to reduce their organizational commitment, given that organizational commitment develops based on factors such as the implications of maintaining membership in the organization, which might be partially influenced by the evaluation of job characteristics (Vandenberg & Lance, 1992)? Or should we adopt the reverse, although less-researched direction, suggesting that job demands determine an employee's psychological well-being (Jonge, Dormann, Janssen, Dollard, Landeweerd, & Nijhuis, 2001)? In this case, employees may first develop a level of emotional attachment to their organizations and subsequently interpret their job characteristics (Mathieu, 1991), with the level of organizational commitment engendering positive or negative attitudes toward the job (Tett & Meyer, 1993). The adopted attitude, in turn, influences employees' levels of job

stress (Antón, 2009). Alternatively, do we need to integrate these two directions to better understand this mediation mechanism? Indeed, it might be plausible to consider this last *new* approach, as it reflects and interlinks two notions in organizational psychology: (1) job satisfaction mediates the relationships between the assessment of working conditions and individual and organizational outcomes (Dormann & Zapf, 2001) and (2) the perception of work characteristics facilitates the process that leads to employee well-being (Bakker & Demerouti, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Accordingly, job satisfaction can work as a two-way channel to evaluate working conditions/characteristics from an employee's response to stress to his/her attitude toward his/her organization, and vice versa.

From a practical perspective, the one-directional approach to understanding the relationships between these three constructs might not be sufficient to manage the relations between them. Thus, identifying the proper sequence for these constructs will help practitioners make the most of intervening organizational actions aiming to maintain desired levels of organizational commitment, job satisfaction, job stress, and employee well-being. Specifically, analogous to the argument that Mathieu (1991) developed for the causal ordering of organizational commitment and job satisfaction, when executives are concerned with higher levels of employee job stress, any actions taken or programs developed that intend to address this issue will automatically enhance employees' levels of organizational commitment if job stress is an antecedent of organizational commitment. However, the effect of enhancing organizational commitment using the same procedures would be relatively limited if organizational commitment is a precursor of job stress. Importantly, the influence on both variables would be more effective if these two variables were reciprocally related, as any change to one of them would affect the other. Given that the same logic applies to job satisfaction, with its relationships to organizational commitment and job stress, our proposed framework is promising in terms of capturing the expected effects of intervening organizational actions. The presentation of a framework that considers the potential mutual relationship between job stress and organizational commitment and investigates the mechanism by which job satisfaction may mediate this reciprocal relationship represents an addition to the literature.

Given the current research models that present the interrelationships between the study variables, it is important to assess the extent to which the proposed model would increase our understanding compared with prior models. To this end, the proposed model (i.e., there is a reciprocal relationship between organizational commitment and job stress, and job satisfaction partially mediates such mutual relationships) was tested against various alternative models. This procedure contributes to theory advancement because features of the scientific method include its ability to contradict false assumptions,

to choose parsimonious models over heterogeneous ones, and to adjust our understanding in light of new evidence (Leavitt, Mitchell, & Peterson, 2010). The extant literature in general, and the literature on these study variables in particular, neglects this practice. The majority of prior studies have examined only their proposed models or, at most, have compared them to a few competing and alternative models (e.g., Hunter & Thatcher, 2007; Jamal, 1990; Yousef, 2002). This practice conflicts with the line of thinking that requires the proposed model to be tested against another set of testable claimed models. This procedure is critical because it helps refine theory by eliminating weak and biased aspects and determines the marginal contribution of the proposed model (Leavitt et al., 2010).

Accordingly, this study sought to address the gap in the literature on the relationship between stress and commitment by (i) investigating the reciprocal relationship between job stress and organizational commitment and the role of job satisfaction in mediating this relationship; (ii) examining the extent to which the results of prior studies, particularly those related to the mediating role of job satisfaction, hold in a more rigorous research design; (iii) and refining theory on prior relationships by comparing the proposed model with other literature-supported models and plausible theories.

Conceptual Framework and the Proposed Model

The Interrelationships Among Organizational Commitment, Job Satisfaction, and Job Stress

There has been debate in the literature regarding the causal relationship between job satisfaction and organizational commitment (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Conceptually, however, the idea that job satisfaction is an antecedent of organizational commitment is justifiable. One common argument for this claimed order is that job satisfaction is determined by personal and organizational factors, including job characteristics, that determine organizational commitment. Therefore, job satisfaction is seen as a micro determinant of organizational commitment, which is more macro in terms of the orientation of the individual toward the organization (Huang & Hsiao, 2007; Vandenberg & Lance, 1992). In this respect, job stress may negatively affect job satisfaction because stress taxes an individual's resources (Dewe, O'Driscoll, & Cooper, 2010), which in turn leads to a negative relationship with organizational commitment. Some empirical research evidence suggests that the association between job stress and organizational commitment is indirect such that it is fully mediated by job satisfaction (Elangovan, 2001). Nevertheless, the question of whether a direct relation between job stress and organizational commitment can be

established is plausible for the following reasons. First, more work is needed to precisely assess how job satisfaction may mediate the relationship between job stress and organizational commitment. Sometimes, there is an *a priori* theoretical reason that leads to the proposal of a direct effect in addition to an indirect effect through other variables (Zhao, Lynch, & Chen, 2010). Specifically, we may claim a direct relationship between job stress and organizational commitment given that employees who experience a higher degree of stress are expected to develop a lower level of attachment to their organizations (Mathieu & Zajac, 1990). Second, as discussed above, the design used in the previous study was cross-sectional and involved methodological issues.

The transactional model of stress suggests that stress derives from the appraisal that some environmental demands may tax an individual's resources and ultimately harm his or her well-being (Holroyd & Lazarus, 1982). When employees feel stress due to a lack of the resources required to properly perform their work, their work engagement, which is assessed based on levels of energy and mental resilience, persistence, and dedication, decreases. In turn, their organizational commitment declines (Hakanen, Schaufeli, & Ahola, 2008). In other words, this lack of resources results in frustration and failure, leading to a negative attitude toward work, including organizational commitment (Mauno, Kinnunen, & Ruokolainen, 2007). Based on the conservation of resources model (COR; Hobfoll, 1989), individuals seek to minimize their loss of resources as they encounter stress. Because resources are people's "stress resistance armamentarium," the loss of resources tends to lead to resource loss cycles with increasing strength and speed (Hobfoll, 2002). In contrast, when people are not stressed, they develop surplus resources to offset possible future loss. Therefore, an individual's organizational resources accumulate and help him/her to further invest resources to sustain, enhance, and increase work engagement (Gorgievski & Hobfoll, 2008) and, accordingly, organizational commitment.

As social exchange relationships suggest, organizational commitment is contingent on employees' perception of the quality of the exchange relationship between themselves and their organizations (van Knippenberg & Sleebos, 2006). Employees' trust in their organization is harmed when they feel that the organization has broken the psychological contract. An organization's failure to fulfill its obligations leads to a reduction in the level of employees' organizational commitment (Bal, De Lange, Jansen, & Van Der Velde, 2008) because employees' mistrust in their organization dissolves the emotional bond with the organization (Robinson, 1996). Cropanzano et al. (2003) argued that employees perceive higher levels of job stress as a violation of their rights and thus come to resent their employing organizations and to believe that extreme job stress levels mitigate the value of any benefits received from these organizations, ultimately

impeding their organizational commitment. Klein, Molloy, and Brinsfield (2012) argued that for organizational commitment to form, employees must develop the perception that they have adequate control over the situation and confidence in their ability to achieve desired outcomes. Based on the above, we propose the following hypothesis:

Hypothesis 1: Job satisfaction partially mediates the time-lagged relationship between job stress and organizational commitment such that job stress negatively affects organizational commitment.

On the other hand, organizational commitment can facilitate a process through which employees make sense of their current situation by developing attitudes that are consistent with their commitment to the organization (Bateman & Strasser, 1984). As employees' attachment to their organization decreases, they are likely to report higher levels of job dissatisfaction because they are expected to adjust their satisfaction levels to be consistent with their current commitment (Currivan, 1999; Mathieu, 1991). From another perspective, as individuals become committed to an organization, they develop a satisfaction level that is consistent with their commitment, thus reducing cognitive dissonance (Huang & Hsiao, 2007). This finding is in line with a common position in psychology that individuals develop attitudes consistent with the situations to which they are committed (Rayton, 2006). Accordingly, the level of organizational commitment may determine the extent to which employees favorably or unfavorably perceive their job characteristics. This perception, in turn, affects how strongly employees experience job stress given that perceived stress reflects an individual's psychological response of disturbed affect as a result of various job demands or constraints encountered in work (Parasuraman & Alutto, 1984). Individuals develop a feeling of relaxation as a result of met expectations and needs or a feeling of tension as a result of unsatisfied needs and expectations with their work (Bussing, Bissels, Fuchs, & Perrar, 1999).

Because organizational commitment can indirectly impact job stress through job satisfaction, it may also have a direct link. We can describe the employee-employer relationship as a series of social exchanges (Cole & Bruch, 2006). One of these relationships is organizational identification, i.e., an individual's perception of oneness with or belongingness to the organization (Ashforth & Mael, 1989). Organizational identification is inherently related to organizational commitment (Johnson et al., 2010; Kell & Motowidlo, 2012), and an individual's identification with an organization or a group is part of his or her self-concept (Herrbach, 2006). Identification provides employees with a feeling of support, control, and resilience, as well as a sense of belonging, meaning, and purpose, which in turn help them cope proactively with stressful experiences (Greenaway, Haslam, Cruwys, Branscombe,

Ysseldyk, & Heldreth, 2015; Steffens, Haslam, Schuh, Jetten, & Dick, 2017). Due to this identification, committed persons are expected to adopt the goals and values of their organizations and to consistently act to meet organizational expectations (Johnson et al., 2010). Organizational commitment accordingly induces employees' willingness to continue striving in the best interest of the organization even if they experience unfavorable working conditions (Kalliath et al., 1998).

Similarly, according to self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000), organizational commitment is based on self-determined motivations that reflect employees' autonomous propensity to align their self-identity with the organization (Johnson et al., 2010). Committed individuals tend to make tradeoffs in favor of the organization when allocating resources such as time and attention (Klein et al., 2012). They continue to devote effort, time, and commitment because they perceive that their organization is a source of resource replenishment and satisfaction (Tourigny et al., 2013). Individuals with high internal motivation and interest are more likely to effectively regulate negative internal emotions in response to challenging experiences (Weinstein & Ryan, 2011), ultimately perceiving stressful events in less threatening terms. Accordingly, we propose the following hypothesis:

Hypothesis 2: Job satisfaction partially mediates the time-lagged relationship between organizational commitment and job stress such that organizational commitment negatively predicts job stress.

Proposed and Competing Models

Each of the two hypotheses can represent a separate model. Hypothesis 1 (Model 1) indicates that job satisfaction (JS) partially mediates the effect of job stress (ST) on organizational commitment (OC), whereas Hypothesis 2 (Model 2) suggests that JS partially mediates the effect of OC on ST. Therefore, the two hypotheses together (the proposed model, Model A) represent a reciprocal model in which there is a direct mutual relationship between OC and ST. Moreover, JS mediates the impact of each of these variables on the other variables. Figure 1 indicates the conceptual framework of the current study within a longitudinal design context.

Based on the interrelationships between the study variables in the literature and the above discussion, we developed the following competing models. As discussed earlier, we posited mutual relationships between ST and OC. Moreover, some of the literature has taken the position that OC and JS are mutually related. Thus, we developed Model B, in which OC mediates the mutual relationships between JS and ST across three points in time. Similarly, Model C proposes that ST mediates the mutual relationships between JS and OC. Furthermore, as Meyer et al. (2002) argued in their meta-analysis, the direction of the relationship between OC and JS showed mixed results, and they therefore took a conservative position, positing that OC and JS are correlated with each other rather than being an antecedent and a predictor. Based on this and the interrelationships between ST and both OC and

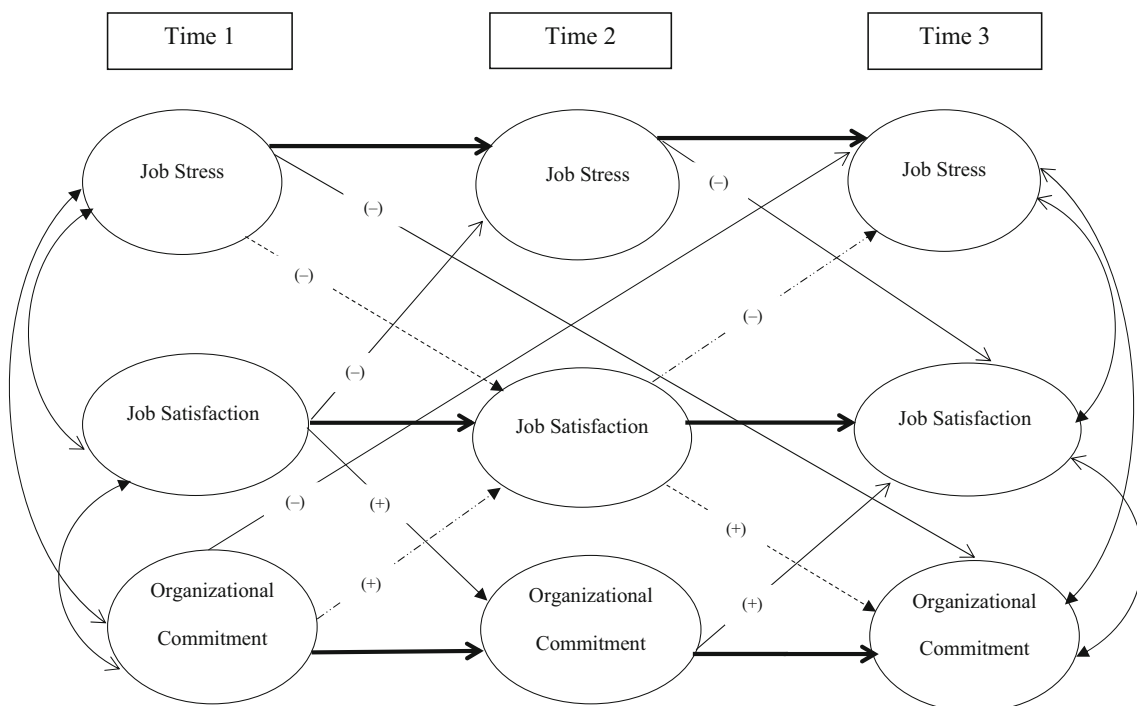


Fig. 1 Conceptual framework for the present study. Bold lines denote autoregressions. Dashed lines represent the dual mediating roles of job satisfaction in the mutual relationship between job stress and organizational commitment. Curved lines indicate covariances among constructs

JS, Model D simply proposes that both OC and JS are antecedents of ST and that ST is a predictor of both OC and JS. This model does not posit any mediating interrelationships among the study variables; accordingly, it has a correlational nature. Figure 2 shows the cross-lagged paths of the proposed model and the main competing models.

Method

Sample and Procedure

The employees of two textile manufacturing and snack food companies in Gharbia Governorate, Egypt, were surveyed at

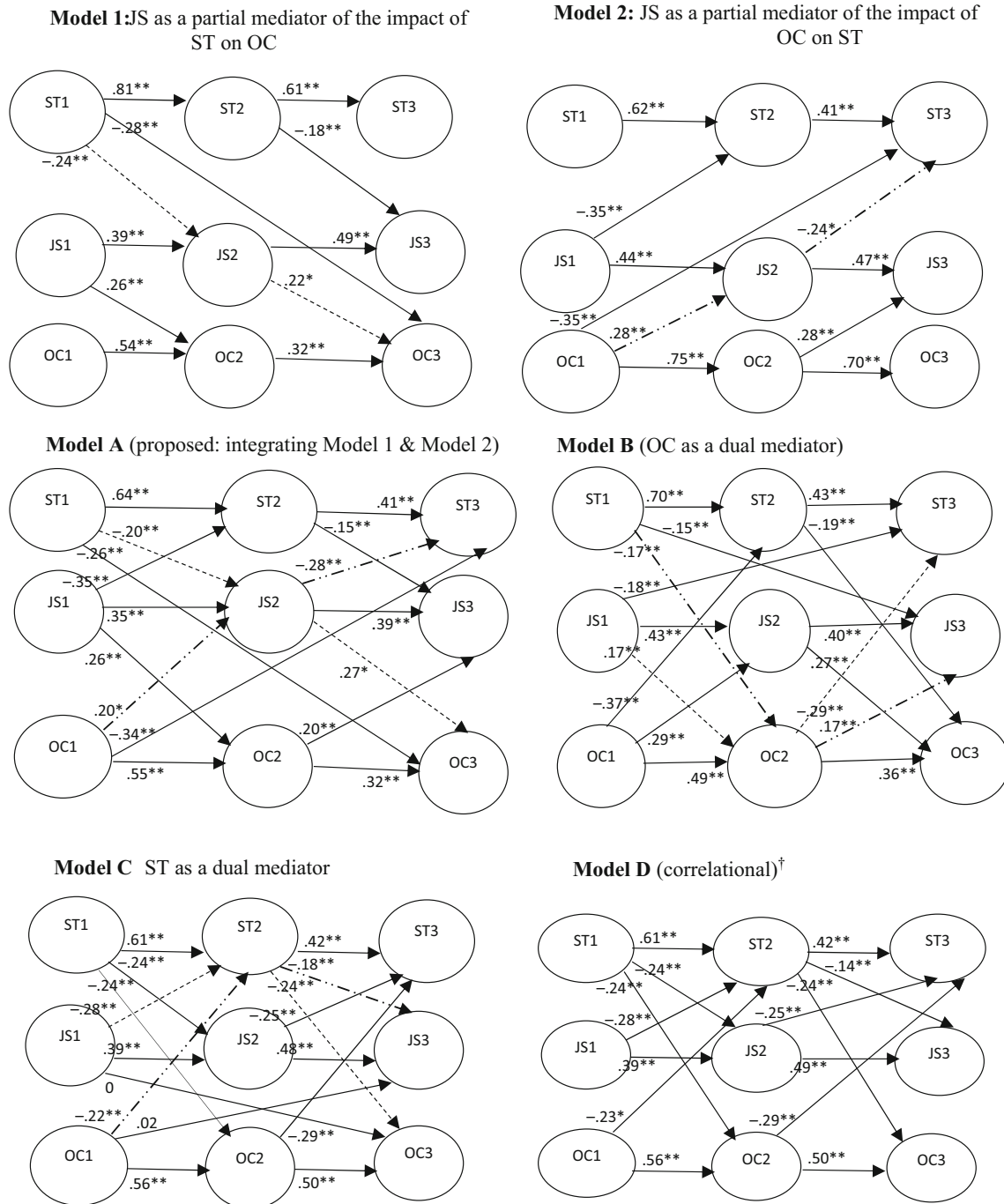


Fig. 2 Structural cross-lagged paths for the proposed model and a number of alternative job stress-organizational commitment models for three time intervals ($n = 252$). All coefficients reported are unstandardized. Dashed lines indicate the mediating role of a particular variable in the relationship between the other two variables. [†]This model

presumes that the relationship between JS and OC is correlational rather than causal, and that OC and JS are antecedents and outcomes of ST at the same time. For the sake of simplicity, covariances among T1 and T3 constructs at the same time point do not appear. ST job stress, JS job satisfaction, OC organizational commitment. * $p < .05$, ** $p < .01$

three time points, with an approximate six-month interval *between* each assessment *points*. Because the respondents in this study were not native English speakers, the back-translation technique (Brislin, 1970) was used for all study measures to ensure the correct content of the original measures' items. Self-report questionnaires were administered to 863 employees, and the confidentiality of responses was assured. A total of 404 usable questionnaires (47%) were obtained. In the second round, only respondents who had returned the first questionnaire received the second questionnaire; we received 338 valid questionnaires (84%). In the third round, those 338 employees were again surveyed, and 252 valid questionnaires (75%) were collected. A comparison between those who participated in the three surveys and those who dropped out without completing the three surveys showed no significant differences across all variables. Moreover, there were no significant differences between the two companies across the study variables. The final sample represented approximately 29% of the two companies. The average age was 31.34 years ($SD = 4.47$), the average organizational tenure was 5.93 years ($SD = 1.82$), and 32.7% were female. Approximately 57% of the sample was married. Approximately 65% had a post-high school education, and the rest had bachelor's degrees.

Measures

Job Stress ST was assessed using a four-item scale developed by Motowidlo, Packard, and Manning (1986). A sample item is "I feel a great deal of stress because of my job." The items were rated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*).

Job Satisfaction Employees were asked to rate how satisfied they were with their jobs on a 7-point scale (1 = *very dissatisfied* to 7 = *very satisfied*) using a five-item scale designed by Bacharach, Bamberger, and Conley (1991). A sample item is "Satisfaction with your present job when you consider the expectations you had when you took the job."

Organizational Commitment OC was assessed using a six-item scale of affective commitment (Meyer, Allen, & Smith, 1993). A sample item is "I would be very happy to spend the rest of my career with this organization." Responses were given on a 7-point scale from *strongly disagree* to *strongly agree*.

Analytic Method

We utilized Mplus 6.1 (Muthén & Muthén, 1998–2012) to test the study hypotheses using the maximum likelihood estimation technique. Numerous fit indices were employed, including the chi-square statistic, the

comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). The fit of a model is considered good when the value of the CFA approaches or exceeds .95, RMSEA is less than or equal to .06, and SRMR is less than or equal to .08 (Hu & Bentler, 1999).

The parceling technique was used to increase the ratio of observed variables to a factor to counter the violation of multivariate normality assumptions and enhance the reliability of the structural coefficients of the model (Coffman & MacCallum, 2005). Accordingly, three-item parcels were used for all the study variables. Importantly, due to the cross-lagged design characterized by correlated measurement errors over time (Pitts, West, & Tein, 1996), we allowed the measurement errors of the corresponding indicators (disturbance terms) to correlate (Cole & Maxwell, 2003; Pitts et al., 1996). Notably, all the structural models were autoregressive. This procedure allowed us to estimate the unique variance (change) in the dependent variable explained by the proposed explanatory variables. Moreover, we allowed covariances among T1 and T3 constructs at the same time point in all the structural models.

Based on the recommendations of Pitts et al. (1996), we checked two important conditions related to longitudinal studies: the measurement invariability (stationarity), or the extent to which a certain construct is the same over time, and the stability, i.e., the degree to which the relative ordering of subjects is the same over time. Accordingly, a nested measurement model in which the factor loadings of all the relevant constructs were restricted to be equal across the three waves was compared with a measurement model in which these factor loadings were set free. The chi-square difference statistic was used to determine the extent to which this assumption held. Moreover, the stabilities of the constructs were examined through test-retest results. We employed the bootstrap method, which is considered the most appropriate technique to test mediation given its ability to address the issue of low statistical power associated with small sample sizes (Cheung & Lau, 2008).

Results

Table 1 shows the interrelationships among the study variables across the three time points. The correlations between each pair of variables were in the predicted directions and of meaningful magnitude. Over the three time points, ST was negatively related to JS and OC, and JS and OC were positively related. The internal reliabilities of the measured variables were acceptable and ranged from .84 to .93. Moreover, the test-retest results ranged

Table 1 Descriptive statistics and correlations

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Job stress (T1)	4.27	1.18	.91								
2. Job stress (T2)	4.44	1.26	.65	.93							
3. Job stress (T3)	4.51	1.11	.53	.63	.86						
4. Job satisfaction (T1)	4.36	1.04	-.43	-.50	-.49	.90					
5. Job satisfaction (T2)	4.45	.87	-.47	-.51	-.52	.55	.84				
6. Job satisfaction (T3)	4.61	.78	-.49	-.52	-.44	.47	.58	.84			
7. Organizational commitment (T1)	4.70	.80	-.31	-.38	-.49	.35	.39	.31	.84		
8. Organizational commitment (T2)	4.75	.83	-.45	-.46	-.49	.47	.50	.51	.58	.86	
9. Organizational commitment (T3)	4.85	.92	-.54	-.49	-.49	.36	.51	.43	.53	.54	.87

$n = 252$; all correlations are significant at the $p < .01$ level. Alpha reliabilities are displayed in parentheses along the diagonal
T1–T3 time 1 to time 3

from .53 to .63 for ST, .47 to .58 for JS, and .53 to .58 for OC, indicating the relative stability of the measured constructs.

The fit indices for the measurement model (see Table 2), including the three distinct constructs with free factor loadings across the three points of time, showed acceptable results, $\chi^2(261) = 381.56$ [$p < .01$]; RMSEA = .04 (p [close] = .90); CFI = .98; SRMR = .03. All the measured items loaded highly on their relevant factors, and the standardized factor loadings across the three points of time ranged from .79 to .94 for ST, .74 to .83 for JS, and .77 to .86 for OC. The metric invariance assumption associated with the longitudinal design of this measurement model was assessed, and this model was compared against a number of alternative models to assess its construct validity.

The measurement model fits the data much better than the one-factor model, which assumed that one-factor could encompass the three constructs for each point of time, $\Delta\chi^2(33) = 1582.08$ [$p < .01$]. Moreover, this measurement model clearly fit the data better than the three variants of a two-factor model, $\Delta\chi^2(21) = 872.80$; 711.13; 833.07, respectively, $p < .01$. These results confirmed the construct validity of the

measurement model. Furthermore, the model in which the factor loadings for each construct of the three variables were limited to be equal across the three points of time was nested within the measurement model with free factor loadings. Although the model with free factor loadings fit the data better than the model with equal factor loadings, $\chi^2(273) = 397.02$ [$p < .01$]; RMSEA = .04 (p [close] = .92); CFI = .97; SRMR = .04, these two models did not differ significantly in fit, $\Delta\chi^2(12) = 15.46$ [$p = .22$]. Accordingly, the more parsimonious model with equal factor loadings was preferred over the model with free factor loadings, supporting the measurement invariability of the measured constructs.

The hypothesized time-lagged relationships between ST, JS, and OC were supported. For Model 1 (see Fig. 2), ST1 predicted OC3 ($b = -.28$, $p < .01$). Moreover, there was statistical evidence for the mediating role of JS in the relationship between ST1 and OC3 ($b = -.05$; 95% confidence interval (CI) bootstrap percentile = $-.12$ and $-.01$). For Model 2, OC1 predicted ST3 ($b = -.35$, $p < .01$). Additionally, the mediating role of JS in the reverse direction (OC1 to ST3) was supported ($b = -.07$; 95% CI bootstrap percentile = $-.15$ and $-.02$). However, based on model fit indices, these two models

Table 2 Testing construct validity and longitudinal constraints of the measurement model

Model	χ^2	<i>df</i>	CFI	RMSEA	SRMR
One-factor model	1963.64	294	.66	.15	.11
Two-factor model (a) (job stress and job satisfaction are combined)	1254.36	282	.80	.12	.11
Two-factor model (b) (job satisfaction and organizational commitment are combined)	1092.69	282	.83	.11	.09
Two-factor model (c) (job stress and organizational commitment are combined)	1214.63	282	.81	.12	.12
Three-factor model with free factor loadings	381.56	261	.98	.04	.03
Three-factor model with equal factor loadings	397.02	273	.97	.04	.04

$n = 252$; χ^2 = chi-square; all χ^2 statistics are significant at the $p < .01$ level

CFI comparative fit index, RMSEA root mean square error of approximation, SRMR standardized root mean square residual

showed mediocre results (see Table 3) given that they both scored higher than the recommended SRMR value of .08, and the second model did not reach the CFA threshold of .95.¹

The proposed model (Model A) tested the two hypotheses simultaneously and represented the reciprocal time-lagged relationship between ST and OC. JS also played a mediating role in this mutual relationship (see Fig. 1). This model fits the data well, $\chi^2(287) = 448.06$ [$p < .01$]; RMSEA = .05 (p [close] = .70); CFI = .97; SRMR = .06. Moreover, this hypothesized model fits the data better than the prior models (i.e., Model 1 and Model 2), $\Delta\chi^2(5) = 86.09$ and 116.92 , respectively, $p < .01$. According to this proposed model (see Fig. 2), ST1 was negatively related to JS2 ($b = -.20$, $p < .01$); JS2 predicted OC3 ($b = .27$, $p < .01$). The mediating role of JS2 was supported because the indirect effect of ST1 on OC3 through JS2 was significant ($b = -.05$; 95% CI bootstrap percentile = $-.12$ and $-.02$). Importantly, ST1 predicted OC3 ($b = -.26$, $p < .01$) over and above the mediating effect of JS2. To further assess the extent to which the direct cross-lagged relationship between ST1 and OC3 added to this model, we specified a model that excluded this direct path and was nested within the proposed model. This model also fits the data well, $\chi^2(288) = 471.32$ [$p < .01$]; RMSEA = .05 (p [close] = .47); CFI = .96; SRMR = .07. However, the proposed model fits the data better than the truncated model, $\Delta\chi^2(1) = 23.26$ [$p < .01$]. Overall, these results supported the first hypothesis that JS partially mediates the time-lagged relationship between job stress and OC such that job stress negatively affects OC.

On the other hand, OC1 was an antecedent of JS2 ($b = .20$, $p < .01$), JS2 was inversely related to ST3 ($b = -.28$, $p < .01$), and the mediating role of JS2 was confirmed because the indirect effect of OC1 on ST3 through JS2 was significant ($b = -.06$; 95% CI bootstrap percentile = $-.13$ and $-.01$). Moreover, OC1 was negatively related to ST3 over and above the mediating effect of JS2. Once again, the contribution of the direct time-lagged impact of OC1 on ST3 was assessed. The model without the direct time-lagged OC1-ST3 relationship fits the data well, $\chi^2(288) = 463.51$ [$p < .01$]; RMSEA = .05 (p [close] = .56); CFI = .96; SRMR = .07. However, the proposed model fits the data better than the reduced model, $\Delta\chi^2(1) = 15.45$ [$p < .01$]. These results supported the second hypothesis that JS partially mediates the time-lagged relationship between OC and job stress such that OC negatively predicts job stress.

¹ This study also tested two recursive models representing the proposed directional relationships suggested by the first and second hypotheses but at each time point to assess the possibility that the hypothetical relationships could unfold instantaneously. In terms of the significance of the coefficients, the results of these models revealed mixed results for both the mediation effects of JS and the interrelationships among the three constructs. These findings provide support for the argument that cross-lagged relationships are more informative than the cross-sectional ones.

This section evaluates the relative importance of the proposed model compared to other competing values.² Model B fits the data well. The mediating roles of OC in the relationship between ST and JS in both directions were supported ($b = -.05$; 95% CI bootstrap percentile = $-.11$ and $-.02$, for JS to ST; $b = -.03$; 95% CI bootstrap percentile = $-.08$ and $-.01$, for ST to JS). However, the fit of the proposed model was obviously better than that of Model B. Similarly, Model C fits the data well. Once again, the mediating roles of ST were supported ($b = .04$; 95% CI bootstrap percentile = $.01$ and $.10$, for OC to JS; $b = .07$; 95% CI bootstrap percentile = $.03$ and $.14$, for JS to OC). The direct time-lagged relationships between JS and OC were significant in the two directions. However, the fit of the proposed model was preferred over the fit of this model. The hypothesized relationships in the correlational model (Model D) were all significant. However, the proposed model was preferred over this model, $\Delta\chi^2(2) = 48.01$ [$p < .01$]. Considering the above, Model A (the proposed model) in which JS mediated the mutual relationship between OC and ST was retained given that it was the best model to fit the data.

Discussion

Despite the large number of past studies investigating the relationship between OC and ST and the mechanism by which they are related, these studies (1) gave a higher weight to the

² We also tested two alternative models based on implications in the literature that suggest the moderating effects of OC in the potential mutual relationships between ST and JS. As these models are less relevant to the proposed model, we did not include them in the main text. We did not find any significant interaction effects in these two models. Importantly, before comparing the proposed model with the other competing models, we tested the extent to which the long-lagged relationships among the study variables are preferred over shorter-lagged ones. This comparison could be informative given that there has been no consensus among researchers over the proper time lag with which the effect of predictors on criterions unfolds (Meier & Spector, 2013; Selig & Preacher, 2009). To this end, we developed Model A*, which is very similar to Model A in that it hypothesizes that JS mediates the reciprocal relationship between ST and OC. However, Model A* is based on shorter-lagged relationships between ST and OC. Therefore, it does not suggest a direct relationship between ST1 and OC3 and OC1 and ST3 over and above the prior mediating effect. Rather, it proposes a relationship between ST1 and OC2, ST2 and OC3, OC1 and ST2, and OC2 and ST3, ultimately rendering Model A more parsimonious (i.e., saving 2 *dfs*). As Table 3 indicates, Model A* fits the data well, $\chi^2(285) = 443.91$ [$p < .01$]; RMSEA = .05 (p [close] = .71); CFI = .97; SRMR = .05. The interrelationships among the constructs were significant, and the model showed a somewhat similar pattern of relationships to Model A. These findings further enhanced the consistency of the results obtained. Moreover, the mediating role of JS was supported in both the ST to OC direction ($b = -.07$; 95% CI bootstrap percentile = $-.14$ and $-.03$) and in the opposite direction ($b = -.06$; 95% CI bootstrap percentile = $-.15$ and $-.02$). However, there was no significant difference between these two models in terms of fit, $\Delta\chi^2(2) = 4.65$ [$p = .1$, ns]. Accordingly, Model A was preferred over Model A* on the basis of parsimony. These results hence supported the superiority of the long time-lagged relationship between ST and OC over the shorter time-lagged relationship between these variables.

Table 3 Goodness-of-fit indices for the proposed and alternative cross-lagged stress-commitment models

Model	χ^2	<i>df</i>	CFI	RMSEA	SRMR
Recursive model 1 (Hypothesis 1): ST1 → JS2 → OC3; long time-lagged ST1 → OC3	534.65	292	.95	.06	.10
Recursive model 2 (Hypothesis 2): OC1 → JS2 → ST3; long time-lagged OC1 → ST3	565.48	292	.94	.06	.12
Non-recursive model (A) (Hypotheses 1 and 2): (proposed model)	448.56	287	.97	.05	.06
Non-recursive model (A*): see footnote 2): ST1 → JS2 → OC3 and OC1 → JS2 → ST3 but with shorter time-lags between ST and OC: ST1 → OC2 and ST2 → OC3; OC1 → ST2 and OC2 → ST3	443.91	285	.97	.05	.05
Mediating OC non-recursive model (B)	487.36	287	.96	.05	.07
Mediating ST non-recursive model (C)	488.49	287	.96	.05	.07
Correlational model (D): ST → JS/OC; JS/OC → ST	488.61	289	.96	.05	.07

$n = 252$; χ^2 = chi-square; all χ^2 statistics are significant at the $p < .01$ level

ST job stress, JS job satisfaction, OC organizational commitment, CFI comparative fit index, RMSEA root mean square error of approximation, SRMR standardized root mean square residual

ST-to-OC direction than to the OC-to-ST direction; (2) presented JS as mediating the negative impact of ST on OC, with some limitations, however, related to the research design employed to derive such a finding; and (3) overlooked a more comprehensive research framework that considers potentially more complicated interrelationships among these constructs. This study aimed to theorize and test a more elaborate model of the organizational commitment-job stress relationship. To this end, we developed a model in which there was a direct mutual relationship between OC and ST. JS mediated the relationship between them. Methodologically, there were limitations to the prior cross-sectional studies that have dominated the literature on the relationship between OC and ST and the two-wave panel designs, which contained a limited amount of information concerning the change of each individual (Ployhart & Vandenberg, 2010; Rogosa, Brandt, & Zimowski, 1982). Therefore, we developed a three-wave panel design to test our model. The proposed model fits the data well. Moreover, this model was favored over the model that posited that ST was an antecedent of OC and that JS mediated the impact of ST on OC (model 1) and over the second model that proposed that OC impacted ST and that JS mediated the effect of OC on ST (Model 2).

Theory development occurs when we focus not only on the support or lack of support for a single theory but also on alternative theories to explain the obtained results (Leavitt et al., 2010). Accordingly, the present study is one of a few that have sought to enhance theory on the OC-ST association by determining the relative contribution of the proposed model by testing it against various competing theory-driven models. The proposed model (with JS as mediator) was favored over all the competing models that proposed that OC may mediate the JS-ST relationships or those that suggested that ST may mediate the OC-JS relationships. In addition, the proposed model fits the data better than the correlational model that suggested a correlational relationship between JS and OC and their roles as both antecedents and outcomes of ST.

These findings may suggest that the proposed model best expressed the interrelationships between the study variables.

Our study supported the argument that OC negatively predicted ST. Thus, it is inconsistent with Doreen and Syed (1998), who posited and found no impact of OC on ST, but in line with Kalliath et al. (1998), who found that OC was negatively linked to emotional exhaustion. Moreover, our study demonstrated findings somewhat similar to those from other studies that investigated OC as a predictor of well-being indices (Panaccio & Vandenberghe, 2009). That OC negatively predicts ST has important theoretical implications. While prior studies focused most of their efforts on investigating the extent to which employees' perception of job stress impairs their attitudes, the role attitudes may play in influencing the perception of job stress has not received adequate attention. The job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) is a recent model that has extended numerous prior models of job stress by focusing on and integrating the principles of both motivation and job stress (Bakker & Demerouti, 2014), and it addresses both negative and positive indicators of employee well-being (Bakker & Demerouti, 2007). This model postulates that in addition to their main effects, job resources and demands interact to determine the level of stress employees perceive (Bakker & Demerouti, 2007). In this sense, a lack of resources, high demands, and/or imbalance between them demotivate individuals and ultimately trigger a feeling of job stress (Hakanen et al., 2008). The JD-R model has been employed to predict numerous attitudes, including OC and JS. This theory has some implications for the reversed effect of attitudes on job stress. That is, attitudes influence individuals' perception of job demands and resources and, ultimately, their well-being. Job demands could be affected by employees' perception of their work environment. Moreover, positive attitudes such as work engagement help employees perceive that they have access to more resources (Bakker & Demerouti, 2014). Specifically, highly committed individuals

are expected to generate coping resources by attaching meaning to the stressful work situations they may encounter (Glazer & Kruse, 2008). Nevertheless, little research has been conducted in this direction, and this gap may make theoretical progress limited. As such, our findings provide more insights into how OC could impact well-being.

OC could be a predictor of well-being from the perspectives of the two paradigms of positive and negative states. That is, OC positively affects well-being, as OC satisfies an individual's basic psychological needs (autonomy, competence, and relatedness), enhancing intrinsic motivation and inducing positive emotional states (Greguras & Diefendorff, 2009). In contrast, OC is expected to reduce the harmful consequences of negative emotions, as the positive emotions inherent to OC act to broaden people's momentary thought-action repertoires and build their enduring personal resources, including physical, intellectual, social, and psychological resources (Fredrickson, 2001; Rivkin, Diestel, & Schmidt, 2015). Important implications can be inferred from these findings. Given that OC represents a significant emotional investment in the organization, this finding reflects the fundamental principles of COR that stressful circumstances result in resource losses and that a "resource" is anything that people value and that enhances their well-being and helps them adjust (Dewe, O'Driscoll, & Cooper, 2012). Although organizations have limited control over the stressors inherent in a profession or employees' reactions to stressors, they have more influence on employees' emotional attachment to the organization (Glazer & Kruse, 2008). Furthermore, this negative link between OC and ST may have important implications for the concept of resilience derived from COR theory, which emphasizes the significance of proactive resource investment for stress prevention (Chen, Westman, & Hobfoll, 2015). OC can be classified as a sort of critical proactive investment given that OC experience is expected to provide employees with internal and external resources that help them cope with stress (Meyer & Maltin, 2010). Moreover, high OC characteristics involve a higher level of work engagement and a clearly perceived organizational role (Cooper & Cartwright, 1994). Accordingly, high OC may help employees efficiently manage stress and may give them more resilience, providing those individuals with safety and protection against resource loss and promoting resource growth (Hobfoll, Stevens, & Zalta, 2015). Moreover, this study found that ST negatively impacted OC. This finding, with support from a non-Western country, replicates results that supported the dysfunctional impact of ST on OC, including the cross-cultural study of Glazer and Beehr (2005) that revealed the negative effect of stress on affective OC.

Based on the above, a significant contribution of the current study is its support of the reciprocal relationship between ST and OC. Although numerous studies have supported the negative impact of ST on OC, and there has been some

research investigating OC as an antecedent of ST, there has been no research integrating these two directions, either conceptually or empirically. The current findings suggest a direct virtuous spiral between OC and ST: the more committed employees are to their organizations, the less stressed they are, and vice versa. Therefore, our finding sheds light on the need to adopt theories that can reflect the dynamic interplay between OC and ST. Specifically, this finding of a reciprocal relationship between OC and ST derives direct support from identity theory (Burke, 1980; Burke & Reitzes, 1991; Stryker, 1980; Stryker & Burke, 2000), which emphasizes the reciprocal relationship between social structure and the individual. In this respect, identity is defined as a cognitive construct that represents the psychological importance or centrality of a role to a person's self-concept (Rothbard & Edwards, 2003). Identity theory posits that emotions are triggered when there is a discrepancy between an individual's perceived self-meaning in the situation and the self-definitional meanings (i.e., standards) that he/she holds. An increasing discrepancy reflects problems in self-verification and leads to negative emotions, while a match results in positive emotions through self-verification (Stryker & Burke, 2000). The greater the commitment to a certain identity (organization, in our case), the more salient the identity, the more likely individuals will respond to confirm that identity in a particular setting (Wiley, 1991), and the less they will experience strain stemming from the meaning of work derived from their sense of identity (Meyer & Maltin, 2010). In contrast, people may change the intensity of commitment to an identity as a way to cope with strain. In their desire to lessen perceived chronic work strain, individuals may self-protectively deemphasize the importance of work as an identity. Accordingly, work identity is made less central to the self, reducing the psychological impact of the level of strain (Thoits, 2013).

Another interesting finding presented by this study is the dual partial mediating role of JS in the OC-ST relationship. Basically, the support for partial mediation is in line with logical grounds that propose that complete mediation seldom occurs in reality because it is difficult to identify all possible mediators of complex relations (Maxwell et al., 2011). Importantly, these results may enhance our understanding of how ST, JS, and OC could be linked. Hence, the more committed employees are to their organizations, the more satisfied they will be with their jobs and, accordingly, the less stressed they will be. In turn, the less stressed employees are, the more satisfied they will be with their jobs and, thus, the more committed they are to their organizations. On the one hand, OC's role as an antecedent to JS expresses in part the extent to which individuals' identification with their organization affects their perception of job characteristics. Thus, less committed individuals are expected to demonstrate a lower level of satisfaction with their jobs (van Knippenberg & Sleebos, 2006). This lower level of satisfaction, in turn, generates a

higher level of negative affect, ultimately producing a higher level of strain (Reilly, 1994). On the other hand, JS's role mediating the negative impact of ST on OC is consistent with the line of research positing that individuals' strain experiences lead to negative emotions that negatively affect their evaluations of job characteristics (Elangovan, 2001; Lizano & Mor Barak, 2015; Um & Harrison, 1998). This job dissatisfaction, in turn, can result in employees' detachment from their organization and a weaker emotional bond with it (Brunetto, Teo, Shacklock, & Farr-Wharton, 2012; Froese & Xiao, 2012; Huang & Hsiao, 2007). This finding also derives some support from the theories of social exchange and psychological contracts, as employees who are satisfied with their jobs may perceive that their organization cares about them and reciprocate with a strong emotional commitment to their organization (Chordiya, Sabharwal, & Goodman, 2017).

Practical Implications

The findings of this study have important implications for practitioners. This study found a unique relationship between ST and OC. Specifically, the negative relationship between ST and OC is both direct and indirect through JS. Although JS has an important impact on this relationship through its mediating role, this role is partial, and it is not the only key to managing the ST-OC relationship. It seems that OC negatively predicts ST such that employees with higher levels of OC are more likely to report lower levels of ST. Accordingly, emphasizing only actions that increase JS and not considering OC as another way to control ST is not the preferred procedure to mitigate the harmful effect of higher ST. This finding highlights another fundamental aspect of maintaining good levels of OC.

Although Mathieu (1991) argued that the mutual relationships between certain constructs allow practitioners to be less concerned about which antecedents of intervening actions should be their focus, as any change in any of these constructs would necessarily affect the others; therefore, we believe focusing on the common antecedents of these reciprocally related constructs is both more effective and efficient. Increasing uncertainty is now a prominent feature of today's business environment. Managers are encouraged to cope with uncertainty, including HR decisions, by applying cost-benefit analysis. We expect that the dollar value of programs that focus on the common antecedents of the three constructs relative to their potentially relatively higher costs makes them more favorable. For example, if employees suffer from a lower level of JS accompanied by a relatively higher level of ST in a certain organization, we may develop a program that specifically aims to enrich employees' JS through, e.g., more monetary fringe benefits. Based on the improvement in JS, ST and OC would be expected to benefit due to the interrelationships among these variables. However, although that program is

expected to improve JS, its direct effects on both ST and OC are marginal, which ultimately limits the lagged and circular effects among these constructs. In contrast, we may follow a program that aims to create some changes in organizational structure with the goal of decreasing employees' perception of role ambiguity and role conflict given that these variables are an issue in this organization and that the research shows they are negatively related to both JS and OC and positively related to ST (Podsakoff, LePine, & LePine, 2007). Based on the supported mutual relationships between ST, OC, and JS, we generally expect, all else remaining constant, to obtain more effective and efficient results from that program, as these common antecedents together are more likely to have more direct positive effects on the three constructs and, in turn, more lagged and circular impacts. This effect could be particularly important if these proposed programs are mutually exclusive and we are unable to implement a program that considers the initiatives of the two programs. One interesting practical implication of the present study is that given the mutual relationships between OC, ST, and JS, a mental transition should be made from thinking separately by focusing solely on each variable to thinking collectively by focusing on the common antecedents of these variables to make the most of the intervening organizational actions aimed to manage these constructs.

Specifically, past research demonstrated that there are some individual and organizational variables that are commonly related to these three constructs. In this respect, although giving attention to some individual dispositions such as work locus of control (Wang, Bowling, & Eschleman, 2010) and task self-efficacy (Caesens & Stinglhamber, 2014) could be helpful, organizational variables may be more relevant because compared to these individual characteristics, they are more under the control of management through HR practices. The meta-analytic results of Meyer et al. (2002) indicated that employees' perception of organizational support, interactional justice, distributive justice, and procedural justice are closely related to OC, while these same variables showed positive relationships with JS (Cohen-Charash & Spector, 2001; Riggle, Edmondson, & Hansen, 2009) and negative relationships with ST (Moliner, Martínez-Tur, Peiró, Ramos, & Cropanzano, 2005; Viswesvaran, Sanchez, & Fisher, 1999). HR practices that lessen or bolster employees' perception of negative working conditions and enhance positive ones are encouraged. We propose that the potential lag effects of such practices, all other things being constant, would exceed prior expectations due to the dynamic relationship (i.e., the feedback loop) between OC and ST and the dual mediating roles of JS in this mutual relationship, ultimately boosting employees' well-being.

One important implication of our proposed model is the flexibility that it provides for HR specialists when there are obstacles to handling any of the three constructs. For example,

due to worldwide competition and changing economic factors, increasing job demands have become inevitable (Sacramento, Fay, & West, 2013). Organizations may be challenged by HR procedures dedicated to managing job stress. If there are limited options for directly handling job stressors such as workload and time pressure (Glazer & Kruse, 2008), well-known practices such as job rotation, enlargement and enrichment, and increasing autonomy are expected to decrease employees' perception of ST. These policies could reach their effects either as near antecedents to ST and/or as distant antecedents through OC and JS.

Moreover, as the results revealed, the proposed model lends itself more to cross-lagged relationships between ST, OC, and JS than to cross-sectional ones. It is noteworthy that there has been no theory that could precisely inform us of the time it takes for a lagged impact of one variable on another to unfold. Thus, HRM professionals are encouraged to appropriately handle the timing of the intervening actions. In this respect, we could take advantage of the dynamic relationships between the prior variables to make the most of their interrelationships. That is, many organizational incidents, such as meeting tight deadlines or attaining over-challenging goals, commonly lead to a higher level of ST among employees. We could control or minimize the detrimental effects of this ST by adopting corrective or intervening actions that are expected to have prompt or accelerating impacts on OC and JS. For example, an HR specialist could support employees during stressful events by increasing their participation in decision-making (PDM), especially in matters related to these stressful experiences given that the positive impact of PDM on OC and JS strengthens over time (Brenda, Anthony, & Verena, 2006). As such, HR specialists could help employees build up a stress resistance resource that lessens ST's negative effect on their well-being.

Limitations and Future Research

As with any study, this research effort has several limitations. Although we followed a longitudinal design, we do not have causal implications given that the results of non-experimental research have a very limited capacity to produce valid inferences about causal connections (Eugene & Patrick, 2004). Moreover, research has indicated that not controlling negative affectivity (NA) could produce inflated stress-strain relationships (Brief, Burke, George, Robinson, & Webster, 1988). As NA may be related to the current study's main variables, not controlling it could be a limitation. However, Spector, Zapf, Chen, and Frese (2000b) argued that NA may play a substantive role rather than representing a mere nuisance variable. These authors posited that a longitudinal design would automatically control for the effects of stable third variables such as NA by partialling the prior measure from the subsequent measure of a variable. Relatedly, this study did not control for

job stressors such as role overload, role conflict, and role ambiguity as predictors of strain (Spector et al., 2000a). Although longitudinal data have the advantage of reducing the risk of alternative explanations due to their ability to incorporate fixed effects into design and analysis (Rindfleisch, Malter, Ganesan, & Moorman, 2008), the inclusion of such variables in future research could increase the reliability of the obtained results. Another issue involves common method bias due to the use of self-reports to collect data. However, opting for a longitudinal design is expected to mitigate the potential impact of this bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Another issue is the arbitrary selection of the study time intervals. Selig and Preacher (2009) noted that although there is no theoretical or empirical basis for choosing the length of intervals between measurement occasions, the time lag should be established on the assumption that mediation is expected to occur during this selected period. Thus, the study must be long enough for the mediation process to have time to unfold. Given this understanding and the attitudinal nature of the variables investigated, we selected a six-month lag as an appropriate time interval for this study.

The level of OC was considered a stress-coping strategy in the current study. Future studies investigating moderating variables that may mitigate or boost this relationship would be fruitful given that other variables such as culture, gender, and personality (Dewe & Ng, 1999) may affect coping. Moreover, this study examined employees' general perceptions of JS. However, research that investigates the potential link between specific aspects of JS, such as autonomy, a variety of work, and job security, along with both ST and OC, would be informative.

Conclusion

This research aimed to extend the literature on the OC-ST relationship. In contrast to the current assumptions and mono-perspectives suggesting that ST negatively impacts OC and, though with less focus, vice versa, this study has proposed a more comprehensive, dynamic research outline. The findings supported a model in which there is a cross-lagged mutual relationship between these two constructs. Interestingly, JS plays dual partial mediating roles in this mutual relationship. These findings could be informative in terms of how we understand the actual relationship between these constructs. Specifically, this study emphasized the negative prediction of OC for ST and its conceptual implications. Importantly, this study drew attention to the feedback loops between OC and ST and the key roles JS plays in predicting both OC and ST. Therefore, these results should encourage researchers either to adopt modified versions of the current conceptual models dedicated to studying ST-OC/JS linkages or to consider new models that account for the dynamic nature

of these relationships. Moreover, the present study offers implications for how practitioners can efficiently and effectively manage the interrelationships between OC, ST, and JS.

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