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# **How does Emotional Intelligence Help Teachers to Stay Engaged?**

## **Cross-validation of a Moderated Mediation Model**

### **Abstract**

This study used job demands–resources and emotional intelligence theories to test a moderated mediation model explaining work engagement in two independent teacher samples. We hypothesised that emotional intelligence buffers the effect of emotional demands on work engagement through self-appraised stress. Childhood and primary educators (sample 1,  $N = 351$ ) and secondary educators (sample 2,  $N = 344$ ) participated in the study. Although emotional intelligence did not moderate the relationship between emotional demands and self-appraised stress, it did buffer the relationship between self-appraised stress and work engagement in both teacher samples. The findings suggest that emotional intelligence has a specific buffering effect affecting intrapersonal and interpersonal processes. We discuss the implications of these findings for efforts to help teachers deal with the detrimental effects of stress on work engagement.

**Keywords:** Emotional demands, self-appraised stress, work engagement, emotional intelligence, moderated mediation.

## **1 Introduction**

Teachers are often confronted with negative emotions during interactions with students, families, colleagues and supervisors (Travers, 2017), so it is not surprising that emotional demands are considered amongst one of the greatest job-related threats to teachers' occupational health and wellbeing (Hakanen, Bakker, & Schaufeli, 2006). The term 'emotional demands' refers to emotionally charged interactions at work that are expected to exhaust a service provider's capacity to be involved with, and be responsive to, the needs of service recipients (Maslach, Schaufeli, & Leiter, 2001). Given that emotional demands play a role in the high rates of mental health problems in caring occupations, including teaching (Kokkinen, Kouvonen, Koskinen, Varje, & Väänänen, 2014), educators' health and wellbeing is under threat. Although emotional demands have traditionally been seen as related to teachers' psychological distress (Dollard & Bakker, 2010) or exhaustion (Bakker, Demerouti, & Euwema, 2005), less attention has been paid to their relationship with teachers' work engagement.

The accumulated evidence of the past two decades shows that work engagement predicts outcomes such as task performance, active learning and organisational citizenship behaviours (Bakker, Demerouti, & Sanz-Vergel, 2014). Engagement has implications for educators' job satisfaction (Perera, Vosicka, Granziera, & McIlveen, 2018) and task performance (Bakker & Bal, 2010), and it also influences students' academic and socio-emotional development (Jennings & Greenberg, 2009). Therefore, work engagement plays a key role in improving teachers' health via its positive effects on their energy, involvement and immersion in their work (Hakanen et al., 2006).

Work engagement is a pivotal construct in positive organisational psychology (Bakker, 2011). This motivational state of work-related wellbeing is characterised by vigour, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker,

2002). Individuals who are engaged in their work feel full of energy, are enthused by their work and often get completely immersed in their work activities. Job demands-resources (JD-R) theory (Bakker & Demerouti, 2017; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) is an important framework offering an explanatory model of the relationships between work engagement and its antecedents and consequences. The presence of high job demands (e.g., emotional demands) is associated with strain (e.g., exhaustion or distress), because these demands require sustained psychological and physiological effort. Continued expenditure of effort may lead to undesirable outcomes such as reduced work engagement (Xanthopoulou et al., 2013) and increased personnel turnover (Thanacoody, Newman, & Fuchs, 2014). Evidence that high job demands impair health via this process has also been found in teacher samples (Bakker et al., 2005; Hakanen et al., 2006). Therefore, we propose:

**Hypothesis 1.** Self-appraised stress mediates the negative relationship between emotional demands and work engagement.

The current version of JD-R theory (Bakker & Demerouti, 2017) defines personal resources as positive aspects of the self that are related to an individual's ability to control and act on his or her environment successfully. These personal characteristics are expected to buffer the impact of job demands on strain, as they make it easier for employees to invest extra effort and energy in work in order to meet expectations and goals, thereby facilitating higher job involvement. Xanthopoulou and colleagues (2013) reported that job demands such as emotional demands and emotional dissonance were negatively related to engagement, particularly when employees experienced low (rather than high) self-efficacy.

Although emotional demands may have an important impact on health (Travers, 2017), job burnout (Bakker et al., 2005), and work engagement (Xanthopoulou, Bakker,

& Fischbach, 2013), it seems unlikely that all teachers are affected in a similar way. Indeed, research has provided evidence for the idea that engagement is not only influenced by organisational factors, but also by individual characteristics (Makikangas, Feldt, Kinnunen, & Manuó, 2013). For instance, optimism and self-efficacy are personal characteristics that significantly affect how employees deal with environmental factors which, in turn, determines the level of work engagement (Bakker et al., 2014). This study focuses on a personal resource that has received considerable scholarly attention in the field of individual differences in organisational settings, namely Emotional Intelligence (EI; Akhtar, Boustani, Tsivrikos, & Chamorro-Premuzic, 2015; Côté, 2014).

EI can be considered a personal resource comprised of abilities that facilitate effective processing of affective information (Mayer, Caruso, & Salovey, 2016). Self-report ability EI instruments based on the widely known ability EI model are often used to capture individuals' perceptions of their ability to perceive, understand and manage their own and/or others' emotions (Mayer et al., 2016). As Di Fabio (2017) noted, there is a need to examine the role of positive individual resources in enhancing employees' wellbeing, and so, to develop healthier organisations and societies. Although prior research has tested the buffering effect of personal resources such as self-efficacy or optimism in the context of the emotional demands-work engagement association (Xanthopoulou et al., 2013), the role of EI in buffering the indirect relationship between these two variables has not yet been addressed.

This research makes three major contributions to the literature on EI and work engagement. First, we use JD-R theory to examine a moderated mediation model in which emotional demands are related to work engagement through self-appraised stress. We test the central proposition of this theory, which is that – like job resources – a

personal resource such as EI buffers the impact of emotional demands on teachers' strain, and the relationship between strain and work engagement (see Figure 1). Second, we test the proposed model in two independent teacher samples. Teaching level is relevant to the demands placed on educators and their engagement (Perera et al., 2018), so our intention was to replicate our results in two different samples of educators in order to underscore the robustness of the proposed model. Finally, this research may improve understanding of how emotionally intelligent teachers stay engaged in emotionally demanding situations and, hence, could serve as a promising starting point for designing positive primary preventions for use in educational settings (Di Fabio, 2017).

(FIGURE 1)

Drawing upon JD-R and ability EI theories along with previous studies in this field (Bakker & Demerouti, 2017; Côté, 2014), we predict that EI buffers the indirect relationship between emotional demands and work engagement through self-appraised stress. Specifically, we anticipate that the indirect pathways in the mediation model will be weaker for teachers with higher EI than for their low EI counterparts. In line with JD-R theory's proposition that personal resources buffer the effects of job demands on strain, EI moderates the associations between stressors and employees' adjustment (e.g., Newton, Teo, Pick, Ho, & Thomas, 2016). Thus, we propose:

**Hypothesis 2a.** EI moderates the positive relationship between emotional demands and self-appraised stress, such that this relationship is weaker for high (vs. low) EI.

Although JD-R theory does not explicitly propose that personal resources moderate the relationship between strain and work engagement, there are both theoretical and empirical bases for expecting EI to act as a buffer against the detrimental motivational consequences of strain. According to the moderation model of EI proposed

by Côté (2014), teachers confronted with complaining families or disruptive students, are able to effectively deal with the unpleasant emotions (e.g., anger or frustration) elicited by these emotionally charged situations if they have high EI, whereas teachers low in EI will be less able to manage them, which may result in increased strain and hence disengagement. A recent study has shown that teachers with low EI are less able to deal with stress related to role ambiguity and, hence, are less engaged than their high EI counterparts (Mérida-López, Extremera, & Rey, 2017). Thus, we propose:

**Hypothesis 2b.** EI moderates the negative association between self-appraised stress and work engagement, such that this relationship is weaker for high (vs. low) EI.

In summary, this research examines a moderated-mediation model in which emotional demands influence teacher engagement through their effect on self-appraised stress (H1), with the magnitude of the indirect relationship depending on teachers' EI (H2a and H2b). Testing our proposed model in two independent samples enables us to confirm the validity of our findings and thus contribute to the literature on individual differences in EI and work engagement.

## **2 Method**

### **2.1 Participants and Procedure**

Around 1320 paper-and-pencil questionnaires were distributed among educational centres in southern Spain and 733 completed questionnaires were collected (response rate: 56%). Data from 48 participants were removed because they had provided incomplete questionnaires, yielding a final sample of 685 teachers (432 female, 253 male) of which 14.6% were childhood educators, 36.6% primary teachers and 48.8% secondary teachers. Sample 1 ( $N = 351$ ) comprised 100 childhood teachers and 251 primary teachers (260 female, 91 male;  $M$  age = 43.80 years,  $SD = 9.20$ ). Sample 2 ( $N = 334$ ) comprised secondary teachers (172 female, 161 male;  $M$  age =

44.94 years,  $SD = 8.77$ ). Organisational tenure was around 9 years in both samples, whereas mean teaching experience was 16 years (sample 1) and 17 years (sample 2).

A student-recruited sampling method was used (Wheeler, Shanine, Leon, & Whitman, 2014). In short, participants were recruited with the help of psychology students [details removed for blind review] who had been trained in the administration of questionnaires. These students contacted various schools and asked teachers if they would participate in a study on job characteristics and motivation. Participants completed the questionnaires either at home, or in small groups under the supervision of a research assistant. Average time for completing the surveys was 20 minutes. The teachers returned the questionnaires to the research staff once they were completed. There was a period of two months between contacting the schools and collecting the last completed surveys. The questionnaire included explicit consent documents and a brief explanation of the purposes of study, as well as emphasising that participation was voluntary and anonymous. The procedure was approved by the ethics committee [details removed for blind review] (66-2018-H).

## **2.2 Measures**

In addition to sociodemographic data (i.e. age, gender, teaching level, organisational tenure and teaching experience), well-validated scales were used to measure the study variables.

**Emotional demands** were assessed with the Spanish version of the four-item Copenhagen Psychosocial Questionnaire II subscale (Moncada et al., 2014; Pejtersen, Kristensen, Borg, & Bjorner, 2010; e.g., “Do you get emotionally involved in your work?”). Participants responded on a scale ranging from 1 (“always”) to 5 (“never”). Scores were recoded so that higher scores reflected higher emotional demands.

**Self-appraised stress** was measured with the Spanish version of the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983; Remor & Carrobbles, 2001). Respondents are asked to rate the frequency with which they have been in situations they consider stressful during the last month using a five-point Likert scale ranging from 0 (“never”) to 4 (“very often”). We used the shorter four-item version of the PSS. An example item is “In the last month, how often have you been upset because of something that happened unexpectedly?”

**Emotional Intelligence** was measured using the Spanish version of the Wong and Law Emotional Intelligence Scale (WLEIS; Extremera, Sánchez-Álvarez, & Rey, 2019; Wong & Law, 2002). This self-report ability EI test consists of 16 items to which responses are given using a seven-point scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). Sample items are: “I am quite capable of controlling my own emotions” and “I always encourage myself to try my best”. This scale assesses four dimensions: self-emotion appraisal, other-emotion appraisal, using of emotion, and regulation of emotion. We used the overall EI score as we were interested in the whole construct (Wong & Law, 2002).

**Work engagement** was assessed with the 15-item Spanish version (Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000) of the Utrecht Work Engagement Scale (Schaufeli et al., 2000). Participants responded using a scale ranging from 0 (“never”) to 6 (“always”). The scale has three subscales: vigour (e.g., “At my work, I feel bursting with energy”), dedication (e.g., “My job inspires me”) and absorption (e.g., “When I am working, I forget everything around me”). Like previous researchers (Xanthopoulou et al., 2013), we used the overall score.

### **3 Results**

Table 1 shows descriptive statistics, reliability coefficients and correlations between variables.

(TABLE 1)

H1 predicted that self-appraised stress would mediate the association between emotional demands and work engagement. Model 4 of the PROCES macro (Hayes, 2013) was used to test this hypothesis in both samples. Regarding sample 1, gender (0 = male, 1 = female) and teaching level (1 = childhood education, 2= primary education) were used as covariates. The results showed that emotional demands were negatively associated with self-appraised stress ( $b = 0.19, p < .001$ ), which in turn affected engagement ( $b = -0.43, p < .001$ ). However, the residual direct effect remained significant ( $b = -0.19, p < .01$ ) showing that self-appraised stress partially mediated the relationship between emotional demands and engagement (indirect effect = -0.08, 95% CI = -0.30 to -0.08). The final model accounted for 20% of the variance in work engagement.

Regarding sample 2, gender was included as covariate. The results showed emotional demands were negatively linked to self-appraised stress ( $b = 0.13, p < .01$ ), which in turn explained engagement ( $b = -0.54, p < .001$ ). The results indicated that self-appraised stress fully mediated the relationship between emotional demands and engagement (indirect effect = -0.07, 95% CI = -0.13 to -0.02). The model accounted for 19% of the variance in work engagement. Thus, H1 was supported in both samples.

H2 as a whole predicted that EI would decrease the magnitude of the associations between emotional demands and self-appraised stress (H2a) and between self-appraised stress and work engagement (H2b). These hypotheses were tested in both samples through a moderated mediation analysis with model 58 of PROCESS macro (Hayes, 2013). Table 2 shows the main results of these analyses.

(TABLE 2)

In sample 1, both emotional demands and EI directly affected self-appraised stress, but the interaction term was not significant, so H2a was rejected. Teaching level, emotional demands, self-appraised stress and EI all predicted work engagement. There was also a large interaction effect (Kenny's (2015) criteria) between self-appraised stress and EI ( $b = 0.27, p < .01$ ). Although the conditional indirect effect of self-appraised stress was significant at low levels of EI (conditional indirect effect = -0.06; 95% CI = -0.15 to -0.01), this relationship was weaker at high levels of EI and became nonsignificant (conditional indirect effect = -0.02; 95% CI = -0.06 to 0.01). This model accounted for 29% of the variance in work engagement. Thus, the results supported H2b but not H2a. As Figure 2 shows, although self-appraised stress had a negative effect on work engagement in childhood and primary teachers with low EI (estimate = -0.47,  $p < .001$ ), this relationship was not significant in their high EI counterparts (estimate = -0.11,  $p > .05$ ). Post hoc analyses showed the slopes were significantly different ( $t = 2.78, p < .01$ ).

(FIGURE 2)

In sample 2, both emotional demands and EI explained self-appraised stress, but the interaction between these variables was not significant and so H2a was again rejected. In addition to the main effects of self-appraised stress and EI on engagement, the interaction of these variables was significant ( $b = 0.20, p < .05$ ) representing a medium effect size (Kenny, 2015). The model accounted for 30% of the variance in work engagement. The conditional indirect effect was significant for low EI teachers (conditional indirect effect = -0.04; 95% CI = -0.10 to -0.01) but became nonsignificant in teacher with high EI (conditional indirect effect = -0.02; 95% CI = -0.07 to 0.00). As in sample 1, these results provide evidence to support H2b, but H2a was rejected. Figure

3 shows that the effect of self-appraised stress on work engagement is stronger at low levels of EI (estimate = -0.50,  $p < .001$ ) than high EI levels (estimate = -0.22,  $p < .05$ ). Post hoc analyses revealed the slopes were statistically different ( $t = 2.21$ ,  $p < .05$ ).

(FIGURE 3)

#### 4 Discussion

This study contributes to the literature on EI and work engagement by applying two theoretical perspectives to occupational health psychology, namely JD-R theory (Bakker & Demerouti, 2017) and the EI model (Côté, 2014). The results support a moderated mediation model in which EI acts as a personal resource, buffering the effects of self-appraised stress on teachers' work engagement. These findings were cross-validated with educators working at different educational levels, thereby enhancing the validity of the proposed model.

The results are in line with the notion of a health impairment process in which emotional demands reduce work engagement through their effect on self-appraised stress. Our results provided only partial support for our hypothesis about the buffering effect of EI. EI did not moderate the effect of emotional demands on self-appraised stress, but it did moderate the relationship between self-appraised stress and teachers' work engagement in both samples. Thus, our results suggest that EI acts as a personal resource, helping educators deal with the deleterious effects that self-appraised stress has on work engagement, but it does not reduce the effects of emotional demands on teacher strain.

One explanation for these findings relates to the method we used to assess EI. It is possible that the WLEIS mainly captures intrapersonal appraisal skills and ability to manage and use one's own emotions. Ability EI theory (Côté, 2014; Mayer et al., 2016) suggests that higher EI teachers would be more likely to decipher their emotions (e.g.,

anger or frustration) and have a better understanding of the detrimental effects of stress on their vigour, dedication and absorption at work. Moreover, high EI teachers should find it easier to apply adaptive emotion regulation strategies than their low EI counterparts, enabling them to stay engaged despite dealing with emotionally demanding situations. Conversely, it seems reasonable that self-perceived intrapersonal emotional skills would be less relevant to managing stress arising from interpersonally demanding situations (Maslach et al., 2001). Pending replication, these findings suggest that the buffering effects of EI are specific to contexts in which intrapersonal EI skills are important.

#### ***4.1 Limitations and further research***

This research has several limitations that suggest future lines of research. Although our proposed moderated mediator model is rooted in theory and the findings were replicated in two different samples, longitudinal research is required to establish a causal relationship between the variables (Taris, Leisink, & Schaufeli, 2017). In addition, our research failed to find evidence for the hypothesis that EI moderates the relationship between emotional demands and perceived stress. This null-finding may be due to the fact that we used a generic scale to assess emotional demands, instead of educator-specific emotional job demands (e.g., student misbehaviour). Future research may test the hypothesis that other-focused EI skills buffer the relationship between specific interpersonal demands in the teaching profession and educator strain (Taris et al., 2017). We also acknowledge limitations in our study design. Future studies may use objective rather than self-report measures of EI (e.g., performance-based EI tests) and longitudinal rather than cross-sectional designs. Diary studies would also increase our knowledge of within-person changes and between-person differences (Bakker & Bal, 2010). Finally, it would be worth using EI tests that measure both self- and other-

focused emotional abilities to determine whether interpersonal EI abilities buffer the impact of interpersonal job demands on strain (Pekaar, Bakker, van der Linden, & Born, 2018).

#### ***4.2 Implications and conclusion***

Notwithstanding its limitations, this study has theoretical and practical implications. This study helps to address the lack of research spanning the educational and occupational health psychology fields (McIntyre, McIntyre, & Francis, 2017). Whilst it has expanded our limited knowledge of the role of EI within JD-R theory, this study underlines the need to elucidate the buffering role of intrapersonal and interpersonal emotional abilities in relation to job demands and its combined effects on strain and teachers' work engagement. Given that EI training programs have been shown to be effective in organisational contexts our findings could serve as a promising starting point for intervention studies focusing on health and motivation processes and teachers' wellbeing and attitudes to teaching (Taris et al., 2017).

The current challenge to apply a more positive perspective to occupational health psychology has led to a great deal of attention being paid to personal resources that may help to enhance employees' health, wellbeing and performance (Di Fabio, 2017). Given the positive impact of work engagement on educators' and students' functioning, our findings have both theoretical and practical implications for efforts devoted to the important goal of developing healthier educational organisations.

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**Table 1**

Descriptive statistics and correlations among the study variables.

	M	SD	$\alpha$	1	2	3	4
<b>Sample 1 (N = 351)</b>							
1. Emotional demands	3.06	0.79	0.78	-			
2. Perceived stress	1.22	0.63	0.69	0.24**	-		
3. Emotional Intelligence	5.58	0.69	0.91	-0.10	-0.38**	-	
4. Work engagement	5.15	0.86	0.95	-0.27**	-0.36**	0.40**	-
<b>Sample 2 (N = 334)</b>							
1. Emotional demands	3.16	0.80	0.79	-			
2. Perceived stress	1.21	0.67	0.73	0.16**	-		
3. Emotional Intelligence	5.49	0.69	0.90	-0.10	-0.41**	-	
4. Work engagement	4.95	0.89	0.94	-0.11*	-0.42**	0.47**	-

Note. M = Mean; SD = Standard Deviation.

\*\*  $p < 0.01$ .

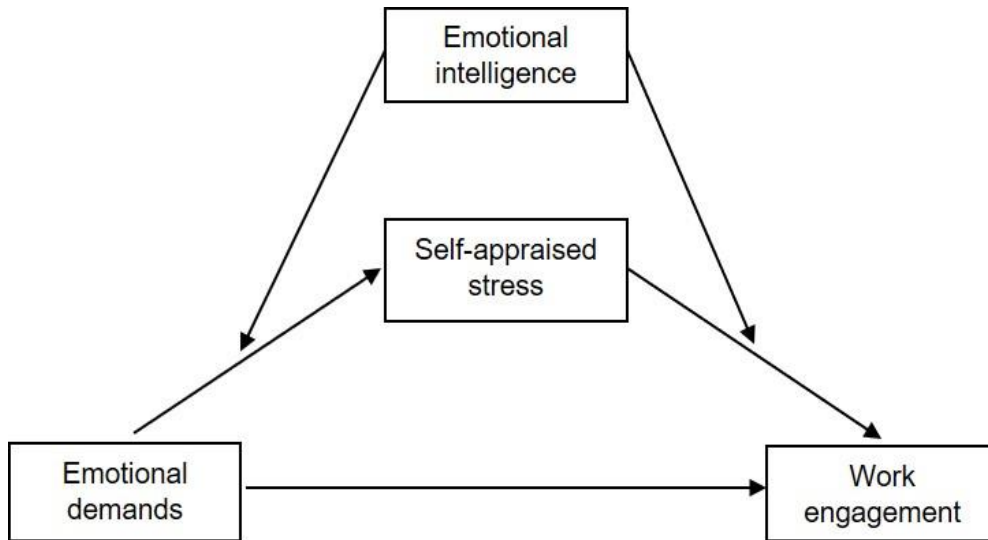
**Table 2**

Coefficients for the tested moderated mediation model.

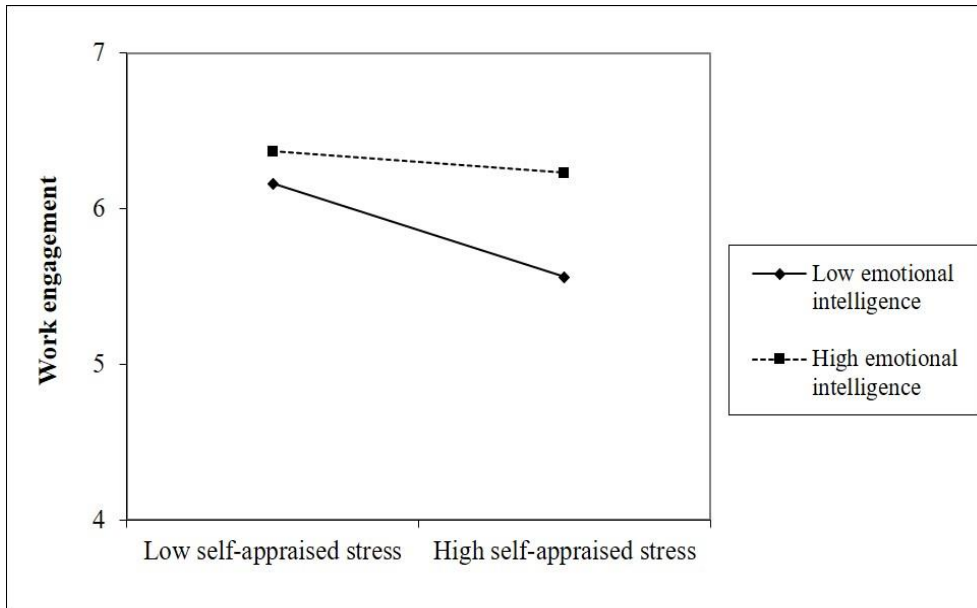
	Sample 1 (N= 351)			Sample 2 (N= 334)		
	Coeff.	SE	95% CI	Coeff.	SE	95% CI
<b>Perceived stress</b>	R <sup>2</sup> = 0.20; F (5, 345)= 16.70***			R <sup>2</sup> = 0.18; F (4, 329)= 18.38***		
Constant	-0.18***	0.15	-0.47 to 0.10	0.01	0.05	-0.09 to 0.10
Gender	0.13	0.07	-0.10 to 0.27	-0.01	0.07	-0.14 to 0.12
Teaching level	0.05	0.07	-0.09 to 0.19			
Emotional demands	0.16***	0.04	0.08 to 0.23	0.10*	0.04	0.01 to 0.18
Emotional intelligence (EI)	-0.34***	0.05	-0.42 to -0.25	-0.39***	0.05	-0.49 to -0.29
Emotional demands x EI	0.03	0.06	-0.08 to 0.14	0.03	0.06	-0.08 to 0.13
<b>Work engagement</b>	R <sup>2</sup> = 0.29; F (7, 343)= 19.95***			R <sup>2</sup> = 0.30; F (6, 327)= 23.32***		
Constant	5.51***	0.19	5.14 to 5.88	4.92***	0.06	4.80 to 5.04
Gender	0.18	0.09	-0.01 to 0.36	0.14	0.08	-0.02 to 0.31
Teaching level	-0.26**	0.09	-0.44 to -0.08			
Emotional demands	-0.19***	0.05	-0.29 to -0.08	-0.04	0.05	-0.15 to 0.06
Perceived stress	-0.29***	0.07	-0.43 to -0.16	-0.35***	0.07	-0.49 to -0.22
Emotional Intelligence (EI)	0.32***	0.07	0.19 to 0.45	0.42***	0.07	0.29 to 0.55
Emotional demands x EI	0.02	0.07	-0.12 to 0.16	-0.03	0.07	-0.17 to 0.12
Perceived stress x EI	0.26**	0.09	0.08 to 0.44	0.21*	0.08	0.04 to 0.37

Note. SE= standard error; 95% CI = Confidence Interval with lower and upper limits. EI= Emotional Intelligence.

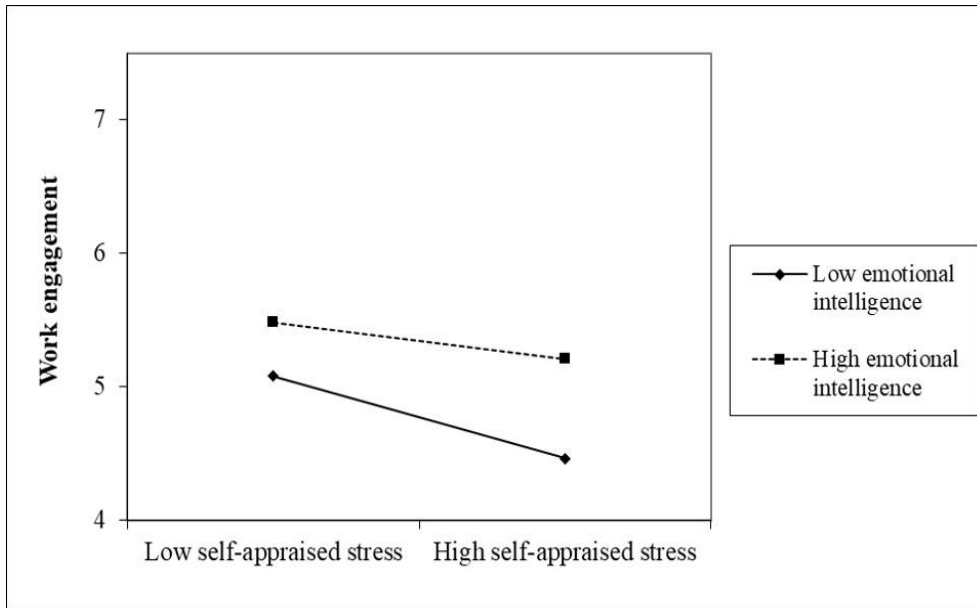
\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .



**Figure 1.** Proposed moderated mediation model.



**Figure 2.** Interaction between perceived stress and emotional intelligence on work engagement in sample 1.



**Figure 3.** Interaction between perceived stress and emotional intelligence on work engagement in sample 2.