Research article

# The influence of high-quality workplace relational systems and mindfulness on employee work engagement at the time of crises

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ABSTRACT

Workplace relational systems move the organizational processes therefore, the influence on employee work behavior is inevitable. Drawing on the relational systems and broaden & build theory, this study aimed to examine the impact of high-quality workplace relational systems and trait of mindfulness on employee work engagement. This study also posits that psychological capital mediates this relationship and negative affectivity plays a moderating role. Data was collected from 331 employees associated with the public and private sectors. PLS-SEM, Higher Component Modeling technique employed to analyze the data. Results showed a positive association between high-quality workplace relational systems and mindfulness with employee work engagement. Data also support the mediating role of psychological capital. This study contributes to understanding the internal mechanism of how workplace relational systems and mindfulness affect work engagement through mediating effect of psychological capital. The findings of this study showed that high-quality workplace relational systems and mindfulness are workplace factors that induce employees' work engagement. The present study advances the knowledge on the flourishment of the work environment. The findings of this study also contribute to further focusing research on the relational work environment in its response to employee behavioral dimension.

## 1. Introduction

In the recent era, academics and practitioners are more concerned about the employees' work engagement due to its influencing impact on individual and organizational outcomes [1,2]. An extensive number of researchers explored the variety of factors influencing employee work engagement. Such as leadership style, workplace incivility, and human resource practices [1,3,4]. These studies only explain how these evolving workplace factors impede or improve employee work engagement. The present study focused on workplace relational systems, the less observant workplace factor. Workplace relational systems are a set of underlying formal and informal ties among employees [5]. Workplace relationships are a growing concern in the field of organizational behavior. A highly competitive and intense work environment has created a distance among employees [6,7]. Specifically, the recent pandemic COVID 19 obstructed employee interaction that made the work environment more challenging for employees [8–10]. Contemporary studies highlighted that this intense and distant work environment aggravates employees' psychological health [11,12] and their work engagement [13].

While the research identified that an adverse work environment disturbs employee work behavior [14–16], an extensive number of

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studies also highlighted that positive and supportive workplace relationships induce positive work behavior such as job satisfaction and work attachment [17,18]. Less attention has focused on understanding how high-quality workplace relational systems and mindfulness may induce employee work engagement. Some studies demonstrated that a supportive work environment positively affects employees' work behavior such as engagement in work [19,20]. Studies also highlighted that mindfulness, and consciousness toward the present [21,22], shelter employees from negative factors. It reduces the vulnerability of the environment and increases sustainability [23,24], and helps to deal with crises [25]. The findings of these studies are explained based on speculation than empirical evidence.

The present study aimed to seek new insight into the mechanism by which high-quality workplace relational systems and mindfulness jointly relate to employee work engagement. The model of this study was drawn on relational systems theory [5], with a focus on positive workplace relational systems and employee work engagement, which incorporates the role of mindfulness and psychological capital. This study explained how positive workplace relational systems and mindfulness enable employees to build their resources to deal with crises. Accordingly, these personal resources help employees to minimize the impact of negative workplace factors and develop their engagement with the work and work environment. Drawing on relational systems theory, this study hypothesized that the dimensions of positive workplace relational systems i.e., cohesion, flexibility, and communication, are positively associated with employee work engagement. Further positive workplace relational systems and mindfulness are theorized as positive workplace factors that build psychological capital. Negative affectivity is positioned as an emotional dimension of an individual's personality that impacts the cognitional aspect of information interaction. It creates an attentional bias toward the threat, and interpret neutral messages as negative and profound memory structure that develop troubling experiences [26]. This study hypothesized that negative affectivity halts the positive effect of workplace relational systems and mindfulness and lessens the work engagement of employees. This study strives to make several contributions to the literature on workplace relationships and work engagement. First, this study empirically tested the assumption of the theory of relational systems that suggests, that high-quality work relationships keep employees engaged with work [5,27]. For the first time this research, with the help of the dimensions of positive workplace relational systems described how positive relationships keep the employee engaged. This study calls attention to the role of stakeholders, such as the managers the development of a positive work environment.

Secondly, this research broadens the scope of broadening & building theory by considering it to explain the hypothesized relationships. With the help of Broaden & Build theory, suggests the experience of positive emotions builds enduring personal resources that help to cope with crises and make individuals active and engaged [28–30]. This study proposed that positive workplace relational systems and mindfulness enable the employee to experience positive emotions, and build psychological capital. It is an evaluation of employee work engagement that is hypothesized as an outcome of positive workplace relationships and mindfulness. We are oblivious to existing research that has adopted this perspective to demarcate the mediating mechanism to test the relational systems theory. This is first study that has examined the novel mechanism with the perspective of relational systems theory. Also, this study extends the research on work engagement and associated anteceding factors.

## 2. Theory and hypothesis

While describing the role of positive workplace relationships in the organizational life of the employee, Kahn [31] identified the construct of positive workplace relational systems. With the help circumplex model of the marital and family system of Olson [32], describe the comprehensive view of positive relational systems. It consists of three-dimension, cohesion, flexibility, and communication. Cohesion refers to the balanced distance among members [33,34]. Flexibility refers to the balance member maintains variation in their relationship. The communication dimension is explained as the way members communicate, respect level, and attention while coordinating with each other [35]. Positive relationships at work produce positive work-related outcomes [14,15]. Researchers also coincide that the experience of positive relationships at the workplace improves employees' psychological health and enhances their attachment and engagement at work [17,18,36,37]. Positive relationships increase the coordination among teams, help them to overcome crises, and improve organizational life [17,31,38]. However, empirical research evidence on the outcomes of positive workplace relational systems is silent. Its long-term impact on employee work behavior, which this study has explained in the next section through the lens of broaden & build theory.

### 2.1. High-quality relational system and work engagement

Relational systems are the theoretical perspective that argues that workplace relationships are the fundamental factor in organizational life. These relationships shape employees' work-related behaviors and attitudes [5,39]. Relational system theory proposes that high-quality relationships keep employees attached to their workplace. When employees feel anchored with the people working around them, they feel more connected to work, colleagues, and the organizational context in which they are doing it [38]. Further, this theory also proposes that these high-quality relationships create a specific set of holding behaviors that prevent the adverse effect of stress-inducing experiences at work [31,40]. In simple words, positive workplace relational systems keep employees committed and engaged. To explore how these relational systems labor at the workplace with the support of B&B theory present study put some effort into further explaining this phenomenon.

Broaden and build theory is an influential conceptual paradigm that considers the landmark for the development of research on positive emotions [41]. The tenet of B&B theory is that the experience of positive emotions broadens individuals' capabilities and enables them to build enduring personal resources through which individual become more active, resilient, and socially engaged [28–30]. Numerous studies have adopted the B&B theory, to explore the mechanism of positive emotional experience in different

settings [42–44]. The argument presented in these studies is that positive factors shield individuals from harm, enrich the experience and improve psychological health.

Based on the assumptions of B&B theory present study presumes relational systems as a positive workplace aspect develops positive emotions within employees [42,45]. In turn, employees urge to build personal resources such as psychological capital. Personal resources make employees resilient to negative experiences, which creates an upward spiral of positive emotions. As a result, employee work engagement fosters and enables them to build further resources at work [46].

Workplace relationships are strongly associated with emotions [47]. Supportive workplace relations develop positive emotions within employees that affect the degree of attachment to work and the workplace [48,49]. The dimensions of relational systems at the workplace help employee overcome the crisis [31]. Literature on the relationship of relational systems with any other variable has not yet been empirically tested. The present research intends to describe the role of relational systems and mindfulness in developing positive organizational outcomes by getting support from the broaden and build theory [28]. Drawing on the second assumption of B&B theory this study argues that the presence of relational systems at the workplace develops positive emotions within employees that influence employee engagement at work. Based on available literature and theoretical support this study hypothesized as follows.

**H1**. High-quality relational system positively affects employee work engagement

### 2.2. Mindfulness and employee work engagement

Studies highlighted the significance of mindfulness in a work setting as one of the strong stress-reducing constructs. Mindfulness helps the employee to deal with negative workplace factors such as burnout and produce positive emotions, improve work engagement, job satisfaction, and wellbeing [50–54]. Researchers defined mindfulness as a rational consciousness toward present events and experiences [21,22,55,56]. It is a strong predictor of positive emotions; a higher level of mindfulness predicts a higher level of positive emotions that increases optimism [57]. It has a reciprocal relationship with positive emotions, which creates an upward spiral of positive emotions [42,46]. Positive emotions enable employees to build resources that can be utilized to cope with destructive organizational factors and build further personal resources [58]. As a result employees' work engagement increases [59]. While existing research described the role of positive emotions in the development of mindfulness and keeping employees engaged in work [60]. The literature lacks an explanation about how mindfulness may enhance the employees' work engagement. Based on previous research and the second assumption of B&B theory this study argues that employee consciousness and attachment toward the present environment enhance employee work engagement. In light of the above argument, this study proposes the following hypothesis.

**H2**. Mindfulness is positively related to employee work engagement

### 2.3. The mediating role of psychological capital

Anglin [61] described psychological capital as a fundamental psychological resource that optimizes the attitude and behavior of an individual [62,63]. It is described as an individual's positive psychological state of development characterized by self-efficacy, optimism, hope, and resilience [63–66]. Self-efficacy is individuals' assurance of their capabilities to successfully implement the required course of action for task attainment [67–69]. Optimism is a cognitive variable that refers as generalized favorable expectancies toward future events [70–72]. Hope is an emotional compound of cognitive, irrational, and affective elements that stimulate action and shapes thoughts and behavior [73,74]. Resilience is one's adaptive behavioral capability to utilize resources and flourish even dealing with adverse circumstances [75–77]. Employee resilience is essential workplace behavior that predicts a positive workplace attitude such as job engagement [77,78] and work performance [79].

Existing studies described that positive emotions are the favorable behavioral and psychological reactions of individuals that repeal harming factors and enable the employee to build personal resources such as psychological capital [41,80,81]. The presence of psychological capital predicts positive workplace outcomes such as employee work engagement [58,82,83]. Employee Work engagement is the construct that measures the extent of employees' focus, enthusiasm, commitment, passion, and involvement in work [84,85]. The research identified that presence of higher personal resources at work increase employee commitment and dedication [86] and keep employees engaged to work [87]. Existing literature has not explained the phenomenon through which psychological capital induces employee work engagement.

The present study argued that employees with the resource-building ability efficiently cope with crises and negative factors at work. The level of engagement of these employees is higher as compared to the rest. Drawing on the second assumption of B&B theory, build hypothesis, this study hypothesized that the experience of positive emotions at work, due to the workplace relational system and mindfulness, empowers the employee to build psychological capital that fosters employee work engagement. Thus, the present study proposes the following hypothesis.

**H3**. Psychological capital mediates the relationship between relational systems and employee work engagement

**H4**. Psychological Capital positively mediates the relationship between mindfulness and employee work engagement

### 2.4. The moderating role of negative affectivity

Workplace relationships are a fundamental part of employees' lives that are reciprocally related to the positive and negative axis of emotions [88,89]. The functionality of these relational systems depends on the participants of these systems [5]. Negative affectivity is

a personality variable, it is described as an individual's tendency to experience negative emotions all the time and across the situation even in the absence of stress [90]. It can also be defined as an aversive, uncomfortable state of emotions and self-concept of the individual in which a person feels anxiety, worry, depression fear, or anger [91–94]. Individuals with high negative affectivity tend to place themselves in situations where they encounter more stressors. When an individual with high negative affectivity experience high-quality relationships at work they are less likely to feel positivity. Conversely, employees with lower NA are more likely to experience positive emotions and build psychological capital [95,96], and their engagement in work increases [97]. Thus, an employee with a low level of negative affectivity is more responsive toward positive relational systems and consequently more likely to develop psychological capital and work engagement. Based on the above-mentioned arguments this suggests the moderated mediating effect. Specifically, due to negative affectivity's moderating effect on the relationship between positive workplace relational systems and work engagement, negative affectivity mitigates the indirect effect of positive workplace relational systems on employee work engagement.

**H5.** Negative affectivity moderates the positive relationship between relational systems and psychological capital, such that the relationship is weaker for a high negative affective employee than for lower negative affective employees.

While the theory of positive emotions explains that the experience of positive emotions broadens awareness and builds resources, this theory explained the relationship between mindfulness and psychological capital [98]. Meanwhile, Negative affectivity is identified as an inevitable personality trait that resists the effect of positive emotions. Negative affectivity is the stable tendency of a personality to experience negative emotions regardless of the situation [99]. It can be viewed as a contextual factor that stops employees to experience positive emotions and building resources [41]. Taken together, this study proposes the moderated mediation model, specifically, this study proposes that highly negative affective employees are relatively resilient toward the experience of positive emotions and less likely to develop psychological capital and get engaged with their work. On the contrary, an employee with lower negative affectivity is more comfortable with the effect of relational systems and mindfulness, and creates engagement with their work. Accordingly, this study proposes the following hypothesis.

**H6.** Negative affectivity moderates the positive relationship between mindfulness and psychological capital.

## 3. Methodology

Participants of this study were public and private sector employees across the industries in Pakistan. We understand that selection of survey subjects across the industry is very suitable for testing the hypothesis related to the relational system because every human system is relational and exists everywhere [100]. It is a general phenomenon across organizations. Therefore, data was gathered across the sectors to attain the generalizability of this research.

The target population to collect data for this study is the employees of public and private sector employees across the sectors. Employees working within or with the groups or teams were eligible to participate in the survey. Data for this study was collected through a self-administered questionnaire. For data collection, we visited different public and private sector organizations. Approval was granted from the human resource department before approaching the organizations. Verbal consent took from participants before presenting the questionnaire to get a response. Data were collected only from respondents who willingly agreed to participate. Personal contacts that were eligible (employed) to participate were also approached, and after getting permission, a web-based survey was sent to them. No information that can identify the respondent has been taken to keep the respondents' anonymity, which was assured to participants while collecting data. Data were collected in two phases, a first phase response for half of the questionnaire items collected, and each questionnaire recorded with a unique bookmark. In the second phase, respondents were again approached after two weeks to get a response for the remaining questionnaire items and recorded their previous responses. While recording the second response, bookmarks were removed to keep the respondents' anonymity, which was assured to participants while collecting data. For a web-based survey, the same procedure was used, but instead of bookmarks, their email addresses were collected with the consent of respondents. After collecting responses from both parties, their email addresses were removed from their response. After completing the data collection, all the responses were reviewed to check the data accuracy. It was also informed to the respondent that there were no right or wrong criteria for their responses and they were advised to respond honestly for each item. It is a procedural technique known as Reduced evaluation apprehension to avoid common method bias [101–103]. Further to avoid CMB common scale properties were also evaded and different anchor labels were used for different measures [104].

By following the guidelines of Lakens [105] this study employed G*power statistical tool to calculate the minimum sample size for data collection [106]. Based on cohen's (1988) guidelines for effect size, this study selected a medium effect size that is widely considered by researchers [107]. At a medium effect size of 0.15 at a 95% confidence interval, 0.05 probability error, and 0.8 power, the calculator determined a minimum sample size of 103.

A large sample size may lead to type II error, to evade the chances of error adequate sample size of around 300 should consider [108,109]. Altogether, 385 employees were approached, 147 through a web-based survey and 238 employees personally approached. As for the web-based survey, 128 responses were received. After completing the data collection, all the responses were reviewed to check the data accuracy. Questionnaires with missing responses were also considered. Items with missing responses were assigned with the mean of nearby value. After discarding the incomplete questionnaire, received via fieldwork, 203 valid surveys were retained for analysis.

To test the hypothesis and analyze the direct, mediating, and moderating effect, this study employed a PLS-SEM approach for data analysis. This study followed the rules of thumb, which were also used as a comprehensive guideline proposed by Hair [110], and selected the PLS-SEM approach to test the hypothesized model. It is a robust approach that uses calibration mechanisms to transform
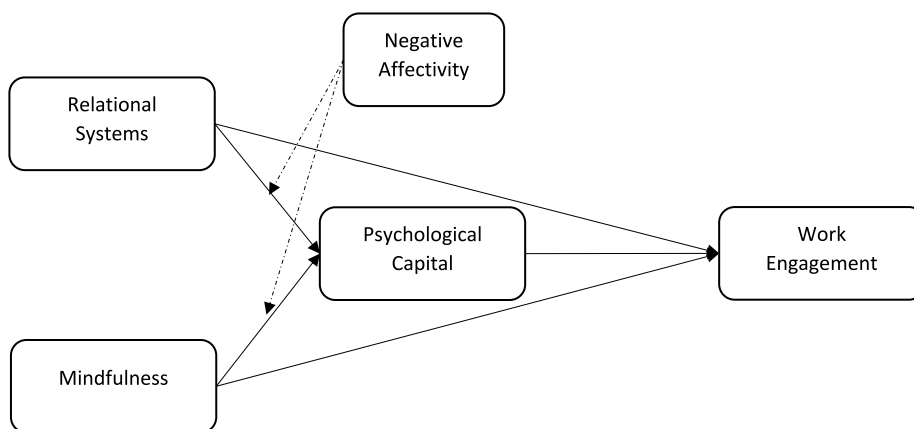
**Fig. 1.** Theoretical framework.

any non–normal data into normally distributed data. PLS-SEM is the preferred approach for the present study because its path model contains the formatively measured higher-order constructs [111]. Higher-order formative construct contains interrelated dimensions and exists in the multidimensional domain which can be conceptualized under overall abstraction [112,113]. It is easy to use formative and reflective constructs in PLS-SEM (Chin, 1998b). Since the hypothesized model of the present study contains the higher-order formative construct therefore PLS-SEM is the most appropriate approach for this study.

The theoretical model of this study (see Fig. 1) contains the Reflective–Formative Hierarchical Component Model (HCM). Under Reflective – Formative HCM the Lower Order Components (LOC) are reflective and the Higher-order component (HOC) are formative. The two-stage approach i.e., measurement model and structural model considered to analyze the model [114]. It is recommended approach because it demonstrates the better parameter recovery of path pointing, from the independent variable to HOC and from HOC to the dependent variable [115–117]. Under the two-stage approach, the disjoint two-stage technique is employed because it permits the overall application of structural model assessment criteria [117,118]. Data were analyzed by using SmartPLS 3.3.5 version [119], a software package for PLS-SEM.

### 3.1. Measures

This study was conducted in Pakistan, the native language of Pakistan is Urdu, and officially, English is another primary language. Other than blue-collar jobs for which almost no education is needed, almost every employed person can read and understand English; therefore, it is not necessary to translate scales into the native language [120]. Demographic information was asked at the beginning of the question, so if the respondent feels comfortable with sharing their information. A further explanation of each employed construct is given below.

*Relational systems (RS).* The construct of relational systems has not yet been empirically tested yet therefore as advised by Kahn [31] to measure the three dimensions of relational systems i.e. Balanced Cohesion (Coh), Balanced Flexibility (Flex), and Communication (Com), this study adapted 9 items of FACE IV (Family Adaptability and Cohesion Evaluation) Scale [35]. This scale is widely used by clinical researchers and therapists to distinguish between healthy and problematic families. All items were measured on a five-point Likert scale, 1 indicates strongly disagree, and 5 indicates strongly agree. Sample items include "My team members/colleagues/coworkers are supportive of each other during difficult times" and "My team members/colleagues/coworkers feel very close to each other".

*Mindfulness (MF).* To measure the mindfulness of participants of the study this study adopted the five items scale of Brown & Ryan [121]. All items were measured on a five-point Likert scale, 1 indicates strongly disagree, and 5 indicates strongly agree. Sample items include "I find it difficult to stay focused" and "I rushed through activities without being attentive to them".

*Work Engagement (WE).* To measure employee engagement with their work this study adopted the shorter version of the Utrecht Work Engagement Scale (UWES-9) consisting of 3 items developed by Schaufeli et al., [80]. All items were measured on a five-point Likert scale, 1 indicates strongly disagree, and 5 indicates strongly agree. Sample items include "I am enthusiastic about my job" and "I am immersed in my work".

*Psychological capital (PsyCap).* To measure psychological capital this study adopted 12 items scales developed by Kamei et al. [122]. This scale comprises four dimensions: self–efficacy (SE), hope (HP), resilience (RE), and optimism (OP), which contain two, four, three, and three items respectively. All items were measured on a five-point Likert scale, 1 indicates strongly disagree, and 5 indicates strongly agree. Sample items include "I usually take stressful things at work" and "I always look on the bright side of things regarding my job".

*Negative Affectivity (NA).* To measure the negative affectivity of respondents this study adopted the five items from the PANA (positive affect and negative affect) scale of Brief et al. [123]. Respondents were asked to indicate the extent to which they felt the defined emotions over the past weeks. All items were measured on a five-point Likert scale, 1 indicates strongly disagree, and 5

**Table 1**
Common method variance – full collinearity test.

| Items | Coh | Com | Flex | HP | MF | NA | OP | RE | SE | WE |
|-------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| Coh | | 1.041 | 1.208 | 1.438 | 1.145 | 1.295 | 1.352 | 1.431 | 1.244 | 1.257 |
| Com | 1.083 | | 1.172 | 1.166 | 1.176 | 1.282 | 1.086 | 1.167 | 1.248 | 1.337 |
| Flex | 1.150 | 1.064 | | 1.362 | 1.072 | 1.266 | 1.306 | 1.333 | 1.169 | 1.146 |
| HP | 1.576 | 1.547 | 1.378 | | 1.378 | 1.033 | 1.621 | 1.460 | 1.556 | 1.543 |
| MF | 1.020 | 1.163 | 1.158 | 1.159 | | 1.249 | 1.032 | 1.091 | 1.225 | 1.344 |
| NA | 1.114 | 1.091 | 1.178 | 1.027 | 1.116 | | 1.035 | 1.119 | 1.085 | 1.143 |
| OP | 1.303 | 1.129 | 1.251 | 1.292 | 1.070 | 1.092 | | 1.285 | 1.248 | 1.318 |
| RE | 1.337 | 1.060 | 1.420 | 1.435 | 1.046 | 1.182 | 1.289 | | 1.361 | 1.555 |
| SE | 1.491 | 1.633 | 1.122 | 1.661 | 1.558 | 1.611 | 1.633 | 1.496 | | 1.611 |
| WE | 1.496 | 1.463 | 1.029 | 1.439 | 1.403 | 1.302 | 1.490 | 1.445 | 1.439 | |

indicates strongly agree. Sample items include "Scornful" and "Hostile".

## 4. Results

### 4.1. Common method variance (CMV)

The CMV in the data set of this study was assessed through the Correlation matrix procedure [124]. Through this procedure variance inflation factor (VIF) is generated for the latent variable [102]. As shown in Table 1 all the VIF values are less than 3.3 indicating that the model was not contaminated by common method variance.

### 4.2. Measurement model

#### 4.2.1. Stage 1 - measurement model for LOCs
At first, this study evaluated the indicator loadings of constructs to assess the variance shared between the indicator and their respective construct [111]. As presented in Table 2 all the indicators' loadings of constructs indicate that construct explains more than 50% of the indicators' variance. Reliability of constructs measured by composite reliability (CR). As reported in Table 2 CR values are higher than 0.70 which indicates good internal consistency. The convergent validity of constructs measured through Average Variance Extracted (AVE), as shown in Table 2 all the AVE values are greater than threshold values (which indicates that the construct explains more than 50% of the variance of its respective items. The measure of the discriminant validity Heterotrait-Monotrait Ratio (HTMT)

**Table 2**
Convergent validity.

| Items | Outer Loadings | CR | AVE |
|-------|----------------|-----|-----|
| **MF1** | 0.851 | 0.905 | 0.761 |
| **MF3** | 0.885 | | |
| **MF4** | 0.881 | | |
| **NA1** | 0.833 | 0.873 | 0.634 |
| **NA2** | 0.838 | | |
| **NA3** | 0.708 | | |
| **NA5** | 0.798 | | |
| **SE1** | 0.888 | 0.883 | 0.790 |
| **SE2** | 0.890 | | |
| **RE1** | 0.869 | 0.783 | 0.540 |
| **RE2** | 0.742 | | |
| **HP1** | 0.787 | 0.789 | 0.653 |
| **HP2** | 0.790 | | |
| **HP3** | 0.634 | | |
| **OP1** | 0.770 | 0.787 | 0.649 |
| **OP2** | 0.840 | | |
| **Coh1** | 0.723 | 0.813 | 0.687 |
| **Coh2** | 0.923 | | |
| Flx1 | 0.896 | 0.871 | 0.772 |
| Flx2 | 0.861 | | |
| **Com1** | 0.887 | 0.896 | 0.812 |
| **Com2** | 0.915 | | |
| **WE1** | 0.814 | 0.828 | 0.616 |
| **WE2** | 0.816 | | |
| **WE3** | 0.721 | | |

**Table 3**
Discriminant validity.

| HTMT | Coh | Com | Flx | HP | MF | NA | OP | RE | SE | WE |
|---|---|---|---|---|---|---|---|---|---|---|
| Coh | | | | | | | | | | |
| Com | 0.131 | | | | | | | | | |
| Flx | 0.811 | 0.107 | | | | | | | | |
| HP | 0.468 | 0.169 | 0.276 | | | | | | | |
| MF | 0.063 | 0.556 | 0.071 | 0.215 | | | | | | |
| NA | 0.301 | 0.307 | 0.284 | 0.099 | 0.278 | | | | | |
| OP | 0.365 | 0.097 | 0.154 | 0.799 | 0.112 | 0.199 | | | | |
| RE | 0.426 | 0.142 | 0.332 | 0.813 | 0.17 | 0.185 | 0.821 | | | |
| SE | 0.35 | 0.316 | 0.191 | 0.83 | 0.303 | 0.092 | 0.595 | 0.561 | | |
| WE | 0.208 | 0.222 | 0.072 | 0.838 | 0.263 | 0.115 | 0.685 | 0.435 | 0.698 | |

**Table 4**
Validity of HOC.

| HOC | LOCs | Indicator Weight | T Statistics | P value | P value | VIF |
|---|---|---|---|---|---|---|
| **RS** | Coh | 0.846 | 5.471 | 0.000 | 0.000 | 1.347 |
| | Flx | 0.172 | 0.786 | 0.066 | 0.001 | 1.355 |
| | Com | 0.622 | 3.709 | 0.000 | 0.000 | 1.007 |
| **PsyCap** | SE | 0.613 | 6.162 | 0.000 | 0.000 | 1.440 |
| | HP | 0.427 | 4.883 | 0.000 | 0.000 | 1.520 |
| | RE | 0.167 | 0.508 | 0.036 | 0.000 | 1.409 |
| | OP | 0.244 | 2.620 | 0.004 | 0.000 | 1.295 |

criterion has been used. As shown in Table 3 HTMT values of each construct are less than 0.85 which represents that in the structural model each construct is distinct from other constructs and participants distinctly understood and respond to each latent variable.

*4.2.2. Stage 2 - measurement model for HOCs*

At this stage, a latent variable score of only LOCs was obtained from the first stage results and used as a formative indicator for HOCs to create an HCM. The detection of multicollinearity issues is verified by the variance inflation factor (VIF), it is suggested that the value for VIF should be close to or less than 3 [111]. As presented in Table 5, the VIF values of all indicators indicate the absence of multicollinearity. The contribution of formative indicators for construct scores is measured through the size and significance of indicator weights. Bootstrapping is used to evaluate the significance of indicator weight. The acceptable level of significance is but in the case of a small sample size, the significance level is justifiable [125]. Table 4 shows all the LOCs that are required level of significance except flexibility (0.066). In stage 2 the final step is to assess the absolute contribution of formative indicators through indicator loading. As per Table 4, all the indicator loading is significant and which shows that all the indicators are important for construct formation.

**Table 5**
Multicollinearity assessment.

| Indicators | VIF |
|---|---|
| Coh | 1.347 |
| Com | 1.007 |
| Flx | 1.355 |
| HP | 1.520 |
| OP | 1.295 |
| RE | 1.409 |
| SE | 1.440 |
| MF1 | 2.218 |
| MF3 | 2.287 |
| MF4 | 1.799 |
| NA1 | 2.402 |
| NA2 | 2.246 |
| NA3 | 1.833 |
| NA4 | 1.643 |
| NA5 | 1.426 |
| WE1 | 1.438 |
| WE2 | 1.471 |
| WE3 | 1.220 |
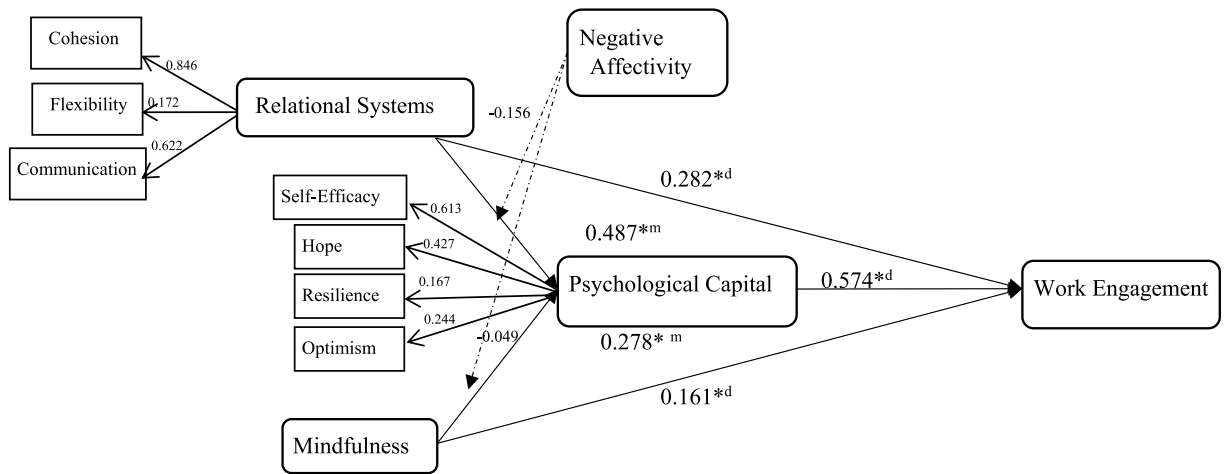
**Fig. 2.** Structure model.

**Table 6**
Hypothesis testing.

| Relationships | | | | C–I | | | |
|---|---|---|---|---|---|---|---|
| | | Stand. Err | t – stats. | 5% | 95% | P Values | Decision |
| Direct Effect | | | | | | | |
| RS - > WE | 0.282 | 0.065 | 2.785 | 0.279 | 0.295 | 0.003 | Supported |
| MF - > WE | 0.161 | 0.055 | 2.922 | 0.070 | 0.250 | 0.002 | Supported |
| PsyCap - > WE | 0.574 | 0.046 | 12.567 | 0.501 | 0.651 | 0.000 | Supported |
| Mediating Effect | | | | | | | |
| RS - > PsyCap - > WE | 0.487 | 0.042 | 4.445 | 0.118 | 0.256 | 0.000 | Supported |
| MF - > PsyCap - > WE | 0.278 | 0.037 | 3.124 | 0.018 | 0.137 | 0.007 | Supported |
| Moderating Effect | | | | | | | |
| RS*NA - > PsyCap | −0.156 | 0.194 | 0.807 | −0.185 | 0.081 | 0.210 | Not Supported |
| MF*NA - > PsyCap | −0.049 | 0.076 | 0.649 | −0.236 | 0.257 | 0.258 | Not Supported |

## 4.3. Structural model

### 4.3.1. Assessment of multicollinearity problem

The first step in the assessment of the structure model is to determine the multicollinearity problem. As shown in Table 5 all the VIF values are less than 3 (threshold value) which indicates that the multicollinearity issue is not present in the model.

### 4.3.2. Hypothesis testing

In the second stage, this study runs bootstrapping (10,000 subsamples, one-tailed) and measures the size and significance of the path coefficient to evaluate the hypothesized relationship among constructs (Fig. 2). The value of the path coefficient should be at least 0.1 to support the proposed relationship between two variables [110]. As presented in Table 6 except moderating effect all the hypotheses are supported at a 95% confidence level with path coefficient greater than 0.1, that supports the appropriateness of the hypothesized model. Specifically, the findings of this study show that high-quality relational systems are positively related to employees' work engagement, supporting H1. Mindfulness is positively related to employees' work engagement, validating H2. The indirect effect of relational systems on employees' work engagement via PsyCap was supporting H3. It shows that PsyCap strongly and significantly mediates the relationship between relational systems and employee work engagement. The indirect effect of mindfulness

**Table 7**
PLS predict.

| Items | MAE PLS (MAE) - LM (MAE) | $Q^2$_predict |
|---|---|---|
| SE | −0.017 | 0.115 |
| RE | −0.032 | 0.008 |
| HP | −0.01 | 0.053 |
| OP | −0.004 | 0.005 |
| WE2 | −0.011 | 0.035 |
| WE1 | −0.013 | 0.043 |
| WE3 | −0.019 | 0.008 |

on employee work engagement via PsyCap was, supporting H4. PsyCap significantly mediates the relationship between relational systems and employee work engagement. As presented in the table moderating effect was insignificant H5 and H6 were not supportive. There is no moderating effect identified between the relationship between relational systems and employee work engagement.

The third step in structural model assessment is to measure the coefficient of determination $R^2$ to describe the explanatory power of the model [126]. In research of behavioral science $R^2$ values are not enough to rely on, theoretical reasoning plays a vital role to describe the perfectness of the model [127]. The predictive power of the model ($R^2$) is 0.35 at a 95% level of significance. PLS – Predict criterion employed to measure the predictive ability of the model. It is the robust out–of–sample approach that assesses the predictive ability of the model in another setting [126,128]. As presented in Table 7 all the values are above zero and better than naïve values that allow interpreting MAE outcomes. According to the guideline, all the values are lesser than the naïve LM benchmark indicates the model has high predictive power.

## 5. Discussion

Both external and internal factors play a vital role in shaping the employees work behavior such as employee work performance, turnover intention, organizational citizenship behavior and work engagement. Meanwhile these internal and external factors also help in controlling work behavior. In order to control and shape the employee work behavior it is essential to have a clear understanding about how these factors impacts the certain work behavior. This study identified two most important and ignored workplace factors that significantly influence the employee workplace behavior. Relational systems are external positive workplace factors that can affect employees' organizational life and work behavior. Whereas, mindfulness is employees' internal ability that may also have a considerable influence on different aspects of employees' organizational life. This study examined a model to describe how workplace relational systems and mindfulness jointly related to employees' work engagement. Drawing on relational systems and broadening & building theory, this study explored how employee work-related outcome i.e., work engagement is associated with relational systems and mindfulness through PsyCap. Further, this study proposed and examined negative affectivity, a personality trait, as a moderator of mediated relationships. The findings of this study provided serval conclusions. The findings of this study identified PsyCap as a positive psychological factor that serves to explain the relationship between relational systems, mindfulness, and work engagement.

This study considered relational systems as an external factor that influences employees' work behavior. Specifically, this study explained that when employees experience high-quality workplace relational systems at the time of crisis, positive emotions are incurred within them and enable them to develop their resources. So, these resources help them to cope with the crises. The empirical analysis of this study provides support to an argument based on the theory of relational systems [5,39]. Along with external factors, this study also accounted for the internal factor i.e., mindfulness. This study also described that presence of ability of mindfulness shield employees from crises and help them to grow personal resources. This finding contrast with the existing studies that claims mindfulness does not help employee to cope with stress during crises [129] This study found that employee work engagement is strongly associated with employees' PsyCap which is in line with the findings of existing studies [58,82,83]. It transmits the positive effects of relational systems and mindfulness to increase their engagement in work. Hence, there is no moderating effect of negative affectivity identified. Which is in line with finding of existing studies that claims PsyCap protects employee from negative factors [130]. This indicates that the presence of positive external and internal factors neglects the effect of negative personality traits that support the arguments of researchers related to mindfulness [21,22,55,56]. Presence of positive workplace relational systems halts the development of negative behavior with in employees. In sum, findings support the proposition of this study that, supportive high-quality workplace relational systems and mindfulness develop positive emotions within employees and allow them to build personal resources i.e., PsyCap. This development of PsyCap makes employees optimist toward their work and workplace in turn their work engagement increases.

## 6. Conclusion

Drawing on relational systems theory and B&B theory the findings of this study identified the positive effect of workplace relational systems and mindfulness toward employee work engagement. PsyCap acts as mediating factor that channels the positive effect of mindfulness and relational systems to foster work engagement. Taken together, the results extend the relational systems theory by demonstrating the importance of high-quality relational systems and understanding how they manifest and relate to employee work engagement. Furthermore, the results also highlighted the importance of mindfulness.

### 6.1. Theoretical contribution and managerial implication

By linking relational systems, mindfulness, and work engagement for the first time, this study contributes to the literature on relational systems and mindfulness. This study examined how relational systems and mindfulness contributes to employees' work lives. Studies argued that relational systems already exist everywhere [31,100]. Whereas their functionality depends on the participants of the system [5]. Studies also argued that the presence of different patterns of relationships at the workplace influences employees' work engagement [17,36]. But these studies did not explain the evolvement of these relationships and their workplace outcomes. Since relational systems are a considerable but unexplored workplace factor, therefore, this study adds to the existing literature by demonstrating that high-quality relational systems, a positive workplace factor, encourage employees' work engagement.

This study makes multiple contributions by providing theoretical explanation and empirical evidence for how high-quality workplace relational systems and mindfulness has a positive effect on employees' personal and organizational lives. Supporting

relational systems theory, this study found that at the time of crisis high-quality workplace relational systems act to augment optimistic behavior toward the work environment and predict employee work engagement. Which is in line with the findings of existing research which explained that healthy workplace relational systems strengthen employee bonding with the workplace [31,131].

Hypothesized model of this study articulates the new area of inquiry for relational systems theory [5] by investigating the development of employees' resources due to the positive effect of the relational systems. Further extending the application of B&B theory this study also explained how PsyCap positively affects employee work engagement as well as mediates the effect of PsyCap on the relationship between workplace relational systems and work engagement. The existing literature on PsyCap paid much attention to its anteceding and outcomes, it is needed to understand the underlying mediating mechanism of PsyCap on work-related outcomes [132,133]. This study addressed the literature gap by examining the mediating role of PsyCap. The empirical analysis of this study supported the mediating mechanism of PsyCap and its positive influence on workplace outcomes i.e., work engagement.

A wide number of researches examined the different aspects of work relationships [17,48,134]. Such as how positive, negative, or supportive workplace relationships affect employees' work lives [17,135]. This study first time examined the workplace relational systems theory from the perspective of the circumplex model [32]. Also, extend the application of B&B to describe the mechanism of how relational systems and mindfulness jointly influence work engagement via PsyCap. Earlier circumplex model was widely utilized in the field of psychology, treatment of marital family systems, and stress [136–138]. This study makes an important contribution to the literature by implementing the circumplex model for marital and family systems [32] in the organizational setting as well as utilizing the assessment tool FACE – Family Adaptability and Cohesion Evaluation scale [35] to measure the relational systems at the workplace. This study also adds to the paucity of research by exploring the relationship between workplace relational systems and mindfulness with employee work engagement.

From a managerial perspective, the results of this study identified workplace relational systems as a positive workplace factor that alleviate the harmful effect of crises and another work-related negative factor. This suggests that managers or supervisors should encourage cohesion among team members. Providing a flexible work environment enables them to resolve their individual as well as team crises through communication. Managers should also foster high-quality relational systems at work because it keeps them engaged in their work and workplace. Mindfulness is also identified as an employee-related positive factor that highly influences employee participation in work. Organizations should arrange training sessions for employees to increase their mindfulness.

### 6.2. Limitations and future direction

Ike existing studies this study also has some considerable limitations that need to be addressed in future. First limitation was due to undocumented employed population characteristic dependency on Human resource department for approaching the respondents. There is a possibility that researcher missed out the most relevant respondent. Second limitation was researcher employed the suggested scale i.e., FACE IV to measure the relational systems. The future studies may consider this limitation and develop scale to measure the underlying workplace relational systems. While present research divulges the model of the relationship between positive workplace relational systems, mindfulness, and work engagement, it also highlighted several potentially interesting future research directions. The future researcher should broaden the scope, considering the rest three dimensions of the circumplex model [137] to measure the absence of relational systems in the workplace. By understanding how an isolated work environment will impact the employee work behavior. Further, explore its relation with other work or organization-related factors such as work-to-family conflict, perceived organizational politics, work performance, etc. The limitation is, that this study failed to prove that moderating effect of negative affectivity in the existing setting. The future researcher may consider the hypothesized model to replicate in another setting to examine the significance of moderating effect. Studies may consider the moderating role of negative affectivity, social distancing, and industry role.

### Authors' contribution

Sumbol Fiaz: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Syed Muhammad Fahim: Contributed reagents, materials, analysis tools or data; Analyzed and interpreted the data; Wrote the paper.

### Data availability statement

Data will be made available on request.

### References

[1] A.A.Y. Alzyoud, The influence of human resource management practices on employee work engagement, Foundations of Management 10 (1) (2018) 251–256, https://doi.org/10.2478/fman-2018-0019.

[2] J. Wood, J. Oh, J. Park, W. Kim, The relationship between work engagement and work–life balance in organizations: a review of the empirical research, Hum. Resour. Dev. Rev. 19 (3) (Sep. 2020) 240–262, https://doi.org/10.1177/1534484320917560.

[3] C. Knight, M. Patterson, J. Dawson, Work engagement interventions can be effective: a systematic review, Eur. J. Work. Organ. Psychol. 28 (3) (2019) 348–372.

[4] C.-H. Wang, H.-T. Chen, Relationships among workplace incivility, work engagement and job performance, J. Hospit. Tour. Insights 3 (4) (2020) 415–429, https://doi.org/10.1108/JHTI-09-2019-0105.

[5] W.A. Kahn, Relational systems at work, in: Research in Organizational Behavior, Vol. 20: an Annual Series of Analytical Essays and Critical Reviews, Elsevier Science/JAI Press, US, 1998, pp. 39–76.

[6] P. Caligiuri, H. De Cieri, D. Minbaeva, A. Verbeke, A. Zimmermann, International HRM insights for navigating the COVID-19 pandemic: implications for future research and practice, J. Int. Bus. Stud. 51 (5) (2020) 697–713, https://doi.org/10.1057/s41267-020-00335-9.

[7] J. Li, R. Ghosh, S. Nachmias, In a time of COVID-19 pandemic, stay healthy, connected, productive, and learning: words from the editorial team of HRDI, Hum. Resour. Dev. Int. 23 (3) (May 2020) 199–207, https://doi.org/10.1080/13678868.2020.1752493.

[8] C. Ruiz-Frutos, M. Ortega-Moreno, R. Allande-Cussó, D. Ayuso-Murillo, S. Domínguez-Salas, J. Gómez-Salgado, Sense of coherence, engagement, and work environment as precursors of psychological distress among non-health workers during the COVID-19 pandemic in Spain, Saf. Sci. 133 (2021) 105033, https://doi.org/10.1016/j.ssci.2020.105033.

[9] T. Theorell, COVID-19 and Working Conditions in Health Care, Psychother Psychosom, Apr. 2020, pp. 1–2, https://doi.org/10.1159/000507765.

[10] A.K. Verma, S. Prakash, Impact of COVID-19 on Environment and Society, 2020. Rochester, NY.

[11] I. Colantone, R. Crinò, L. Ogliari, Globalization and mental distress, J. Int. Econ. 119 (Jul. 2019) 181–207, https://doi.org/10.1016/j.jinteco.2019.04.008.

[12] M. Juchnowicz, H. Kinowska, Employee well-being and digital work during the COVID-19 pandemic, Information 12 (8) (2021), https://doi.org/10.3390/info12080293. Art. no. 8.

[13] M.-C. De-la-Calle-Durán, J.-L. Rodríguez-Sánchez, Employee engagement and wellbeing in times of COVID-19: a proposal of the 5Cs model, Int. J. Environ. Res. Publ. Health 18 (10) (Jan. 2021), https://doi.org/10.3390/ijerph18105470. Art. no. 10.

[14] S. Pawirosumarto, P.K. Sarjana, R. Gunawan, The effect of work environment, leadership style, and organizational culture towards job satisfaction and its implication towards employee performance in Parador Hotels and Resorts, Indonesia, International Journal of Law and Management 59 (6) (2017) 1337–1358, https://doi.org/10.1108/IJLMA-10-2016-0085.

[15] R.K. Pradhan, L.K. Jena, Employee performance at workplace: conceptual model and empirical validation, Business Perspectives and Research 5 (1) (Jan. 2017) 69–85, https://doi.org/10.1177/2278533716671630.

[16] S.F. Rasool, M. Wang, M. Tang, A. Saeed, J. Iqbal, How toxic workplace environment effects the employee engagement: the mediating role of organizational support and employee wellbeing, Int. J. Environ. Res. Publ. Health 18 (5) (Jan. 2021), https://doi.org/10.3390/ijerph18052294. Art. no. 5.

[17] K. Ehrhardt, B.R. Ragins, Relational attachment at work: a complementary fit perspective on the role of relationships in organizational life, Australas. Mark. J. 62 (1) (Feb. 2019) 248–282, https://doi.org/10.5465/amj.2016.0245.

[18] V. Venkataramani, G.( Joe, Labianca, T. Grosser, Positive and negative workplace relationships, social satisfaction, and organizational attachment, J. Appl. Psychol. 98 (6) (2013) 1028–1039, https://doi.org/10.1037/a0034090.

[19] R. Kumar, S.K. Sia, Employee engagement: explicating the contribution of work environment, Management and Labour Studies 37 (1) (2012) 31–43, https://doi.org/10.1177/0258042X1103700104.

[20] S.C. Kundu, K. Lata, Effects of supportive work environment on employee retention: mediating role of organizational engagement, Int. J. Organ. Anal. (2017), https://doi.org/10.1108/IJOA-12-2016-1100.

[21] K.W. Brown, R.M. Ryan, J.D. Creswell, Mindfulness: theoretical foundations and evidence for its salutary effects, Psychol. Inq. 18 (4) (Oct. 2007) 211–237, https://doi.org/10.1080/10478400701598298.

[22] T.M. Glomb, M.K. Duffy, J.E. Bono, T. Yang, Mindfulness at work, in: A. Joshi, H. Liao, J.J. Martocchio (Eds.), Research in Personnel and Human Resources Management 30, Emerald Group Publishing Limited, 2011, pp. 115–157, https://doi.org/10.1108/S0742-7301(2011)0000030005.

[23] N.O. Ndubisi, O. Al-Shuridah, Organizational mindfulness, mindful organizing, and environmental and resource sustainability, Bus. Strat. Environ. 28 (3) (2019) 436–446, https://doi.org/10.1002/bse.2219.

[24] M. Pirson, Mindfulness at work, in: The Wiley Blackwell Handbook of Mindfulness, John Wiley & Sons, Ltd, 2014, pp. 458–470, https://doi.org/10.1002/9781118294895.ch25.

[25] A.S. Marion-Jetten, G. Taylor, K. Schattke, Mind your goals, mind your emotions: mechanisms explaining the relation between dispositional mindfulness and action crises, Pers. Soc. Psychol. Bull. (2021), 0146167220986310, https://doi.org/10.1177/0146167220986310.

[26] J. Heinström, 7 - negative affectivity – the emotional dimension, in: J. Heinström (Ed.), From Fear to Flow, Chandos Publishing, 2010, pp. 75–103, https://doi.org/10.1016/B978-1-84334-513-8.50007-8.

[27] W.A. Kahn, The Essence of Engagement: Lessons from the Field, Handbook of Employee Engagement, Aug. 2010.

[28] B.L. Fredrickson, The role of positive emotions in positive psychology, Am. Psychol. 56 (3) (Mar. 2001) 218–226.

[29] B.L. Fredrickson, Chapter one - positive emotions broaden and build, in: P. Devine, A. Plant (Eds.), Advances in Experimental Social Psychology 47, Academic Press, 2013, pp. 1–53, https://doi.org/10.1016/B978-0-12-407236-7.00001-2.

[30] F.A. Huppert, N. Baylis, B. Keverne, B.L. Fredrickson, The broaden–and–build theory of positive emotions, Phil. Trans. Roy. Soc. Lond. B Biol. Sci. 359 (1449) (2004) 1367–1377, https://doi.org/10.1098/rstb.2004.1512.

[31] W.A. Kahn, M.A. Barton, S. Fellows, Organizational crises and the disturbance of relational systems, AMR (Adv. Magn. Reson.) 38 (3) (2013) 377–396, https://doi.org/10.5465/amr.2011.0363.

[32] D.H. Olson, Circumplex model of marital and family systems, J. Fam. Ther. 22 (2) (2000) 144–167, https://doi.org/10.1111/1467-6427.00144.

[33] G.M. Burlingame, D.T. McClendon, C. Yang, Cohesion in group therapy: a meta-analysis, Psychotherapy 55 (4) (2018) 384–398, https://doi.org/10.1037/pst0000173.

[34] A.V. Carron, L.R. Brawley, Cohesion: conceptual and measurement issues, Small Group Res. 31 (1) (Feb. 2000) 89–106, https://doi.org/10.1177/104649640003100105.

[35] J.B. Priest, E.O. Parker, A. Hiefner, S.B. Woods, P.N.E. Roberson, The development and validation of the FACES-IV-SF, J. Marital Fam. Ther. 46 (4) (2020) 674–686, https://doi.org/10.1111/jmft.12423.

[36] Z. Byrne, L. Albert, S. Manning, R. Desir, Relational models and engagement: an attachment theory perspective, J. Manag. Psychol. 32 (1) (Jan. 2017) 30–44, https://doi.org/10.1108/JMP-01-2016-0006.

[37] Y.M. Kundi, S.A. Soomro, M. Kamran, Does social support at work enhance subjective career success? The mediating role of relational attachment, Int. J. Organ. Anal. (2021), https://doi.org/10.1108/IJOA-08-2020-2379 ahead-of-print, no. ahead-of-print, Jan.

[38] W.A. Kahn, Meaningful connections: positive relationships and attachments at work, in: Exploring Positive Relationships at Work: Building a Theoretical and Research Foundation, Lawrence Erlbaum Associates Publishers, Mahwah, NJ, US, 2007, pp. 189–206.

[39] W.A. Kahn, Holding environments at work, J. Appl. Behav. Sci. 37 (3) (Sep. 2001) 260–279, https://doi.org/10.1177/0021886301373001.

[40] B.R. Ragins, K. Ehrhardt, K.S. Lyness, D.D. Murphy, J.F. Capman, Anchoring relationships at work: high-quality mentors and other supportive work relationships as buffers to ambient racial discrimination, Person. Psychol. 70 (1) (2017) 211–256, https://doi.org/10.1111/peps.12144.

[41] M. Carmona-Halty, M. Salanova, S. Llorens, W.B. Schaufeli, Linking positive emotions and academic performance: the mediated role of academic psychological capital and academic engagement, Curr. Psychol. 40 (6) (2021) 2938–2947, Jun, https://doi.org/10.1007/s12144-019-00227-8.

[42] J. Du, Y. An, X. Ding, Q. Zhang, W. Xu, State mindfulness and positive emotions in daily life: an upward spiral process, Pers. Indiv. Differ. 141 (Apr. 2019) 57–61, https://doi.org/10.1016/j.paid.2018.11.037.

[43] E.L. Garland, B. Fredrickson, A.M. Kring, D.P. Johnson, P.S. Meyer, D.L. Penn, Upward spirals of positive emotions counter downward spirals of negativity: insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology, Clin. Psychol. Rev. 30 (7) (Nov. 2010) 849–864, https://doi.org/10.1016/j.cpr.2010.03.002.

[44] Y. Xiang, R. Yuan, Why do people with high dispositional gratitude tend to experience high life satisfaction? A broaden-and-build theory perspective, J. Happiness Stud. 22 (6) (2021) 2485–2498, Aug, https://doi.org/10.1007/s10902-020-00310-z.

[45] B.L. Fredrickson, M.A. Cohn, K.A. Coffey, J. Pek, S.M. Finkel, Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources, J. Pers. Soc. Psychol. 95 (5) (2008) 1045–1062, Nov, https://doi.org/10.1037/a0013262.

[46] E. Diener, S. Thapa, L. Tay, Positive emotions at work, Annual Review of Organizational Psychology and Organizational Behavior 7 (1) (2020) 451–477, https://doi.org/10.1146/annurev-orgpsych-012119-044908.

[47] V. Lopez-Kidwell, K. Niven, G. Labianca, Predicting workplace relational dynamics using an affective model of relationships, J. Organ. Behav. 39 (9) (2018) 1129–1141, https://doi.org/10.1002/job.2300.

[48] A.E. Colbert, J.E. Bono, R.K. Purvanova, Flourishing via workplace relationships: moving beyond instrumental support, Australas. Mark. J. 59 (4) (2016) 1199–1223, Aug, https://doi.org/10.5465/amj.2014.0506.

[49] K.J. Kuipers, Formal and informal network coupling and its relationship to workplace attachment, Socio. Perspect. 52 (4) (Dec. 2009) 455–479, https://doi.org/10.1525/sop.2009.52.4.455.

[50] K.A. Aikens, et al., Mindfulness goes to work: impact of an online workplace intervention, J. Occup. Environ. Med. 56 (7) (Jul. 2014) 721–731, https://doi.org/10.1097/JOM.0000000000000209.

[51] E. Dane, B. Brummel, Examining workplace mindfulness and its relations to job performance and turnover intention, Hum. Relat. 67 (Jan. 2014) 105–128, https://doi.org/10.1177/0018726713487753.

[52] S.D. Jamieson, M.R. Tuckey, Mindfulness interventions in the workplace: a critique of the current state of the literature, J. Occup. Health Psychol. 22 (2) (2017) 180–193, https://doi.org/10.1037/ocp0000048.

[53] S. Ofei-Dodoo, A. Cleland-Leighton, K. Nilsen, J.L. Cloward, E. Casey, Impact of a mindfulness-based, workplace group yoga intervention on burnout, self-care, and compassion in health care professionals: a pilot study, J. Occup. Environ. Med. 62 (8) (Aug. 2020) 581–587, https://doi.org/10.1097/JOM.0000000000001892.

[54] B. Raza, M. Ali, K. Naseem, A. Moeed, J. Ahmed, M. Hamid, Impact of trait mindfulness on job satisfaction and turnover intentions: mediating role of work–family balance and moderating role of work–family conflict, Cogent Business & Management 5 (1) (2018).

[55] V.C. Haun, A. Nübold, A.G. Bauer, Being mindful at work and at home: buffering effects in the stressor–detachment model, J. Occup. Organ. Psychol. 91 (2) (2018) 385–410, https://doi.org/10.1111/joop.12200.

[56] U.R. Hülsheger, A. Walkowiak, M.S. Thommes, How can mindfulness be promoted? Workload and recovery experiences as antecedents of daily fluctuations in mindfulness, J. Occup. Organ. Psychol. 91 (2) (2018) 261–284, https://doi.org/10.1111/joop.12206.

[57] P. Suthatorn, P. Charoensukmongkol, Effects of trust in organizations and trait mindfulness on optimism and perceived stress of flight attendants during the COVID-19 pandemic, Person. Rev. (2022), https://doi.org/10.1108/pr-06-2021-0396.

[58] M. Kotz, The influence of psychological capital, self-leadership, and mindfulness on work engagement, S. Afr. J. Psychol. 48 (2) (Jun. 2018) 279–292, https://doi.org/10.1177/0081246317705812.

[59] P. Malinowski, H.J. Lim, Mindfulness at work: positive affect, hope, and optimism mediate the relationship between dispositional mindfulness, work engagement, and well-being, Mindfulness 6 (6) (2015) 1250–1262, https://doi.org/10.1007/s12671-015-0388-5.

[60] S. Liu, H. Xin, L. Shen, J. He, J. Liu, The influence of individual and team mindfulness on work engagement, Front. Psychol. 10 (2020) 2928, https://doi.org/10.3389/fpsyg.2019.02928.

[61] A.H. Anglin, J.C. Short, W. Drover, R.M. Stevenson, A.F. McKenny, T.H. Allison, The power of positivity? The influence of positive psychological capital language on crowdfunding performance, J. Bus. Ventur. 33 (4) (Jul. 2018) 470–492, https://doi.org/10.1016/j.jbusvent.2018.03.003.

[62] F. Luthans, B.J. Avolio, J.B. Avey, S.M. Norman, Positive psychological capital: measurement and relationship with performance and satisfaction, Person. Psychol. 60 (3) (2007) 541–572, https://doi.org/10.1111/j.1744-6570.2007.00083.x.

[63] I.M. Martínez, I. Meneghel, M. Carmona-Halty, C.M. Youssef-Morgan, Adaptation and validation to Spanish of the psychological capital questionnaire–12 (PCQ–12) in academic contexts, Curr. Psychol. 40 (7) (2021) 3409–3416, https://doi.org/10.1007/s12144-019-00276-z.

[64] F. Luthans, G.R. Vogelgesang, P.B. Lester, Developing the psychological capital of resiliency, Hum. Resour. Dev. Rev. 5 (1) (2006) 25–44, https://doi.org/10.1177/1534484305285335.

[65] F. Luthans, C.M. Youssef, B.J. Avolio, Psychological Capital and beyond, Oxford University Press, 2015.

[66] C.M. Youssef, F. Luthans, Positive organizational behavior in the workplace: the impact of hope, optimism, and resilience, J. Manag. 33 (5) (Oct. 2007) 774–800, https://doi.org/10.1177/0149206307305562.

[67] A. Bandura, W.H. Freeman, R. Lightsey, Self-efficacy: the exercise of control, J. Cognit. Psychother. 13 (2) (Jan. 1999) 158–166, https://doi.org/10.1891/0889-8391.13.2.158.

[68] P.A. Heslin, U.-C. Klehe, Self-Efficacy," Social Science Research Network, 2006. Rochester, NY, SSRN Scholarly Paper ID 1150858, Se.

[69] J.E. Maddux, J.T. Gosselin, Self-efficacy, in: Handbook of Self and Identity, second ed., The Guilford Press, New York, NY, US, 2012, pp. 198–224.

[70] C.S. Carver, M.F. Scheier, S.C. Segerstrom, Optimism, Clin. Psychol. Rev. 30 (7) (2010) 879–889, https://doi.org/10.1016/j.cpr.2010.01.006.

[71] C.S. Carver, M.F. Scheier, Dispositional optimism, Trends Cognit. Sci. 18 (6) (Jun. 2014) 293–299, https://doi.org/10.1016/j.tics.2014.02.003.

[72] S.C. Segerstrom, C.S. Carver, M.F. Scheier, Optimism, in: M.D. Robinson, M. Eid (Eds.), The Happy Mind: Cognitive Contributions to Well-Being, Springer International Publishing, Cham, 2017, pp. 195–212, https://doi.org/10.1007/978-3-319-58763-9_11.

[73] T. Eagleton, Hope without Optimism, Yale University Press, 2019, https://doi.org/10.12987/9780300220254.

[74] A. Scioli, et al., A prospective study of hope, optimism, and health, Psychol. Rep. 81 (3) (Dec. 1997) 723–733, https://doi.org/10.2466/pr0.1997.81.3.723.

[75] T.W. Britt, V. Shen, R.R. Sinclair, M.R. Grossman, D.M. Klieger, How much do we really know about employee resilience? Industrial and Organizational Psychology 9 (2) (Jun. 2016) 378–404, https://doi.org/10.1017/iop.2015.107.

[76] J.R.C. Kuntz, S. Malinen, K. Näswall, Employee resilience: directions for resilience development, Consult. Psychol. J. Pract. Res. 69 (3) (2017) 223–242, https://doi.org/10.1037/cpb0000097.

[77] K. Näswall, S. Malinen, J. Kuntz, M. Hodliffe, Employee resilience: development and validation of a measure, J. Manag. Psychol. 34 (5) (Jan. 2019) 353–367, https://doi.org/10.1108/JMP-02-2018-0102.

[78] F.L. Cooke, B. Cooper, T. Bartram, J. Wang, H. Mei, Mapping the relationships between high-performance work systems, employee resilience and engagement: a study of the banking industry in China, Int. J. Hum. Resour. Manag. 30 (8) (2019) 1239–1260, https://doi.org/10.1080/09585192.2015.1137618.

[79] Z. Gong, Y. Chen, Y. Wang, The influence of emotional intelligence on job burnout and job performance: mediating effect of psychological capital, Front. Psychol. 10 (2019).

[80] M. Carmona–Halty, M. Salanova, S. Llorens, W.B. Schaufeli, How psychological capital mediates between study–related positive emotions and academic performance, J. Happiness Stud. 20 (2) (Feb. 2019) 605–617, https://doi.org/10.1007/s10902-018-9963-5.

[81] O.L. Siu, F. Cheung, S. Lui, Linking positive emotions to work well-being and turnover intention among Hong Kong police officers: the role of psychological capital, J. Happiness Stud. 16 (2) (Apr. 2015) 367–380, https://doi.org/10.1007/s10902-014-9513-8.

[82] G. Alessandri, C. Consiglio, F. Luthans, L. Borgogni, Testing a dynamic model of the impact of psychological capital on work engagement and job performance, Career Dev. Int. 23 (1) (Jan. 2018) 33–47, https://doi.org/10.1108/CDI-11-2016-0210.

[83] N. Nigah, A.J. Davis, S.A. Hurrell, The impact of buddying on psychological capital and work engagement: an empirical study of socialization in the professional services sector, Thunderbird Int. Bus. Rev. 54 (6) (2012) 891–905, https://doi.org/10.1002/tie.21510.

[84] M. Attridge, Measuring and managing employee work engagement: a review of the research and business literature, J. Workplace Behav. Health 24 (4) (2009) 383–398, https://doi.org/10.1080/15555240903188398.

[85] A.B. Bakker, M.P. Leiter, Work Engagement: A Handbook of Essential Theory and Research, Psychology Press, 2010.

[86] K. Breevaart, A.B. Bakker, E. Demerouti, Daily self-management and employee work engagement, J. Vocat. Behav. 84 (1) (Feb. 2014) 31–38, https://doi.org/10.1016/j.jvb.2013.11.002.

[87] S.-H. Tsaur, F.-S. Hsu, H. Lin, Workplace fun and work engagement in tourism and hospitality: the role of psychological capital, Int. J. Hospit. Manag. 81 (Aug. 2019) 131–140, https://doi.org/10.1016/j.ijhm.2019.03.016.

[88] P.K. Hökkä, K. Vähäsantanen, S. Paloniemi, A. Eteläpelto, The reciprocal relationship between emotions and agency in the workplace, in: M. Goller, S. Paloniemi (Eds.), Agency at Work: an Agentic Perspective on Professional Learning and Development, Springer International Publishing, Cham, 2017, pp. 161–181, https://doi.org/10.1007/978-3-319-60943-0_9.

[89] J. Methot, S. Melwani, N. Rothman, The space between us: a social-functional emotions view of ambivalent and indifferent workplace relationships, J. Manag. 43 (2017), 014920631668585, https://doi.org/10.1177/0149206316685853.

[90] D. Watson, L.A. Clark, Negative affectivity: the disposition to experience aversive emotional states, Psychol. Bull. 96 (3) (1984) 465–490, https://doi.org/10.1037/0033-2909.96.3.465.

[91] J.F. Carmody, R.A. Baer, E.L.B. Lykins, N. Olendzki, An empirical study of the mechanisms of mindfulness in a mindfulness-based stress reduction program, J. Clin. Psychol. 65 (6) (2009) 613–626, https://doi.org/10.1002/jclp.20579.

[92] S.-L. Keng, M.J. Smoski, C.J. Robins, Effects of mindfulness on psychological health: a review of empirical studies, Clin. Psychol. Rev. 31 (6) (2011) 1041–1056, Aug, https://doi.org/10.1016/j.cpr.2011.04.006.

[93] S.H. Ridner, Psychological distress: concept analysis, J. Adv. Nurs. 45 (5) (2004) 536–545, https://doi.org/10.1046/j.1365-2648.2003.02938.x.

[94] D. Watson, L.A. Clark, G. Carey, Positive and negative affectivity and their relation to anxiety and depressive disorders, J. Abnorm. Psychol. 97 (3) (1988) 346–353, https://doi.org/10.1037/0021-843X.97.3.346.

[95] A. Afzal, N.I. Malik, M. Atta, The moderating role of positive and negative emotions in relationship between positive psychological capital and subjective well-being among adolescents, International Journal of Research Studies in Psychology 3 (3) (2014).

[96] N. Wijewardena, C.E. Härtel, R. Samaratunge, Using humor and boosting emotions: an affect-based study of managerial humor, employees' emotions and psychological capital, Hum. Relat. 70 (11) (2017) 1316–1341, Nov, https://doi.org/10.1177/0018726717691809.

[97] S. Demir, The relationship between psychological capital and stress, anxiety, burnout, job satisfaction, and job involvement, Eur. J. Educ. Res. 75 (2018).

[98] B.L. Fredrickson, The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions, Am. Psychol. 56 (3) (2001) 218–226, https://doi.org/10.1037/0003-066X.56.3.218.

[99] J. Denollet, Negative affectivity, in: M.D. Gellman, J.R. Turner (Eds.), Encyclopedia of Behavioral Medicine, Springer, New York, NY, 2013, pp. 1304–1305, https://doi.org/10.1007/978-1-4419-1005-9_1588.

[100] E.H. Schein, On dialogue, culture, and organizational learning, Organ. Dynam. 22 (2) (Sep. 1993) 40–52.

[101] F. Kock, A. Berbekova, A.G. Assaf, Understanding and managing the threat of common method bias: detection, prevention and control, Tourism Manag. 86 (2021) 104330, https://doi.org/10.1016/j.tourman.2021.104330.

[102] N. Kock, Common method bias in PLS-SEM: a Full collinearity assessment approach, Int. J. e-Collaboration 11 (4) (2015) 1–10.

[103] P.M. Podsakoff, S.B. MacKenzie, J.Y. Lee, N.P. Podsakoff, Common method biases in behavioral research: a critical review of the literature and recommended remedies, J. Appl. Psychol. 88 (5) (Oct. 2003) 879–903, https://doi.org/10.1037/0021-9010.88.5.879.

[104] P.J. Jordan, A.C. Troth, Common method bias in applied settings: the dilemma of researching in organizations, Aust. J. Manag. 45 (1) (Feb. 2020) 3–14, https://doi.org/10.1177/0312896219871976.

[105] D. Lakens, Sample size justification, Collabra: Psychology 8 (1) (2022) 33267, https://doi.org/10.1525/collabra.33267.

[106] F. Faul, E. Erdfelder, A.-G. Lang, A. Buchner, G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences, Behav. Res. Methods 39 (2) (May 2007) 175–191, https://doi.org/10.3758/BF03193146.

[107] G.E. Gignac, E.T. Szodorai, Effect size guidelines for individual differences researchers, Pers. Indiv. Differ. 102 (2016) 74–78, https://doi.org/10.1016/j.paid.2016.06.069.

[108] A.K. Akobeng, Understanding type I and type II errors, statistical power and sample size, Acta Paediatr. 105 (6) (2016) 605–609, https://doi.org/10.1111/apa.13384.

[109] U. Sekaran, R. Bougie, Research Methods for Business: A Skill Building Approach, John Wiley & Sons, 2016.

[110] J.F. Hair, M. Sarstedt, C.M. Ringle, J.A. Mena, An assessment of the use of partial least squares structural equation modeling in marketing research, J. Acad. Market. Sci. 40 (3) (May 2012) 414–433, https://doi.org/10.1007/s11747-011-0261-6.

[111] J.F. Hair, J.J. Risher, M. Sarstedt, C.M. Ringle, When to use and how to report the results of PLS-SEM, Eur. Bus. Rev. 31 (1) (Jan. 2019) 2–24, https://doi.org/10.1108/EBR-11-2018-0203.

[112] A. Diamantopoulos, P. Riefler, K.P. Roth, Advancing formative measurement models, J. Bus. Res. 61 (12) (2008) 1203–1218, Dec, https://doi.org/10.1016/j.jbusres.2008.01.009.

[113] K.S. Law, C.-S. Wong, W.M. Mobley, Toward A taxonomy of multidimensional constructs, AMR (Adv. Magn. Reson.) 23 (4) (Oct. 1998) 741–755, https://doi.org/10.5465/amr.1998.1255636.

[114] M. Wetzels, G. Odekerken-Schröder, C. van Oppen, Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration, MIS Q. 33 (1) (2009) 177–195, https://doi.org/10.2307/20650284.

[115] J.-M. Becker, K. Klein, M. Wetzels, Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models, Long. Range Plan. 45 (5) (Oct. 2012) 359–394, https://doi.org/10.1016/j.lrp.2012.10.001.

[116] J.F. Hair, C.M. Ringle, M. Sarstedt, Editorial - Partial Least Squares: the Better Approach to Structural Equation Modeling? Social Science Research Network, Rochester, NY, 2012. SSRN Scholarly Paper 2227601, Dec.

[117] M. Sarstedt, J.F. Hair, J.-H. Cheah, J.-M. Becker, C.M. Ringle, How to specify, estimate, and validate higher-order constructs in PLS-SEM, Australas. Mark. J. 27 (3) (Aug. 2019) 197–211, https://doi.org/10.1016/j.ausmj.2019.05.003.

[118] R. Agarwal, E. Karahanna, Time flies when you're having fun: cognitive absorption and beliefs about information technology usage, MIS Q. 24 (4) (2000) 665–694, https://doi.org/10.2307/3250951.

[119] C.M. Ringle, Becker Sven, J. Michael, SmartPLS 3.2.9, 2015.

[120] S. Syed, Impact of Organizational Restructuring on Psychological Contract Breach and Attitudes of Employees Working in Private Commercial Banks of Pakistan, 2010.

[121] K.W. Brown, R.M. Ryan, The benefits of being present: mindfulness and its role in psychological well-being, J. Personality Soc. Psychol. 84 (4) (2003) 822–848, https://doi.org/10.1037/0022-3514.84.4.822.

[122] H. Kamei, M.C. Ferreira, F. Valentini, M. Peres, P.T. Kamei, B. Damásio, Psychological Capital Questionnaire - Short Version (PCQ-12): Evidence of Validity of the Brazilian Version, 2018, https://doi.org/10.1590/1413-82712018230202.

[123] A.P. Brief, M.J. Burke, J.M. George, B.S. Robinson, J. Webster, Should negative affectivity remain an unmeasured variable in the study of job stress? J. Appl. Psychol. 73 (2) (May 1988) 193–198, https://doi.org/10.1037/0021-9010.73.2.193.

[124] N. Kock, G. Lynn, Lateral Collinearity and Misleading Results in Variance-Based SEM: an Illustration and Recommendations," Social Science Research Network, 2012. Rochester, NY, SSRN Scholarly Paper ID 2152644, Sep.

[125] J.F. Hair, M.C. Howard, C. Nitzl, Assessing measurement model quality in PLS-SEM using confirmatory composite analysis, J. Bus. Res. 109 (Mar. 2020) 101–110, https://doi.org/10.1016/j.jbusres.2019.11.069.

[126] G. Shmueli, S. Ray, J.M. Velasquez Estrada, S.B. Chatla, The elephant in the room: predictive performance of PLS models, J. Bus. Res. 69 (10) (2016) 4552–4564, https://doi.org/10.1016/j.jbusres.2016.03.049.

[127] F. Moksony, Small Is Beautiful. The Use and Interpretation of R2 in Social Research, Szociológiai Szemle, Jan. 1999.

[128] G. Shmueli, et al., Predictive model assessment in PLS-SEM: guidelines for using PLSpredict, Eur. J. Market. 53 (11) (2019) 2322–2347, https://doi.org/10.1108/EJM-02-2019-0189.

[129] T. Phungsoonthorn, P. Charoensukmongkol, How does mindfulness help university employees cope with emotional exhaustion during the COVID-19 crisis? The mediating role of psychological hardiness and the moderating effect of workload, Scand. J. Psychol. 63 (5) (2022) 449–461, https://doi.org/10.1111/sjop.12826.

[130] L. Fu, P. Charoensukmongkol, Benefits of psychological capital on host country nationals' support and burnout of Chinese expatriates in Thailand: the moderating effect of personal characteristics, Asia-Pac. J. Bus. Adm. 14 (3) (Aug. 2021) 265–284, https://doi.org/10.1108/APJBA-06-2020-0181.

[131] D.J. Marquardt, J. Manegold, L.W. Brown, Integrating relational systems theory with ethical leadership: how ethical leadership relates to employee turnover intentions, Leader. Organ. Dev. J. 43 (1) (Jan. 2021) 155–179, https://doi.org/10.1108/LODJ-04-2021-0190.

[132] F. Luthans, C. Youssef-Morgan, Psychological Capital: an Evidence-Based Positive Approach, Management Department Faculty Publications, Jan. 2017.

[133] A. Newman, D. Ucbasaran, F. Zhu, G. Hirst, Psychological capital: a review and synthesis, J. Organ. Behav. 35 (S1) (2014) S120–S138, https://doi.org/10.1002/job.1916.

[134] H. Jazaieri, M. Rock, Putting compassion to work: compassion as a tool for navigating challenging workplace relationships, Mindfulness 12 (10) (2021) 2552–2558, https://doi.org/10.1007/s12671-021-01695-5.

[135] L. Chernyak-Hai, E. Rabenu, The new era workplace relationships: is social exchange theory still relevant? Industrial and Organizational Psychology 11 (3) (Sep. 2018) 456–481, https://doi.org/10.1017/iop.2018.5.

[136] A. Evmenenko, D.S. Teixeira, The circumplex model of affect in physical activity contexts: a systematic review, Int. J. Sport Exerc. Psychol. 20 (1) (Jan. 2022) 168–201, https://doi.org/10.1080/1612197X.2020.1854818.

[137] D.H. Olson, L. Waldvogel, M. Schlieff, Circumplex model of marital and family systems: an update, J Fam Theory Rev 11 (2) (Jun. 2019) 199–211, https://doi.org/10.1111/jftr.12331.

[138] K. Stanisławski, The coping circumplex model: an integrative model of the structure of coping with stress, Front. Psychol. 10 (2019).