**Abstract**

This study examines the relationship between exchange, situational variables, and schoolteachers’ creativity. Hypotheses were developed based on the fairness heuristic theory and exchange theory. The explanatory model included variables such as perceived justice, organizational culture, psychological well-being, psychological contract breach, transactional and relational obligations and demographic control variables. The dependent variable was teacher self-reported and principal-reported creativity. Two different samples of Israeli teachers were surveyed a year apart. The first survey (N = 191) asked teachers and principals about their perceptions regarding creativity. In the second sample (N=146), perceptions were reported only by the teachers. The findings showed that teachers’ perceived well-being strongly correlates with their principals’ reports of creativity and self-reported creativity in both samples. In addition, the first sample found a notable positive relationship between procedural justice and creativity (principal report and self-report). The findings also indicated a positive relationship between employee relational obligations and self-reported creativity in the two samples. No noteworthy differences were found in the correlates of self-reported creativity and principal-reported creativity. The findings suggest that employees’ positive mood should be an important goal for employers who expect high levels of creativity from their teachers. In addition, employers should provide employees with a supportive and just work environment that encourages creativity.

*Keywords:* creativity, justice, organizational climate, psychological well-being, psychological contract breach, transactional and relational obligations.

**What drives creativity in the workplace? Exchange and contextual variables in their relationship to supervisor and self-report creativity.**

**1. Introduction**

Creativity is the invention of new and practical ideas by individuals or groups. It can take many forms and perform various organizational functions, in organizations as diverse as entrepreneurial start-ups and well-established enterprises. The pressing need for innovation and creativity has transformed job specifications and organizations (Müceldili et al., 2020). The phenomenon of employee creativity occurs at an individual level and deals with the notion of creative ideas, building upon existing beliefs and providing innovative approaches and original solutions (Ogbeibu et al., 2020). Unsurprisingly, organizational creativity has become an influential and popular topic of research among organizational behavior scholars (Sullivan & Ford, 2010).

Creativity and creative thinking have been widely promoted as essential for 21st-century education and productivity. Creative thinking refers to how employees handle problems and produce solutions (Amabile, 1996; Plucker et al., 2004). In an economy that is more knowledge-based and fast-paced every day, the elevation of creativity is essential for organizations interested in reacting to progressing technology; changing environments (such as the pandemic era), organizational structures and plans; innovative rivals, and customers’ changing needs (Rego et al., 2009; Santosa et al., 2022; Ogbeibu et al., 2021; Zhou & George, 2001). Creativity is also crucial for the educational environment and the teaching process (Apak et al., 2021; Kasirer, & Shnitzer-Meirovich, 2021; Ma, 2022). Creativity is necessary for human development and benefits education and the economy (Kettler et al., 2018). Therefore, the creativity model teachers apply in teaching and learning activities, especially those used during the COVID-19 pandemic, is an interesting and important area of research (Tamsah et al., 2021). Mejia et al. (2021) have pointed to the possibility of applying ideas gained from studies of creativity enhancement in organizational settings to the area of creativity in education, with subtopics covering creativity improvement techniques in the classroom and the role of universities in forming creative human capital.

Because of the importance of creativity to organizational and educational success (Kettler et al., 2018), studies have attempted to explore the factors and processes that can increase creativity in organizations. Studies have examined personal determinants of creativity, such as individuals’ moods and emotions (Anderson et al., 2014; Ward & Kennedy, 2017). Some studies revealed that positive moods have a significant relationship with creativity (Amabile et al., 2005), while others found more complex relationships between positive and negative moods and creativity (George & Zhou, 2002; 2007). There is empirical evidence that stress is negatively correlated with creativity (Van Dyne et al., 2002). Employees’ well-being is a good indication of this type of variable (Abbas et al., 2021) and will be examined in this study.

There is empirical evidence for a positive relationship between organizational climate and creativity (Clegg et al., 2002). More specifically, organizational climates that encourage creative thinking and performance represent this type of climate in this study. Other studies have focused on fairness and equity variables (Cai et al., 2021). These variables are represented here by organizational justice (relational and procedural) and by the transactional and relational obligations of the employee and the employer. Another variable that represents exchange relationships is psychological contracts, as there are findings that psychological contract breaches reduce creativity (Ng et al., 2010). Other findings demonstrated complex and unstable relationships between organizational justice dimensions and creativity (Khazanchi & Masterson, 2011). The study will also examine demographic control variables such as gender, marital status, tenure, and their relationship to creativity (Mahmood et al., 2019).

It is important to note that very few studies have examined exchange and contextual variables in their relationship to creativity. However, as suggested by Joo et al. (2013), the gestalt of creative output (new products, services, ideas, procedures, and processes) for the entire system comes from “the complex mosaic of individual, group, and organizational characteristics and behaviors occurring within the salient situational influences existing at each level of organization” (Woodman et al. 1993, p. 296). Tromp (2022) strengthens this view by arguing that creativity is dynamic and can be fully understood only as an interaction of a three-element person/task/situation paradigm. Thus, there is a need for studies that apply comprehensive and integrated models that examine the cumulative effects of personal, exchange and contextual variables on creativity. Such studies will provide valuable information about the relative importance of variables in their relationship to creativity, allowing conclusions to be drawn concerning the explanatory power of given theories to better understand creativity’s correlates.

 Thus, this study aimed to develop and test an integrative model of the relationship between exchange, contextual variables, and creativity in the educational workplace. The design of this study allows a thorough examination of this issue by surveying two samples of Israeli teachers. The first survey examined the relationships between hypothesized correlates and creativity as reported by the teachers and their principals. A year later, we collected data from another sample to examine the stability and, more specifically, the temporal validity of the first survey’s findings. The second survey examined only self-reported creativity. This design allowed for a critical comparison between the correlates of creativity in two surveys and possible differences between self-reported and principal report creativity. Few studies have compared creativity-related correlates measured by two sources in the same sample.

**2. Conceptual framework and hypotheses**

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Insert Figure 1 here

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The research model is presented in Figure 1, and the hypotheses resulting from it are presented in the following sections.

**2.1 Organizational justice and creativity**

Elements of the work setting have a substantial impact on creativity (Amabile, 1997). Organizational justice concerns how employees decide whether they have been treated fairly in their organization (Moorman, 1991). The expected effect of organizational justice is to encourage creativity, innovation, and other positive outcomes, but this has received little empirical or applied consideration (Clark & James, 1999; Kurniawan & Ulfah, 2021). The fairness heuristic theory (Lind, 2001) advances a theoretical framework to explain why workplace justice is associated with creativity. The fairness heuristic theory presumes that people utilize justice judgments as cognitive shortcuts to assist them in determining how to behave at any given time. People generally try to explain all incoming fairness information to make it compatible with the heuristic. According to fairness heuristic theory, people whose relationships with authorities are ambiguous rely on their impressions of fairness. In other words, employees with strong impressions of justice have positive perceptions of creativity in their organization and may respond with enhanced creativity (Abbas et al., 2021; Lind, 2001).

 Emotions also explain how justice may affect creativity. According to Clark and James (1999), injustice in the workplace has been linked to negative emotional states, and justice has been linked to positive emotional states. Positive emotions have also been shown to facilitate creativity, whereas negative emotions hinder creativity. Research findings (Weiss et al., 1999, cited in Hannama & Narayan, 2015) have shown that individuals are more likely to feel positive emotions (namely, happiness and pride) when there is no indication of justice violation. However, participants report higher levels of anger when they perceive a violation of justice. In a state of positive affect, individuals can be comfortable directing all their resources to a task and indulging in more expansive and divergent thinking, novelty, and playfulness.

**2.1.1. Distributive justice and creativity**

The literature generally agrees on three sources of organizational justice. The first is distributive justice, which involves the distribution of work rewards relative to work inputs. This concept is based on equity theory, which states that perceptions of an unfair distribution of work rewards relative to work inputs create tension within the individual that the individual seeks to resolve (Niehoff & Moorman, 1993). According to social exchange theory and the norm of reciprocity, when employees feel that their pay, benefits, and terms of work (rewards) are commensurate with their knowledge, skills, and effort (inputs), they reciprocate with higher levels of performance and organizational citizenship behavior (Ang et al., 2003; Greenberg, 1990). On the other hand, when employees believe that their organization fails to produce rewards that match their inputs, they respond by performing only their required responsibilities and significantly reduce their organizational citizenship behavior (Restubog & Bordia, 2006).

Although employees may have the ability to be creative and successful, if they perceive that they are being mistreated as compared to their peers, their creativity may be reduced. In addition to the fact that they may lack the optimal level of materials for their work (which may be the case in an unfair situation), the distraction caused by perceived inequity can potentially damage their motivation to produce creative output (Simmons, 2011). This is likely why Hannam and Narayan (2015) found a positive association between distributive justice and creativity, which provided the basis for our first hypothesis. In addition, Akram et al. (2022) found that distributive justice reduced the negative impact of abusive leadership on creativity in a sample of Chinese employees.

*Hypothesis 1: Distributive justice is positively related to creativity*

**2.1.2. Procedural justice and creativity**

Procedural justice consists of two components. The first is the presence or absence of formal procedures believed to be essential to the fair distribution of resources, including rewards. Unless such formal procedures are in place, employees will have reason to doubt the procedural fairness of the organization’s resource distribution apparatus. The second component is interactional justice, which refers to how formal procedures are enacted or explained (Niehoff & Moorman, 1993; Rosen et al., 2009). When organizational decision-making is consistent and meets the bias suppression rule (that is, it treats all organization members uniformly), employees have positive assessments of procedural justice (Ang et al., 2003; Colquitt, 2001).

Blader and Tyler (2005) emphasize the importance of the context of fairness to procedural justice, arguing that the fairness of rules and procedures has a more substantial impact on employees’ attitudes and behaviors than distributive justice. Based on this, they argue that procedural justice may be a key motivation for creativity in organizations. Employees who believe their organization’s procedures, conduct, or decisions are fair, reciprocate with creativity. It is also essential that procedural justice is seen as effective so employees feel valued and are motivated to be creative in their work (Simmons, 2011). This is based on cognitive evaluation theory, which suggests that contextual factors that are delivered in a supportive manner provide a better context for the production of creative work (Simmons, 2011). Hannam and Narayan (2015) have reported a positive relationship between procedural justice and creativity.

Procedural justice is also related to voice which refers to employees feeling that their point of view is being heard (Simmons, 2011). If organizations encourage employees to voice their opinions about policies and procedures, they are more likely to see an increased creative performance. Employers can support creative work by allowing employees to submit ideas and original thoughts in a suggestion box, for example. Employees who perceive that they have a voice also experience a greater sense of value, which could further increase internal motivation and creativity. Akram et al. (2022) found that procedural justice reduced the negative impact of abusive leadership on creativity.

All this is the basis for our second hypothesis:

*Hypothesis 2: Procedural justice (formal procedures and distributive justice) is positively related to creativity.*

**2.2 Organizational culture for creativity**

The perception of organizational culture has a crucial effect on employees’ creativity (Ogbeibu et al., 2018; Amabile & Gryskiewicz, 1989; Santosa et al., 2022). An innovative culture is a work environment that is risk-taking, results-oriented, stimulating, challenging, and imaginative, where employees are encouraged to be creative and dynamic. Emphasizing novelty, equality, openness, and flexibility, such a culture is thought to promote creativity through the powerful signals it sends regarding norms and values, indicating that it is safe for employees to start risky, exploratory, and failure-prone activities that rely on creativity (Hon & Leung, 2011; Ucar, 2019). High achievers seek to excel and tend to take risks so they are likely to do well in such an innovative culture (Hon & Leung, 2011; Ucar, 2019).

There is growing support in the literature that psychological perceptions of workplace innovation are likely to motivate better performance (Yeh-YunLin & Liu, 2012). A creative climate supports the development, assimilation, and use of new approaches and concepts, promoting the generation, consideration, and use of new products, services, and ways of working – workplace innovation. According to Amabile et al. (1996), theories regarding creative climates have tried to identify aspects of work settings that improve creativity, mainly from the workplace perspective. An organizational climate of creativity affects the extent to which creative solutions are stimulated, supported, executed, and valued as desirable. The more creative a climate is, the more likely it is that employees will be creative since they will get involved with and experience an attachment to the organization. In sum, organizational climate helps set an organization’s tone, and employee creativity increases or decreases creativity commensurately (Rasulzada & Dackert, 2009).

An organizational climate that supports exploring new ways of doing things needs to be established if employees are to develop their creativity (Santosa et al., 2022). Ekvall and Ryhammar (1999; as mentioned in Yeh-Lin & Liu, 2012) contend that a creative climate comprises support, freedom, and challenge. This climate also tolerates uncertainty and openness. Additionally, Yeh-Lin and Liu (2012) highlight Woodman et al.’s (1993) contention that an essential characteristic of a creative climate is its ability to address different influences on its employees that can enhance or inhibit creative behavior in complicated social systems. According to Woodman et al. (1993), while creative climate perception starts with individuals, organization members are usually exposed to the same work environment and other proximal affects. Thus, we arrive at our third hypothesis.

*Hypothesis 3: Organizational culture for creativity is related positively to creativity.*

**2.3 Employee well-being and creativity**

Well-being in an organization results from the interaction between individual attributes and the work setting (Biggio & Cortese, 2013). Researchers tend to perceive “happiness” as psychological or subjective well-being (Rego et al., 2009). When resources in a workplace are readily available and employees feel positive about their work, they are prone to involve themselves in activities that are valuable for the organization as a whole (Du et al., 2021). Occasionally, engagement at work may even be inseparable from high performance and innovation (Resulzada & Dackert, 2009; Huhtala & Parzefall, 2007). Psychological well-being acts as a facilitator for making employees work effectively. In this way, employees are more devoted to working on new assignments and demonstrating their creativity (Abbas et al., 2021).

There are several mechanisms by which happiness influences employees’ creative performance positively. Happy individuals tend to view failure more as a short-term setback triggered by situational circumstances than individual-based ones. Therefore, content individuals are less concerned about failing and are more prone to face difficulties and opportunities by responding with creative ideas (Rego et al., 2009). Psychologically healthy individuals have the potential for increased initiative and the propensity to be more creative because they are proactive and can persevere under pressure.

Positive feelings may also expand cognition, intensify cognitive flexibility, and facilitate creative behavior (Rego et al., 2009). Thus, positive feelings widen the individual’s temporary thought-action repertoire, fostering the discovery of new and creative actions, ideas, and social bonds. Additionally, positive feelings can intensify employees’ perceptions of meaning in their work, making employees more intrinsically motivated and, therefore, more creative (Rego et al., 2009).

 As Rego et al. (2009) observe, creativity in the workplace requires supportive forces within the organization, which encourage employees to carry on in the face of challenges vital to creativity. It also requires confronting the status quo and a readiness to try despite potential failures. Individuals with a high level of well-being seem to cope with challenges more effectively. By being determined to persevere and searching for alternative and more effective ways to accomplish their goals, optimistic employees tend to take risks when attempting to reach goals. Most are intrinsically motivated and seek creative ways to channel their positive drive (Rego et al., 2012). Research findings have shown that psychological well-being is positively related to creativity, even when controlling for positive mood states and positive affective disposition (Wright & Walton, 2003). Diržytė, Kačerauskas and Perminas (2021) found that if an individual perceives themself as creative, these evaluations are positively related to psychological flourishing, positive emotions, and life satisfaction. In addition, team member enthusiasm strongly influences team creativity (Amabile & Mueller, 2008). We thus arrive at the following hypothesis.

*Hypothesis 4: Psychological well-being is positively related to creativity.*

**2.4 Psychological contract breach and creativity**

An employee is likely to display creative behavior when intrinsically motivated. Accordingly, one of the prominent theories explaining the occurrence of creative behavior in organizations is the cognitive evaluation theory of intrinsic motivation (Amabile, 1996). This theory argues that competence and self-determination are innate to all people. Any contextual factor that affects one’s perceived capability or self-determination influences intrinsic motivation.

Such factors either influence perceived self-determination via their “controlling” aspect or influence perceived competence via their “informational” aspect. The controlling aspect reduces employees’ self-determination by compelling them to believe or think in specific ways. When an event is experienced as “controlling,” it elevates an exceptionally perceived locus of causality and weakens intrinsic motivation. A psychological contract breach, for example, might signal to employees that they are not competent or cannot be trusted to handle tasks autonomously, thereby reducing intrinsic motivation (Srivastava & Yun, 2018).

The feeling of violation engendered by a psychological contract breach affects employees’ perception of the job and impacts their level of effort (Cohen, 2015). This is because, according to social exchange theory, the individual and workplace share obligations toward each other. When employees feel that their organization does not fulfill the obligations of a psychological contract, they will react with anger and frustration. This affects their contributions. Thus, employees may engage in downward adjustments in discretionary actions such as creativity, effort, and motivation. (Bal et al., 2011; Ng et al., 2010; Niesen et al., 2018). On the other hand, fulfillment of psychological contracts indirectly increases employee creativity through knowledge sharing (Jiang et al., 2022). Another study reports a positive relationship between the fulfillment of relational psychological contracts and creativity (Phuong & Takahashi, 2021).

*Hypothesis 5: Psychological contract breach is negatively related to creativity.*

**2.5 Transactional and relational obligations**

From the exchange-based mechanism view, employees that experience a close relationship with their organizations and their leaders respond with reciprocal exchange obligations to engage in creative behaviors (Cai et al., 2021). The literature differentiates between two psychological contracts – transactional and relational contracts. In a transactional contract, an organization promises to provide monetary rewards for work provided by employees. Such a contract represents a short-term economic agreement between the two parties. On the other hand, a relational contract stresses long-term agreement between two parties. It emphasizes a socio-emotive interaction between the organization and its employees, emphasizing two-way trust and loyalty (Ogbeibu et al., 2018; Ogbeibu et al., 2021, Bhatnagar, 2014; Robinson et al., 1994). The present paper proposes that when an organization and its employees believe they are honor-bound to fulfill various relational obligations, they will be more motivated to contribute at higher creativity levels (Cohen & Eyal, 2015).

Through a relational contract, employees will have a strong attachment to their organization due to socialization, mentoring, job security, personal support, and potential promotion. These employees have a long-term relationship with the organization, which is the essence of relational contracts (Cohen, 2011). This kind of obligation suggests that employees fully adopt the values of the organization and connect their identities with the organization. As a result, they demonstrate higher levels of creativity. Also, individuals who adapt their self-concept and recognize that they subsume their relational self to their leaders (i.e., a high level of identification with leaders) are more willing to develop interpersonal relationships with their leaders and thereby transform these specific emotional ties into creative outcomes (Cai et al., 2021).

 Employees who perceive their relationship with an employer as based on short-term economic exchange (e.g., transactional obligations) are less likely to form long-term relationships with and loyalty toward the employer (Cohen, 2011; 2012). They may perceive their relationship with the organization in transactional terms because they believe such a relationship should exist between them and the employer (Cohen, 2012). For employees under transactional obligations, the organization is simply a place where they do their work in return for income. Such employees seek immediate extrinsic rewards from the employment situation, such as pay and credentials (Cohen, 2011). They do not invest in the formal requirements of their job. They also have low attachment to their employer, which enables them to leave the organization easily. Such employees have very little interest in developing creative ideas on behalf of the organization, which leads us to our final hypothesis.

*Hypothesis 6: Perceived relational obligations are positively related to creativity, while perceived transactional are negatively related to creativity.*

**3. Research design**

**3.1 Subjects and Procedure**

The data were collected using convenience samples. Two surveys were conducted in this study. Both were administrated to Israeli teachers of all school levels (elementary, middle, and high schools) in Northern Israel. Formal permission to perform the two studies was acquired from the Israeli Ministry of Education. The questionnaires relied on scales from the existing literature, which were translated into Hebrew from English using a standard translation/back-translation process.

In the first survey, data were collected from nine schools. Questionnaires on creativity were circulated to teachers who agreed to participate in the study. The first study collected 191 completed and usable questionnaires (response rate = 62%). The principals of the nine schools also filled out a questionnaire on creativity. Questionnaires were matched to the relevant schools using the ID numbers provided by the teachers.

 Women comprised 80.3% of the respondents, and 82% of the participants were married. The mean age was 42.7 years old, and the mean tenure of teachers in the school was 10.06 years. The mean in the profession was 15.6 years. A total of 57.4% of the respondents had a BA degree, and 41.6% had an MA degree or higher. The mean tenure of the principals of the nine schools was 12.44 years.

 The second survey was conducted a year later. Data were collected from ten schools. The procedure for the second survey was similar to that of the first. However, in this survey, the questionnaires were administered to teachers only. As in the first study, teachers were not remunerated for their participation. A total of 146 completed and usable questionnaires were collected (response rate = 56%). Of the respondents, 84.1% were women, and 78.1% were married. The mean age was 43.3. The mean tenure in the school and in the profession were 10.09 and 16.6 years, respectively. Of the participants, 48.3% had a BA degree, and 51.7% had an MA degree or higher.

**3.2 Scales**

Creativity was measured using the scale advanced by Zhou and George (2001). It includes 13 items (e.g., “Is a good source of creative ideas,” “Is not afraid to take risks,” and “Promotes and champions ideas to others”).

For the variable of perceived obligations, we applied the scale advanced by Robinson et al. (1994). Employer obligations were measured by asking employees to what extent they believed their employer was obligated to provide them with the following items – rapid advancement, high pay, pay based on performance levels, training, long-term job security, career development, and support for personal problems. Employee obligations were assessed by asking employees about the extent to which their obligations to their employer included the following items: working extra hours, loyalty, volunteering to perform non-required tasks on the job, giving advance notice if taking a position elsewhere, willingness to accept a transfer, refusal to support the organization’s competitors, and protection of proprietary information. Each scale was divided into relational and transactional obligations: three items under employer transactional obligations, four items under employer relational obligations, five items under employee transactional obligations, and three items under employee relational obligations.

Organizational justice was measured using the 20 items scale created by Niehoff and Moorman (1993). Their scale measures three dimensions of organizational justice – distributive justice, formal procedures, and interactional justice. Distributive justice was measured using five items assessing the fairness of different work outcomes (e.g. “My work schedule is fair”). Six items explored formal procedures (e.g. “All job decisions are applied consistently across all affected employees”). Interactional justice was evaluated using nine items ( e.g. “My general manager clearly explains any decision made about my job”). Because of the very high correlation between formal procedures and interactional justice, we decided to combine interactional justice and formal procedures into one scale –procedural justice.

Robinson and Morrison (2000) measured psychological contract breaches using a five-item scale. Mayfield and Mayfield (2010) measured organizational culture for creativity using a nine-item scale. Finally, Employee well-being was measured by the six-item scale by Warr (1990). All scales of this study were translated from English and validated in previous Israeli studies.

**3.2.1 Control variables**

Three control variables were included in this study. Gender (1 = male; 0 = female) and marital status (0 = married; 1 = not married) were measured as dichotomous variables. School tenure was measured as a ratio variable.

The study used a response scale ranging from 1 (strongly disagree) to 7 (strongly agree), except for items on the employee well-being scale.

**3.3 Data analysis**

Confirmatory factor analysis (CFA) was performed on this study’s scales to establish their discriminant validity, following the procedure advanced by Brooke et al. (1988). Further, we also checked for the heterotrait-monotrait (HTMT) ratio criterion to establish discriminant validity (Henseler et al., 2015). HTMT is the average of the Heterotrait-Heteromethod correlations (i.e., the correlations of indicators across constructs measuring different phenomena) relative to the average of the Monotrait-Heteromethod correlations (i.e., the correlations of indicators within the same construct). The HTMT should be significantly less than one (ideally less than 0.85) to discriminate between two factors (Henseler et al., 2015). The research hypotheses were analyzed using hierarchical linear modeling (HLM) (Bryk & Randenbush, 1992). This is because of the nature of the samples that included teachers from nine schools in the first survey and teachers from 10 schools in the second. The advantage of HLM is that it allows for controlling variance among different schools (Bryk & Raudenbush, 1992).

**4. Results**

The results of the CFA for each scale are presented in Table 1 (for the first survey) and Table 2 (for the second survey). As shown, we compared the fit of a four-factor model for perceived obligations to the alternative fit of a one-factor model. The findings demonstrated the superiority of the four-factor model over the one-factor model. As for organizational justice, the results shown in Tables 1 and 2 support the superiority of the two-factor model over the one-factor model. The results in Tables 1 and 2 also show the superiority of a two-factor solution of the mediators over a one-factor solution and the superiority of a nine-factor solution of all independent variables (excluding the demographic variables) over a one-factor solution. Thus, the CFA findings support the discriminant validity of the research variables.

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Insert Tables 1 and 2 here

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In addition to CFA, this study also performed HTMT. The HTMT is defined as the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct. Discriminant validity problems are present when HTMT values are high (Hair et al., 2019). In this study, HTMT ratios for all pairs were less than 0.85 in both samples, thus fulfilling the HTMT criterion for discriminant validity.

Tables 3 and 4 present the intercorrelations among the research variables and the basic statistics for the two samples. The findings showed acceptable reliability for the scales of both samples. None of the intercorrelations exceeded .70. In short, the findings in Tables 3 and 4 support the absence of multicollinearity and the stability and validity of the scales applied in this study.

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Insert Tables 3 and 4 here

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Table 5 presents the results of the HLM analysis. Hypothesis 1 posited that distributive justice would be positively related to creativity. However, this hypothesis was rejected after no significant relationships were found between the two variables in either survey. Hypothesis 2 predicted that procedural justice would be positively related to creativity. The data in Survey 1 strongly supported this hypothesis (see Table 5), showing that procedural justice was strongly and positively related to both teacher self-reported and principal-reported creativity. However, no significant relationship was found between the two variables in Survey 2.

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Insert Table 5 here

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Hypothesis 3 stated that organizational climate for innovation would be positively related to creativity. The data did not support this. Hypothesis 4, however –which posited a positive relationship between employees’ well-being and creativity– was strongly supported by the data. A positive and significant relationship between the two was found for both self-reported and principal-reported creativity in Survey 1 and self-reported creativity in Survey 2 (see Table 5).

Hypothesis 5 predicted a negative relationship between psychological contract breach and creativity but was rejected based on the data. Hypothesis 6 stated that perceived obligations for relational contracts (between employer and employee) would be positively related to creativity, while perceived obligations for transactional contracts (between employer and employee) would be negatively associated with creativity. The results supported this hypothesis for only one of the four obligation variables. Employee relational obligations were related to self-reported creativity in Studies 1 and 2 but not to principal-reported creativity in Survey 1.

**5. Discussion**

**5.1 Theoretical implications**

Recently, creativity has received increased attention in both research and practice. It is believed to play a central role in the success of public and business organizations (McLean, 2005). Moreover, political and economic necessities have led to various creativity initiatives in schools and teaching (Burnard & White, 2008). Developing an adaptive orientation to creativity is critical in helping teachers deal with the challenges and stress of reaching their students through distance learning, as seen during the coronavirus pandemic (Anderson et al., 2021). Given the relevance of creativity to understanding the behavior of individuals in work organizations, further studies should analyze the factors that contribute to it. This study adds to our knowledge and understanding of this important phenomenon. An important contribution of this study is its examination of various possible explanations for creativity and assessing their relative importance. In the era of globalization and worldwide economic competition, creativity can sometimes determine the failure or success of organizations and educational organizations.

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Insert Figure 2 here

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A summary of the research findings and implications is presented in Figure 2. The results of this study provide important contributions and suggestions for future research. First, they provide solid evidence that a positive mood in the workplace is strongly associated with creativity. This substantial, positive, and consistent relationship between employee well-being and creativity in both surveys, apparent in both self-reporting and supervisor reporting, confirms the effect of positive mood. The findings show that positive affect makes employees feel psychologically safer, giving them space to take the initiative and engage in creative activities. Also, positive affect or emotions (joy, happiness, interest, etc.) can broaden an individual’s awareness and encourage them to engage in novel explorations (Du et al., 2021).

As Liu (2016) observes, a positive mood facilitates creativity in the following ways: it improves the cognition and attention of individuals, assists cognitive processing, broadens people’s repertoire of cognition and attention, and encourages the generation of novel ideas, flexible thinking, and problem-solving. Additionally, moods might have a signaling function, as explained in the feelings-as-information model. Thus, a positive mood might signal to employees that their workplace is safe and that they can safely take risks to carry out tasks (Liu, 2016). However, there is a need for more research to better understand the role of well-being as a factor that increases creativity. For example, there is a need for research on the conditions under which affect (and different kinds of affect) may be related to different aspects of the creative process and dimensions of creativity (Amabile & Pratt, 2016).

The positive effects of procedural justice on teacher self-reported and principal-reported creativity in Survey 1 and the positive effect of employees’ self-reported relational obligations in Surveys 1 and 2 are consistent with Kim et al. (2017). As they observe, fair treatment enables employees to feel less fearful about the decisions made by authorities and positively evaluate them based on the fairness heuristic theory. When employees perceive high levels of justice, they are more likely to invest their efforts in tasks that are beneficial to the organization, such as creativity (Colquitt et al*.*, 2006). Our findings also support Kim and Park’s (2017) contention that the extent to which employees feel their expectations have been met (or not) can influence their obligations to employers. Perceived obligation affects employees’ creativity (Harjanti, 2019).

Furthermore, justice and long-term relational obligations could be an important contextual factor for increased creativity since it provides employees with psychological safety to perform tasks other than those assigned (Kim et al., 2017). As suggested by Alacovska (2018), it is also possible that creative workers strive to align their work with meaningful social relations while drawing boundaries around labor practices and so justifying these practices as “helping the community”, “building local creative scenes,” or “assisting someone in need.” Despite the absence of a significant relationship between organizational culture and creativity, exploring the organizational culture in this setting is still recommended, perhaps using different conceptualizations for organizational culture (Ogbeibu et al. 2018).

**5.2 Methodological implications**

The study also provides some important methodological contributions. First, the data in Survey 1 showed no significant differences between the findings when creativity was measured by teacher self-reporting or principal reporting. It can be concluded that self-reported creativity has a similar explanatory power as supervisor-reported creativity. One possible explanation for this is that employees and supervisors report positive work outcomes similarly. There is a need for more research using different sources for measuring creativity to validate the above conclusion. Regardless, it seems that future research on creativity could rely on self-reported creativity or supervisor-reported creativity. It is also noteworthy that the findings in Survey 1 and Survey 2 were quite similar, with no remarkable differences between the significant correlates of the two studies. This provides support to the temporal validity of the findings of this study.

**5.3 Managerial implications**

This study has important practical implications. First, management should establish a “people-oriented” management style to improve employee creativity by enhancing employees’ affect and positive emotions. Improving emotional management enhances their ability to recognize, coordinate, and control their own emotions and other people’s emotions in order to cultivate emotional intelligence, understand and control their emotions, and ultimately maintain the best emotional state without falling into the emotional problems associated with low performance and creativity (Du et al., 2021). Building and maintaining employees’ positive mood in the workplace is an important goal for employers who want higher levels of creativity from their employees. As suggested by Amabile and Mueller (2008), organizations should focus more on the feelings of the team members and the interaction in the team in order to facilitate well-being and creativity.

Another implication is that fairness in all forms is essential to the continuation and competitiveness of an organization. Organizational justice is a factor influencing the results of employees in their organization and promoting innovative ideas that can be used to achieve job targets. Managers should provide opportunities for their employees to interact with people with diverse backgrounds, talents, and skills (Kurniawan & Ulfah, 2021). Third, as Amabile (1997) suggested, organizations should emphasize creativity and support it. These priorities should be communicated clearly to staff and applied at all levels of the organization. The findings of this study suggest that employers should provide their employees with a supportive, just, and safe work environment that encourages creativity (Ullah et al., 2022; Zhou et al., 2019).

**5.4 Recommendations for future research**

Following this study, several recommendations for future studies arise. First and most importantly, to advance research on creativity, management scholars should develop new theoretical models, or integrate complementary perspectives, to grasp how individual, contextual, and target-related factors jointly influence perceivers’ responses to creativity. The associative evaluation theory is an example of this direction. Formulated by management researchers to inform research on creativity evaluation, the theory provides a systematic account of the factors affecting creativity, encompassing perceiver-, target-, and context–related factors. This approach and analogous integrative perspectives are important to move beyond the relatively simplistic and compartmental view of target, creator, perceiver, and context as independent sources of influence on creativity and to start capturing interactive effects, especially between perceivers’ characteristics and situational factors (Zhou et al., 2019).

While the demographic variables examined here did not show a significant relationship with creativity, another avenue might be to use individual psychological variables instead. For example, the Big Five can be one direction for inclusion in future integrative models. In their meta-analysis, Zare and Flinchbaugh (2019) found that Openness to Experience, Extraversion, and Conscientiousness are good predictors of creativity. Yao and Li (2020) found that openness to experience, conscientiousness, agreeableness, and extraversion were related to different stages of creativity. Another more provocative direction could be to explore whether there is a link between dark personalities and creative behavior. Lebuda, Figura and Karwowski (2021) found a significant positive relationship between narcissism and creativity in their meta-analysis. A significant positive relationship between narcissism and creativity was also found by Martinsen et al. (2019). Perhaps something in dark personalities can stimulate specific dimensions of creativity.

There is a need for more studies that will measure creativity using different sources– for example, self-report versus supervisor report. Because they rely on self-reported surveys, several creativity studies have a possible common method bias. There is the possibility of a percept-percept bias because of the perceptual nature of the data,. However, this bias does not threaten the relationship between the antecedents and employee creativity when the supervisors assess the outcome variable. Research must be based on objective indicators and multiple sources to solve the methodological limitations (Joo et al., 2013). In addition, future studies should model and test their hypotheses on different sides of creativity. These methodological improvements could help conceptual demarcation, for example, revealing overlaps and differences in antecedents (Zhou et al., 2019).

**5.5 Limitations**

This study is not without limitations. First, most of the data were collected from the same source, leading to potential common method errors. Second, the data were collected from demographically similar participants. Therefore, the findings can be generalized only to the Israeli educational setting and need to be replicated in other settings, such as other professions and cultures. However, it should be noted that examining two samples using the same design and collecting data on the dependent variable (creativity) from two sources (Sample 1) mitigates these limitations. In sum, the findings of this study support the utility of examining integrative models to understand creativity better. As such, they provide important directions and motivations for the continuation of research on creativity– an important and valuable behavior that contributes to the effectiveness of organizations.

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**Table 1**

*CFA for research constructs – Survey 1*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **N** | df | **χ2** | **χ2/df** | **GFI** | **CFI** | **NFI** | **NNFI** | **MC** | **RMSEA** |
| **Psychological contracts** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 174 | 54 | 417.14\*\*\* | 7.72 | 0.67 | 0.63 | 0.61 | 0.55 | 0.35 | 0.19 |
| Four-factor solution | 48 | 95.78\*\*\* | 2.00 | 0.91 | 0.95 | 0.90 | 0.93 | 0.87 | 0.07 |
| **Organizational justice** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 191 | 9 | 105.51\*\*\* | 11.28 | 0.84 | 0.90 | 0.89 | 0.83 | 0.78 | 0.23 |
| Two-factor solution | 8 | 15.89\* | 1.99 | 0.97 | 0.99 | 0.98 | 0.98 | 0.98 | 0.07 |
| **Mediators** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 188 | 27 | 411.02\*\*\* | 15.22 | 0.62 | 0.70 | 0.69 | 0.60 | 0.36 | 0.27 |
| Three-factor solution | 24 | 63.02\*\*\* | 2.63 | 0.92 | 0.97 | 0.95 | 0.95 | 0.90 | 0.09 |
| **All independent variables** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 173 | 324 | 1976.1\*\*\* | 6.10 | 0.46 | 0.51 | 0.47 | 0.47 | 0.01 | 0.17 |
| Nine-factor solution | 288 | 525.86\*\*\* | 1.83 | 0.81 | 0.92 | 0.91 | 0.91 | 0.50 | 0.07 |

*Note. N* = 185.

*\* = P ≤ .05; \*\* = P ≤ .01; \*\*\* = P ≤ .001*

**Table 2**

*CFA for research constructs – Survey 2*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **N** | df | **χ2** | **χ2/df** | **GFI** | **CFI** | **NFI** | **NNFI** | **MC** | **RMSEA** |
| **Perceived obligations** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 139 | 54 | 321.86\*\*\* | 5.96 | 0.70 | 0.60 | 0.57 | 0.52 | 0.38 | 0.19 |
| Four-factor solution | 48 | 95.80\*\*\* | 1.99 | 0.89 | 0.93 | 0.87 | 0.90 | 0.84 | 0.08 |
| **Organizational justice** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 145 | 9 | 54.69\*\*\* | 6.07 | 0.88 | 0.92 | 0.90 | 0.86 | 0.85 | 0.18 |
| Two-factor solution | 8 | 20.52\*\* | 2.57 | 0.95 | 0.97 | 0.96 | 0.95 | 0.95 | 0.10 |
| **Mediators** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 145 | 27 | 314.45\*\*\* | 11.65 | 0.62 | 0.66 | 0.64 | 0.55 | 0.37 | 0.27 |
| Three-factor solution | 24 | 44.32\*\* | 1.85 | 0.93 | 0.97 | 0.95 | 0.96 | 0.93 | 0.07 |
| **All independent variables** |  |  |  |  |  |  |  |  |  |  |
| One-factor solution | 137 | 324 | 1371.1\*\*\* | 4.23 | 0.50 | 0.54 | 0.48 | 0.50 | 0.02 | 0.15 |
| Nine-factor solution | 288 | 450.18\*\*\* | 1.56 | 0.81 | 0.93 | 0.83 | 0.91 | 0.55 | 0.06 |

*Note. N =* 141*.*

*\* = P ≤ .05; \*\* = P ≤ .01; \*\*\* = P ≤ .001*

**Table 3**

*Descriptive statistics, reliabilities (in parentheses), and inter-correlations among Survey 1 variables*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1. Gender\*\*\*\* | 0.20 | 0.40 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Marital status\*\*\*\* | 0.82 | 0.39 | -.07 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Tenure in school | 10.06 | 8.80 | -.08 | -.02 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Distributive justice | 4.64 | 1.27 | .02 | .11 | -.07 | **.84** |  |  |  |  |  |  |  |  |  |  |
| 5. Procedural justice | 4.95 | 1.24 | .05 | .08 | -.15\* | .53\*\*\* | **.96** |  |  |  |  |  |  |  |  |  |
| 6. Organizational climate for creativity | 5.14 | 1.02 | -.04 | .09 | -.10 | .63\*\*\* | .63\*\*\* | **.83** |  |  |  |  |  |  |  |  |
| 7. Psychological contract breach | 2.54 | 1.34 | -.04 | **-.00** | .27\*\*\* | -.59\*\*\* | -.56\*\*\* | -.67\*\*\* | **.90** |  |  |  |  |  |  |  |
| 8. Employee well-being | 4.86 | 0.94 | -.01 | -.04 | .04 | .47\*\*\* | .46\*\*\* | .56\*\*\* | -.56\*\*\* | **.89** |  |  |  |  |  |  |
| 9. Employer transactional obligations | 3.50 | 1.63 | -.02 | .03 | .05 | .31\*\*\* | .26\*\*\* | .10 | -.13 | .25\*\* | **.82** |  |  |  |  |  |
| 10. Employer relational obligations | 4.85 | 1.62 | .00 | .10 | .07 | .36\*\*\* | .41\*\*\* | .22\*\*\* | -.29\*\*\* | .32\*\*\* | .67\*\*\* | **.85** |  |  |  |  |
| 11. Employee transactional obligations | 4.41 | 1.67 | .04 | -.05 | -.14 | .09 | .10 | .04 | -.09 | .03 | .33\*\*\* | .29\*\*\* | **.82** |  |  |  |
| 12. Employee relational obligations | 5.30 | 1.42 | -.13 | .04 | -.08 | .16\* | .12 | .13 | -.13 | .10 | .29\*\*\* | .30\*\*\* | .49\*\*\* | **.74** |  |  |
| 13. Creativity: supervisor’s report | 5.42 | 1.45 | .07 | -.04 | -.11 | .26\*\*\* | .32\*\* | .41\*\*\* | -.47\*\*\* | .41\*\*\* | .07 | .19\*\* | .14\* | .12 | **.98** |  |
| 14. Creativity: self-report | 5.62 | 0.82 | .16\* | -.17\* | -.04 | .35\*\*\* | .52\*\*\* | .36\*\*\* | -.36\*\*\* | .42\*\*\* | .16\* | .22\*\* | .13 | .26\*\* | .39\*\*\* | **.92** |

*Note. N* = 185.

*\* = P ≤ .05; \*\* = P ≤ .01; \*\*\* = P ≤ .001*

\*\*\*\*Gender: 1 = female, 0 = male; Marital status: 0 = married, 1 = not married.

**Table 4**

*Descriptive statistics, reliabilities (in parentheses), and inter-correlations among Survey 2 variables*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables** | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. Gender\*\*\*\* | 0.16 | 0.30 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Marital status\*\*\*\* | 0.78 | 0.42 | -.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Tenure in school | 10.09 | 8.03 | -.09 | -.09 |  |  |  |  |  |  |  |  |  |  |  |
| 4. Distributive justice | 4.57 | 1.23 | .07 | -.07 | -.09 | **.79** |  |  |  |  |  |  |  |  |  |
| 5. Procedural justice | 5.42 | 1.06 | .09 | .07 | -.05 | .44\*\*\* | **.94** |  |  |  |  |  |  |  |  |
| 6.Organizational climate for creativity | 5.53 | 0.92 | -.04 | .09 | -.07 | .52\*\*\* | .67\*\*\* | **.82** |  |  |  |  |  |  |  |
| 7. Psychological contract breach | 2.27 | 1.08 | -.07 | **-.09** | .23\*\* | -.36\*\*\* | -.59 | -.59\*\*\* | **.86** |  |  |  |  |  |  |
| 8. Employee well-being | 4.94 | 0.82 | .10 | -.07 | -.05 | .35\*\*\* | .63\*\*\* | .50\*\*\* | -.47 | **.88** |  |  |  |  |  |
| 9. Employer transactional obligations | 3.61 | 1.55 | .15 | .04 | -.06 | .35\*\*\* | .34\*\*\* | .31\*\*\* | -.32\*\*\* | .29\*\*\* | **.79** |  |  |  |  |
| 10. Employer relational obligations | 5.00 | 1.41 | .04 | .08 | -.14 | .36\*\*\* | .51\*\*\* | .41\*\*\* | -.38\*\*\* | .42\*\*\* | .62\*\*\* | **.80** |  |  |  |
| 11. Employee transactional obligations | 4.72 | 1.43 | -.03 | .02 | -.11 | -.01 | .07 | -.01 | -.11 | .08 | .31\*\*\* | .44\*\*\* | **.74** |  |  |
| 12. Employee relational obligations | 5.61 | 1.21 | -.20\*\*\* | .01 | -.01 | .07 | .05 | .14 | -.03 | .06 | .29\*\*\* | .36\*\*\* | .49\*\*\* | **.73** |  |
| 13. Creativity: self-report | 5.57 | 0.87 | .05 | .06 | .07 | .26\*\*\* | .39\*\*\* | .39\*\*\* | -.34\*\*\* | .48\*\*\* | .20\*\*\* | .26\*\*\* | .12 | .21\* | **.94** |

*Note. N* = 141.

*\* = P ≤ .05; \*\* = P ≤ .01; \*\*\* = P ≤ .001*

\*\*\*\*Gender: 0 = male, 1 = female; Marital status: 0 = married, 1 = not married.

**Table 5**

*HLM analyses (estimates) of demographic variables, exchange, and justice variables on teachers’ creativity in Survey 1 (self-report and supervisor’s report creativity) and Survey 2 (self-report creativity)*

|  |  |  |
| --- | --- | --- |
|  Dependent variablesIndependent variables | Survey 1 | Survey 2 |
| Principal’s report creativity | Self-report report creativity | Self-report creativity |
| N | 178 | 178 | 132 |
| Intercept | 2.48 | 2.58\*\* | 2.39\* |
|  |  |  |  |
| 1. Gender\* | -0.01 | 0.05 | 0.12 |
| 2. Marital status\* | 0.05 | 0.00 | -0.18 |
| 3. Tenure in school | 0.01 | 0.00 | 0.02 |
| 4. Distributive justice | -0.18 | 0.01 | 0.08 |
| 5. Procedural justice | 0.31\* | 0.34\*\*\* | 0.09 |
| 6.Organizational climate for creativity | 0.11 | -0.09 | 0.07 |
| 7. Psychological contract breach | -0.10 | 0.02 | -0.15 |
| 8. Employee well-being | 0.28\* | 0.22\*\* | 0.34\*\* |
| 9. Employer transactional obligations | -0.09 | -0.02 | -0.00 |
| 10. Employer relational obligations. | 0.01 | -0.03 | -0.06 |
| 11. Employee transactional obligations | 0.06 | -0.00 | 0.01 |
| 12. Employee relational obligations | 0.06 | 0.13\*\* | 0.15\* |
| Random Variance of School -2loglikelihood |  |  |  |
| 600.77 | 407.91 | 310.91 |

*Note. N* = 185 for Survey 1 and 141 for Survey 2

*. \* = P ≤ .05; \*\* = P ≤ .01; \*\*\* = P ≤ .001*

\*Gender: 0 = male, 1 = female; Marital status: 0 = married, 1 = not married.