

Effort-Reward Imbalance and Turnover Intention: The Roles of Organizational Justice Perception and Job Mobility

Çaba-Ödül Dengesizliği ve İşten Ayrılma Niyeti İlişkisinde Örgütsel Adalet Algısının ve İş Hareketliliğinin Rolü

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ABSTRACT

Stress at work is a common problem in modern workplaces, and companies that want to promote a positive and productive work environment must understand and address the destructive effects of stress on employees' attitudes and behaviors. In work stress literature, effort-reward imbalance (ERI) emerges as an important stressor that affects important employee outcomes at organizations. While previous research has provided abundant evidence regarding the effect of ERI on turnover intention, there is a lack of knowledge about the specific mechanisms and conditions that explain this relationship. Considering this gap in the literature this study attempts to integrate the ERI approach with equity theory to explore how ERI results in increased turnover intention. Specifically, this work proposes that the influence of ERI, which is an important work stressor, on turnover intention is mediated through organizational justice perception, and that the strength of this indirect relationship is moderated by job mobility. The proposed moderated-mediation model was tested on data collected from 147 white-collar workers through online questionnaires. Results of regression analysis demonstrated that ERI is negatively related to organizational justice perception. Moreover, findings indicated that ERI indirectly predicts employees' turnover intention through organizational justice perception. Results also displayed that the indirect effect of ERI on turnover intention through justice perception is stronger when employees perceive higher job mobility. Overall, this research provides evidence that ERI as a work stressor negatively influences employees' attitudes about their jobs and organizations, and that the strength of this negative effect is shaped by employees' perception of job mobility. The current research contributes to the stress literature by presenting an integrative model incorporating the ERI approach and equity theory.

Keywords: Stress, effort-reward imbalance, organizational justice, equity theory, turnover intention, job mobility

Öz

İş stresi, modern işyerlerinde yaygın bir sorundur ve pozitif ve üretken bir çalışma ortamını teşvik etmek isteyen şirketlerin, stresin çalışanların tutum ve davranışları üzerindeki yıkıcı etkilerini anlamaları ve çözüm bulmaları gerekmektedir. İş stresi literatüründe çaba-ödül dengesizliği (ÇÖD), organizasyonlarda çalışanlara ait önemli sonuçları etkileyen önemli bir stres etkeni olarak ortaya çıkmaktadır. Önceki araştırmalar ÇÖD'ün işten ayrılma niyeti üzerindeki etkisine ilişkin çok sayıda kanıt sağlarken, bu ilişkiyi açıklayan spesifik mekanizmalar ve koşullar hakkında yeterli kadar bilgi bulunmamaktadır. Bu eksikliği göz önünde tutan bu çalışma, ÇÖD'ün işten ayrılma niyetinin artmasına nasıl yol açtığını araştırmak amacıyla çaba-ödül dengesizliği yaklaşımını eşitlik kuramı ile bütünleştirmektedir. Bu çalışma, önemli bir iş stresi kaynağı olan ÇÖD'ün işten ayrılma niyeti üzerindeki etkisinin örgütsel adalet algısı aracılığıyla gerçekleştiğini ve bu dolaylı ilişkinin gücünün iş hareketliliği tarafından biçimlendirildiğini öne sürmektedir. Önerilen durumsal aracılık modelini test etmek için çevrimiçi anket yoluyla 147 beyaz yakalı çalışandan veri toplanmıştır. Regresyon analizi sonuçları, bir stres kaynağı olan ÇÖD'ün örgütsel adalet algısı ile negatif ilişkili olduğunu göstermiştir. Ayrıca bulgular, ÇÖD'ün örgütsel adalet algısı aracılığıyla çalışanların işten ayrılma niyetini dolaylı olarak yordadığını göstermiştir. Sonuçlar ayrıca, ÇÖD'ün çalışanların adalet algısı aracılığıyla işten ayrılma niyeti üzerindeki dolaylı etkisinin, çalışanların daha yüksek iş hareketliliğine sahip olması durumunda daha güçlü olduğunu göstermiştir. Genel olarak, bu araştırma, bir iş stresi kaynağı olarak ÇÖD'ün çalışanların işleri ve kuruluşları hakkındaki tutumlarını olumsuz etkilediğine ve bu olumsuz etkinin gücünün çalışanların iş hareketliliği algısı tarafından şekillendirildiğine dair kanıtlar sunmaktadır. Mevcut araştırma, ÇÖD yaklaşımını ve eşitlik kuramını birleştiren bütünleştirici bir model sunarak stres alan yazınına katkıda bulunmaktadır.

Anahtar kelimeler: Stres, çaba-ödül dengesizliği, örgütsel adalet, eşitlik kuramı, işten ayrılma niyeti, iş hareketliliği

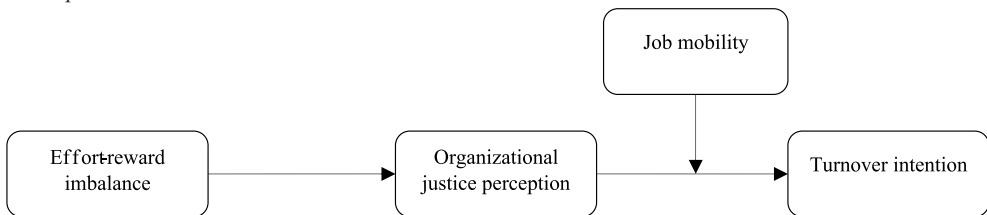
Despite the increase in employee-friendly practices such as work-schedule flexibility or on-site childcare to increase employee welfare and well-being in recent years, many employees still continue to work for long periods of time, under heavy workloads and in stressful work environments (International Labour Organization, 2016). In particular, increased performance pressure and workloads as a result of downsizing, layoffs, or hiring freezes emerging in recent decades have caused individuals to work in jobs and work environments characterized by high stress (Torá et al., 2015). Working in stressful jobs and environments not only undermines individuals' psychological health and well-being but also negatively affects individuals' work attitudes and behaviors (Grawitch et al., 2007). For example, field studies revealed that working environments with high stress factors are psychologically unhealthy, and therefore, employees in such environments have higher turnover intention and behavior (APA, 2009; Kachi et al., 2020; Monster, 2014). Thus, working in stressful jobs and environments engenders devastating and costly results for both employees and companies (Hassard et al., 2018).

Effort-reward imbalance (ERI) is a prominent approach that examines the negative effects of psychosocial stress elements in the working environment. According to this approach, the discrepancy between the effort put in at the job and the benefits obtained in exchange creates stress and has a host of substantial consequences for employees. Specifically, applying the concept of social exchange and the principle of reciprocity to individuals' relationship with their work (Siegrist, 1996), this approach argues that jobs that fail to provide adequate rewards in exchange for high effort violate the principle of reciprocity, and such an imbalance creates stress on employees and harms their health and well-being.

Empirical studies revealed that ERI is associated with a number of physiological and psychological health indicators, including blood pressure, coronary and cardiovascular heart diseases (Dragano et al., 2017), and mental (Stansfeld & Candy, 2006) and depressive disorders (Rugulies et al., 2017), emotional burnout, and psychological well-being (Beschoner et al., 2021). Although this approach has been mainly used to explain the physical, mental, and psychological well-being of employees, its negative effects are not limited to the well-being of employees. Rather, ERI can also have adverse effects on the attitudes of employees such as decreasing job satisfaction, lowering work engagement, and increasing intention to leave their organizations as well as their profession (Dorenkamp & Weiß, 2018; Ge et al., 2021; Kinman, 2016).

Although empirical studies investigating the negative effects of ERI on work attitudes have been increasing, the current understanding of the mechanisms underlying these relationships remains limited (Devonish, 2018). It has been more than a decade since Siegrist (2008) emphasized the challenge of revealing the mechanisms that explain the impact of stress-creating psychosocial work factors upon employee outcomes. Yet, more recent studies continue to highlight the need to identify the processes through which stressors such as ERI relate to employee outcomes and also to test whether these relationships hold true for developing countries and regions (Hoven & Siegrist, 2013; Rasmussen et al., 2016). Aiming to work on these gaps in the literature and responding to the calls for investigating alternative mediation mechanisms explaining the outcomes of ERI (Leineweber et al., 2021), the current study investigates the pathways by which the negative impact of ERI on employee attitudes unfold. More specifically, the present research investigates the role of organizational justice perception as a mediating factor in the relationship between ERI and turnover intention (turnover will be used hereafter) and also explores the role of job mobility as a moderating factor in the mediated relationship. Figure 1 shows the conceptual model of this research.

Figure 1
Conceptual Model



This study will make important contributions both theoretically and practically. In other stress approaches, for example, the demand-control model (Fila et al., 2017) or the job demands-resources theory (Bakker & Demerouti, 2017), original theoretical models have been largely developed and enriched through subsequent studies that tested potential moderating or mediating factors. Given that the ERI approach lacks such elaborations, studying the mechanisms of ERI might contribute to the theoretical development of the approach. Practically, identifying the mediating variables might provide organizations with feasible guidance on designing successful interventions to improve ERI. For example, mediating variables, organizational justice in this case, can be used as control points of an intervention agenda so that the effectiveness can be measured in the early

stages and necessary adjustments can be made in a much shorter time without the need to wait for the final outcomes to emerge. Or, in cases where it is not possible to improve high effort-low reward conditions in the short run, negative consequences can be prevented for a while by acting on mediating variables.

Theoretical Framework

The main purpose of psychosocial stress approaches is to help reduce the negative consequences of stress by identifying the factors and situations that cause stress in the workplace. For this purpose, different stress approaches have suggested different factors as stress-increasing and stress-reducing factors. For example, while factors such as excessive psychological, physiological, and emotional workload, time pressure, job insecurity, unfair remuneration, role conflict, and ambiguity are seen as factors that increase stress, factors such as autonomy and control, appreciation and financial rewards, adequate and constructive feedback, supervisory coaching and social support have a stress-reducing effect (Lang et al., 2012). Stress approaches generally examine the main or interactive effects of stressors and support factors. For example, job demands-resources theory, a popular stress approach (Schaufeli & Taris, 2014), argues that stressors, namely job demands, unfold through the “impairing process”, while support factors operate through a separate pathway called the “motivational process” (Hu et al., 2011).

One distinguishing feature of the ERI approach compared to other stress approaches is that it emphasizes the *relative effects* of stressors and support factors, namely the ratio of efforts to rewards (Siegrist, 2017). The ERI approach explains how the ratio between efforts and rewards influences stress by drawing upon principles of social exchange (Blau, 1964) and reciprocity (Gouldner, 1960). Accordingly, work is considered a social exchange process where employees put in effort, contribute, and then obtain adequate rewards *in return for* their performance (Cropanzano & Mitchell, 2005). In accordance with the principle of reciprocity, as long as employees get adequate returns for their efforts at work, then the relationship between employees and their work is at equilibrium and employees feel at ease. On the contrary, when low or inadequate levels of rewards are received in exchange for high effort, the norm of reciprocity is violated. Such a situation is proposed to create tension and distress for employees as the costs they bear exceed their gains. As a result, rather than their individual amounts, the relative amount of effort and rewards generally influences the level of stress experienced by employees. For example, while excessive workload may be a stressor in and of itself, if the benefits

received by employees are proportionally equal to or greater than the costs (i.e., workload), then employees should experience less stress or none at all.

Studies in the stress literature provide an abundance of evidence that employees tend to leave jobs characterized by high stress (Grawitch *et al.*, 2007). Similar to previous findings, research employing the ERI approach also demonstrates that high-effort, low-reward jobs increase employees' turnover (Derycke *et al.*, 2010; Li *et al.*, 2011; Panatik *et al.*, 2012). Several recent studies have strived to outline the underlying mechanisms explicating the effect of ERI on turnover. These studies revealed that emotional exhaustion (Leineweber *et al.*, 2021), job satisfaction, and organizational commitment (Devonish, 2018; Dorenkamp & Weiß, 2018; Satoh *et al.*, 2017) can act as mediating factors in the ERI-turnover relationship. However, because these mediators have either a partial (Devonish, 2018; Dorenkamp & Weiß, 2018) or small mediating effect (Leineweber *et al.*, 2021), the studies called for further research to explore other mediating mechanisms underlying ERI - turnover relationship.

Extending these recent studies, the current research suggests organizational justice perception as a mediating factor in the ERI-turnover relationship. This suggestion is based on Adam's Equity Theory (1965), which proposes that people look for a balance between the contributions (i.e., inputs) they bring to the work and the economic and socio-emotional benefits (i.e., outputs) they get from it. When a balance is attained between inputs and outputs, then individuals perceive that the situation is fair and they receive fair treatment; otherwise, they evaluate the situation as unfair and think that they are not treated equitably. It follows that jobs that require high effort but provide low reward, a source of stress with the lens of the ERI approach, could be considered an unfair situation based on equity theory. Thus, employees working in high-effort, low-reward jobs might perceive their work environment where their efforts are not reciprocated by adequate rewards as an unfair situation due to the lack of correspondence between their inputs (i.e., efforts) and outputs (i.e., rewards). In other words, an employee who experiences an ERI at work may interpret this stressful situation as not being treated fairly by the organization.

It is important to note that the present study focuses on overall organizational justice rather than addressing each facet of organizational justice, which includes distributive, procedural, interpersonal, and informational justice (See Colquitt *et al.*, 2001). As sug-

gested by Ambrose and Schminke (2009), even though people can differentiate between these different facets when specifically asked, they generally tend to view organizational justice as a comprehensive and broad concept. Consistent with this view, the present study aims to understand whether individuals experience any imbalance between their efforts and rewards as unjust or not and whether this experience of (in)justice results in a tendency to leave the organization. In other words, the focal antecedent, namely ERI, and the focal outcome, namely turnover intention, examined in this study emphasize mostly the general experiences of individuals in their organizations. Moreover, overall organizational justice is considered a higher-order construct shaped by the facets of organizational justice (Holtz & Harold, 2009), and the present study is more concerned with revealing the variance explained by overall justice perception above and beyond what is explained by the justice facets. Therefore, it is more compatible with the aim of this study to focus on the overall organizational justice perception rather than its distinct facets.

Greenberg (1987, p. 11) describes Adams' Equity Theory as "a reactive content theory". Reactive content theories attend to individuals' reactions to unfair situations. According to Greenberg (1987), individuals value equitable sharing of resources and rewards (content), and thus they tend to react to unfair results (reactive). When faced with unfair situations, individuals strive to fix the inequitable balance between their contributions and gains through attitudinal or behavioral reactions (Greenberg, 1984).

Social exchange, which is the basis of both the ERI approach (Siegrist, 2017) and equity theory (Adams, 1965), could be utilized to explain individuals' reactions to organizational injustice experienced as a result of ERI. Cropanzano and his colleagues (2001) suggest that organizational justice is of great importance for employees as it represents a social exchange mechanism that enables employees to achieve economic and social gains. When employees face an ERI and a lack of correspondence between their contributions and gains, the social exchange relationship between employees and their organizations is jeopardized, resulting in a sense of injustice that may drive employees to respond to the unfair situation.

One of the employee reactions to organizational injustice is to withdraw from the organization (Colquitt et al., 2001). Accordingly, employees have decreased commitment to the organization, which they consider unfair, and reduced desire to continue

working in that organization. For example, studies drawing on the social exchange relationship between employees and their organization have provided evidence that employees perceiving organizational injustice have a higher intention to leave their organization (Aryee et al., 2002).

Building on the above-mentioned arguments, this study argues that ERI would reduce the organizational justice perception of employees, which then would result in increased turnover. Examining different models on the association of stress with organizational justice, Cropanzano and colleagues (2005) came up with a model which proposes that stress influences employee attitudes and behaviors through organizational justice. Accordingly, researchers using the role stress theory of Zohar (1995) contend that stress factors first harm employees' organizational justice perception, and subsequently, employees respond to the perceived injustice through various reactions, including leaving the organization. Similarly, in this study, organizational justice perception is expected to mediate the relationship between ERI, which is a source of stress, and turnover. Thus, the following hypothesis is proposed:

H1. ERI relates to turnover intention through organizational justice perception.

This indirect relationship between ERI and turnover is expected to be moderated by job mobility. Job mobility refers to "an individual's perception of available alternative job opportunities" (Wheeler et al., 2007, p. 208). Job mobility also indicates an individual's perception of how easy it is to shift from one organization to another (Hui et al., 1999). Theoretical approaches to turnover have identified job opportunities or job mobility as a notable antecedent of turnover (Maertz & Griffeth, 2004). Empirical studies have supported such views by showing that higher job mobility is related to higher job search intensity (De Vos et al., 2017) and higher turnover (Griffeth et al., 2000).

Along with this main effect of job mobility on turnover, there are also studies showing its moderating effect. For example, the negative association of job satisfaction with turnover becomes stronger when job mobility is perceived to be greater (Trevor, 2001). Similarly, the negative effect of stress on turnover is stronger when job mobility is higher (Rubenstein et al., 2018). Based on these studies, it can be expected that job mobility would have an impact on the indirect relationship between ERI and turnover. Accordingly, individuals whose perception of organizational justice is damaged as a result of an ERI may be more prone to develop an intention to quit their job in response to this situ-

ation, especially when they have a higher job mobility perception. In other words, employees who have the perception that they can easily get another job just as good as their existing job might have a higher tendency to think about leaving their company in response to the sense of injustice, they experience due to high effort-low reward. However, employees who think that there are fewer job alternatives in the external job environment and who are less likely to find a comparable job if they leave their organization might have a lower turnover intention when their organizational justice perception is damaged by the ERI. Thus, the following hypothesis is proposed:

H2. Job mobility moderates the indirect relationship between ERI and turnover intention mediated by organizational justice perception. Accordingly, the indirect effect is stronger when job mobility is higher.

Method

Participants

A convenience sampling method was employed for data collection. Using the author's professional network, full-time white-collar workers in Turkey were asked to take part in an online survey. The questionnaire was prepared on an online survey platform and sent to the participants via e-mail. A total of 154 people participated in the study. After those who answered the attention check question (i.e., please mark the "neither agree nor disagree option" for this question) incorrectly were excluded, 147 responses were left for the analysis. While 43% of 147 people are between the ages of 18-30, 37% are between the ages of 31-40, and 52% of them have a working period of fewer than three years.

Measures

Effort-reward Imbalance (ERI)

The scale developed by Siegrist and colleagues (2004) was employed to gauge the effort that employees spend on their jobs and the reward they receive in return. A 5-point Likert scale with anchors ranging from 1 (totally disagree) to 5 (totally agree) was used. The scale consists of two subscales, namely effort and reward. The effort subscale is composed of five items. A sample item for the effort subscale is "I have constant time pressure due to a heavy workload." Cronbach's α score was used as the measure to assess internal consistency and scale reliability. In addition, the reward subscale is composed of two components, esteem and promotion. Five items measured the esteem

component, and four items measured the promotion component. A sample item from the esteem component is “Considering all my efforts and achievements, I receive the respect and prestige I deserve at work.” For the promotion component, a sample item is “Considering all my efforts and achievements, my salary is adequate”. The scale’s adaptation to Turkish and validation was performed by Abuhanoğlu (2016). He reported a Cronbach’s α score for the effort subscale as .71 and the reward subscale as .72. He also found supporting evidence for the construct and criterion-related validity of the scale. In the current study, the effort subscale was found to have a Cronbach’s α score of .81, and the nine-item reward subscale was found to have a Cronbach’s α score of .86, both suggesting a good level of internal consistency for this measure.

The effort-reward ratio was calculated using the $e/(rxc)$ formula, as suggested by Siegrist *et al.* (2004). Accordingly, “*e*” represents the total score for effort, “*r*” represents the total score for reward, “*c*” represents the correction factor. The correction factor is used because the number of items in the effort and reward scales is different. In this case, the correction factor is .556 (5/9). A ratio close to zero indicates a positive balance (i.e., relatively low effort and relatively high reward), while a ratio higher than 1.0 indicates a deteriorated balance because the efforts are insufficiently rewarded.

Organizational Justice Perception

Employees’ perceptions of organizational justice were assessed on a 5-point Likert scale (1 = totally disagree, 5 = totally agree) with three items of the general organizational justice scale (Ambrose & Schminke, 2009). A sample item is “Usually, the way things work in this organization is not fair.” Zeynel and Köksal (2020) adapted this scale to Turkish and reported a good level of reliability (Cronbach’s α was .93) and validity (acceptable goodness of fit indices) scores. In the present study, Cronbach’s alpha reliability coefficient was calculated as .74.

Job Mobility

Job mobility perceptions of employees were measured with four items using a 5-point Likert scale (1 = totally disagree, 5 = totally agree) (Hui *et al.*, 1999; Tepper, 2000). The translation of the scale into Turkish was conducted by the author. A sample item is “I have many jobs to choose from besides this job.” The original scale was reported to have a good level of reliability with a Cronbach’s α of .78. The scale’s Cronbach’s α score in the current study was calculated as .89.

Turnover Intention

Intention to quit the current organization was assessed using four items on a 5-point Likert scale (1 = totally disagree, 5 = totally agree) (Cohen, 1999; Wayne et al., 1997). One sample item is “I think I will be working at this company three years from now.” The scale was adapted and validated by Aslan and Uyar (2018). They reported a Cronbach’s α score of .89 and demonstrated that the scale had construct and convergent validity. In the present study, Cronbach’s α score for the scale was calculated as .85.

Control Variables

For statistical control purposes, employees’ age, tenure, and marital status were measured. Age was measured on a 4-point ordinal scale (1 = 18-30 years old, 2 = 31-40 years old, 3 = 41-50 years old, 4 = 51 and older). Organizational tenure also was measured with a 4-point ordinal scale (1 = less than 1 year, 2 = 1-3 years, 3 = 4-8 years, 4 = 9 years and more).

Age and tenure have been shown to negatively influence the turnover intention of employees (Ng & Feldman, 2009; Van Breukelen et al., 2004). Marital status/stability has been reported as a robust demographic factor that contributes to one’s job stability, thereby reducing turnover intention (Ahituv & Lerman, 2011). In the use of control variables, Becker’s (2005) suggestion was adopted, and variables with simple correlations with endogenous variables were included in the hypothesis tests. Accordingly, employees’ organizational tenure and age were used as control variables in the hypothesis testing.

Procedure

Ethical approval for this study was obtained from the Ethics Committee of Dokuz Eylül University (E-87347630-659-248650). Data were collected using online questionnaires. Informed consent was presented on the introduction page of the survey. Accordingly, participants were informed that participation in the survey was voluntary. They were assured of confidentiality and anonymity. Lastly, participants were informed that there were no right and wrong answers to reduce social desirability bias.

Data Analyses

A power analysis using G*Power (version 3.1.9.7) was conducted to evaluate the sufficiency of the sample size. For this purpose, from the F test family the linear multiple regression with the fixed model, R^2 deviation from zero was chosen. As the type of

power analysis, the a priori type, which computes the required sample size with a given significance level, power, and effect size, was selected. Using the recommended parameters of the medium effect size ($d = .15$), significance level ($\alpha = .05$), and power level (.80) (Faul et al., 2009), and setting the number of predictors to four (ERI, organizational justice perception, job mobility, organizational justice perception x job mobility), the minimum required sample size was calculated as 85 participants. Based on this score, the study's actual sample size was deemed to be adequate to test the hypothesized model. Moreover, using bootstrapping in moderated mediation analysis is recommended when the sample size is not large (Preacher et al., 2007) to alleviate the potential problems related to statistical power (Shrout & Bolger, 2002). As explained later in the findings, this study utilized bias-corrected bootstrapping with 5000 resampling for testing indirect effects, which can be expected to improve the statistical precision of the findings for the given sample size.

A two-step statistical analysis procedure was used in this study at the first step. Prior to testing hypotheses, a series of nested confirmatory factor analyses (CFA) using AMOS were performed to evaluate the discriminant validity of the scales used. In the analyses, the goodness-of-fit indices of the alternative models containing different numbers of constructs and the proposed model were compared (Brown, 2006).

In models where the ratio of the number of indicators to the sample size is low, estimation problems can arise in the CFA results due to the imbalances in the measurement model (Matsunaga, 2008). In this case, the parceling technique is recommended for the correct evaluation of the model (Bandalos & Finney, 2001). In the current study, since the ratio of indicators (25) to the sample size (147) was below the recommended minimum rate (10 participants to 1 item, Bentler & Yuan, 1999), the number of indicators was reduced by creating two parcels for the reward variable, which was the scale with the highest number of items (nine items). Since the reward construct contains two dimensions, the scores of the respect dimension and the promotion dimension were averaged to create two parcels that represent the reward construct (Little et al., 2002). In addition, the error variances of two reverse-worded items in the turnover intention scale were allowed to correlate (Brown, 2006).

The second step of the statistical analysis procedure involved hypothesis testing. IBM SPSS was used for hypothesis testing analyses. The variables that form the interac-

tion term (i.e., organizational justice and job mobility) were centered around their means before the formation of interaction terms in order to minimize multicollinearity and make the interaction effect more interpretable (Cohen et al., 2003). The PROCESS macro was used to test the mediating effect in *H1* (Model 4) and the moderated-mediation effect in *H2* (Model 14). Age and organizational tenure were controlled for testing all hypotheses. The bias-corrected bootstrapping method with 5000 replications was used to assess the significance level of indirect effects. If 95% bootstrapped confidence interval estimates did not contain zero, then the mediation hypothesis could be supported (Preacher & Hayes, 2008).

Results

Table 1 shows descriptive statistics and correlations among the variables in this research. Accordingly, ERI was found to have a moderate negative relationship with organizational justice perception and a moderate positive relationship with turnover intention. Moreover, consistent with previous studies, organizational justice perception was found to have a moderate negative association with turnover intention.

Table 1
Descriptive Statistics and Zero-Order Correlations

Variables	Mean	SD	Min	Max	1	2	3	4	5	6
1. Age	1.80	.82	1	4	-	.45**	-.15	.19*	-.09	-.26**
2. Organizational tenure	2.55	1.03	1	4		-	-.01	.07	.20*	-.25**
3. ERI	.94	.48	.20	4.80			-	-.55**	.19*	.58**
4. Organizational justice	3.22	.97	1	5				(.74)	-.10	-.68**
5. Job mobility	3.25	.88	1	5					(.89)	.14
6. Turnover intention	2.55	1.01	1	5						(.84)

Note. *N* = 147. Values in brackets are Cronbach Alpha coefficients. SD = Standard deviation. Age: 18-30 years old = 1, 31-40 years old = 2, 41-50 years old = 3, 51 and older = 4. Organizational tenure: less than 1 year = 1, 1-3 years = 2, 4-8 years = 3, 9 years and more = 4. * *p* < .05, ** *p* < .01.

The fit indices of the five-factor model, in which effort, reward, organizational justice perception, job mobility, and turnover are separate latent variables, were found to be acceptable, $\chi^2 = 221.42$, *df* = 124, CFI = .93, TLI = .91, RMSEA = .07, SRMR = .07 (Hu & Bentler, 1999). As displayed in Table 2, the five-factor model had improved fit indices compared to those of alternative models. In addition, Chi-square difference tests showed improvement in the goodness-of-fit indices with each differentiated model. These findings support the discriminant validity of the measurement tools employed in the study.

Table 2*Fit Indices of CFA of Nested Models*

Model	Model specifications	df	χ^2	χ^2_{diff}	CFI	TLI	RMSEA	SRMR
Five-factor model	All variables separate	124	221.42	-	.93	.91	.07	.07
Four-factor model	Effort and reward combined	128	351.71	130.29*	.84	.81	.11	.11
Three-factor model	Effort, reward, and organizational justice combined	131	369.00	17.29*	.83	.80	.11	.11
Two-factor model	Effort, reward, organizational justice and job mobility combined	133	702.32	333.32*	.59	.53	.17	.16
One-factor model	All variables combined	134	717.88	15.56*	.58	.52	.17	.16

Note. $N = 147$. χ^2_{diff} = Chi-square difference. * $p < .001$.

The results of the regression analysis are presented in Table 3. A negative and significant association was found between ERI and organizational justice perception and also between organizational justice perception and turnover intention. In support of H1 the indirect influence of the ERI on turnover was found to be positive, $B = .31$ (unstandardized), $\beta = .27$ (standardized), and the bias-corrected confidence interval (CI) did not include zero, $CI_{95} [.17 - .65]$. These findings indicate a mediating effect and provide support for H1. In addition, the significant direct association of ERI with turnover intention indicates that organizational justice perception acts as a partial mediator in the ERI–turnover intention relationship.

Table 3*Results of Regression Analysis*

Variables	Model 1 Organizational justice perception			Model 2 Turnover intention			Model 3 Turnover intention		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
<i>Intercepts</i>	3.99***	.25		4.19***	.35		2.51***	.21	
<i>Control variables</i>									
Age	.12	.09	.10	-.03	.08	-.02	-.01	.08	-.01
Organizational tenure	.02	.07	.02	-.20**	.06	-.21	-.22***	.06	-.22
<i>Main effects</i>									
ERI	-.61***	.08	-.54	.35***	.08	.30	.35***	.08	.30
Organizational justice perception				-.52***	.07	-.50	-.53***	.07	-.51
Job mobility							.01	.07	.01
<i>Interaction effect</i>									
Organizational justice perception x job mobility							-.13*	.06	-.12
<i>F</i>	22.19***			45.97***			32.05***		
<i>R</i> ²	.32			.56			.58		
<i>Ad. R</i> ²	.30			.55			.56		

Note. $N = 147$. * $p < .05$ ** $p < .01$ *** $p < .001$. *B* = Unstandardized beta coefficients, β = Standardized beta coefficients, *SE* = Standard error.

H2 predicted the moderating role of job mobility on the ERI–turnover intention relationship mediated by organizational justice perception. First of all, as seen in Model 3 (See Table 3) organizational justice perception x job mobility interaction term is significant. This denotes that job mobility moderates the effect of organizational justice perception on turnover. Moreover, as identified in the test of *H1*, organizational justice perception is a significant mediator in the ERI–turnover relationship. These two findings can be viewed as the first supportive evidence for the mediating effect of organizational justice perception and job mobility interaction. In order to test the statistical significance of this effect, using the bias-corrected bootstrapping (5000 samples) method at the 95% confidence interval, the indirect effect of ERI on turnover intention through organizational justice perception was examined at two levels of job mobility: when job mobility is below (-1 SD) and above (+1 SD) the mean. Accordingly, the indirect effect was found to be significant both when job mobility is low ($B = .25$, $SE = .11$, $CI_{95} [.12 - .53]$) and when job mobility is high ($B = .39$, $SE = .17$, $CI_{95} [.19 - .81]$). However, as expected in *H2*, the indirect effect of ERI on turnover is greater for those with high job mobility ($B = .39$) compared to those with low job mobility ($B = .25$). The moderator-mediation index was estimated to test whether the indirect effect at these two levels differed significantly from each other. Accordingly, since the moderator-mediation index does not contain zero in the 95% confidence interval, index = .08, $SE = .06$, $CI_{95} [.01 - .23]$, the indirect effects at low and high levels of job mobility are significantly different from each other. These findings indicate a moderated-mediation effect and support *H2*.

Discussion

In the current study, the mediating role of organizational justice perception and the moderating role of job mobility in the relationship between ERI as a source of stress and turnover intention were examined. The hypotheses that were built on the basis of theoretical assumptions of equity theory (Adams, 1965; Greenberg, 1987) and social exchange (Blau, 1964) were tested on the data collected from white-collar employees through questionnaires. The findings indicate that an ERI has a negative effect on turnover intention through organizational justice perception (*H1*). In addition, the indirect effect of the ERI on turnover intention through organizational justice perception was found to be stronger for employees with higher job mobility (*H2*).

The ERI approach, identified as a significant approach in stress literature, has been examined mainly in terms of the well-being and health of employees (Siegrist, 1996; 2017). This approach's utility and validity in predicting employee health and well-being have been repeatedly tested, and the approach was argued to explain some outcomes better than other stress approaches (Loerbroks et al., 2010). Studies have recently begun to investigate the impact of ERI on several employee attitudes and behaviors, and they suggest that the approach can be utilized to enhance the current knowledge on the influence of stress on employee attitudes (Derycke et al., 2010). Moreover, these studies have also emphasized that very little is known regarding the intermediate linkages that explicate the impact of ERI on employee outcomes, especially turnover, and that such mechanisms should be explored by further research (Devonish, 2018; Leineweber et al., 2021). Addressing such prior appeals, this study provided evidence for the undesirable effects of stress due to high effort-low reward on employee attitudes (justice perception and turnover intention) and also for mediating (justice perception) and moderating (job mobility) mechanisms in this relationship. The findings of the current study provide evidence that the effect of ERI should not be limited to the stress-health relationship and by doing so contribute to the theoretical development of this approach.

Consistent with prior research (Derycke et al., 2010; Li et al., 2011), this study found ERI to have a direct and significant impact on turnover, indicating that working in stressful environments characterized by high effort-low reward reduces one's desire to continue working in the organization. Importantly, the current study extends prior findings by demonstrating that ERI increases turnover by impairing employees' organizational justice perception. This finding significantly differs from recent studies examining the mechanisms of the relationship between ERI and turnover. Prior studies have argued that ERI influences turnover through emotional exhaustion or job satisfaction (Devonish, 2018; Leineweber et al., 2021). Drawing on equity theory's (Adams, 1965; Greenberg, 1987) emphasis on the balance between contributions and gains, the current study suggested that stress experienced because of the imbalance between the efforts expended and the rewards gained could be viewed as an inequality between inputs and outputs, thus harming organizational justice perception of employees. In addition, based upon the principles of social exchange, this study suggested that violation of the principle of reciprocity as a result of an ERI would damage the exchange between employees and their organizations and that employees would react to this situation by considering leav-

ing the organization. By doing so, this study theoretically integrated the ERI approach, which is an important stress model, with the justice and social exchange literature. This incorporation of theoretical approaches made substantial theoretical contributions to the literature on ERI as well as the literature on the relationship between stress and organizational justice (Cropanzano et al., 2005).

In a practical sense, the findings of this study can contribute to employee retention strategies. Considering the high costs associated with replacing terminated employees and performance disruptions emerging as a result of turnover, studies recommend that human resources policies focus on developing strategies that will keep the turnover rate as low as possible (e.g., Kacmar *et al.*, 2006). In line with the findings of the current study, such policies might consider maintaining an equilibrium between the hard work employees put in and the rewards (i.e., promotion and esteem rewards) they receive. Practices that could improve ERI and thus reduce its undesirable effect on turnover include providing opportunities for internal promotion (Allen et al., 2010), providing opportunities for development and training to increase workers' competence and help them become qualified and competent to be promoted (Maurer & Lippstreu, 2008), developing a culture of learning within the organization (Govaerts et al., 2011), recognition and acknowledgement of the achievements and contributions of employees (Kyndt et al., 2009), and providing social interaction and managerial support (Eisenberger *et al.*, 2002).

According to the findings of the present study, ERI affects employees who have more job alternatives more strongly. Accordingly, workers with more job opportunities are more likely to think about leaving a high-effort, low-reward job environment than those with lower job mobility. Job mobility might be high due to the employment conditions as well as the high competence and expertise of the employees (Hui et al., 1999). Failure to retain a competent and trained employee by the organization may result in more costly and undesirable results for the organization (Kacmar et al., 2006). For this reason, organizations on a limited budget might prioritize employees who have greater job mobility while making improvements to the ERI.

This study, like many studies examining workplace stress (Jex & Yankelevich, 2008), adopted a cross-sectional research design. Although the theoretical model in the current study is based on solid theoretical foundations such as equity theory and social

exchange, and the findings of previous studies, the cross-sectional design prevents making causal inferences between variables and brings to mind the possibility of reverse causality. For example, some studies dealing with organizational justice as a source of stress may suggest this reverse possibility (Judge & Colquitt, 2004). These studies, which predict that the lack of organizational justice creates stress in employees, generally employ a direct measurement of the level of stress felt by individuals (Tayfur et al., 2013). However, in the current study, the stress felt by the employees was not measured directly; instead, ERI, which is a source of stress, was measured and the effect of this stress source on organizational justice perception was examined. Despite these explanations that theoretically reduce the possibility of reverse causality, cross-sectional research design remains a limitation. For this reason, future studies testing the model in this study using longitudinal or panel design could contribute to causality inferences and the direction of the relationships between the variables.

Another limitation relates to the common method variance (CMV) which may have inflated the correlations as data was gathered from the same source and also at a single time-point. CMV effect was attempted to be kept to a minimum using some practices recommended by Podsakoff and colleagues (2012). For this purpose, scales validated by previous studies and well-accepted in the literature were used during data collection, the clarity of the questions was ensured through a pre-test conducted with a few employees, and social desirability was tried to be minimized by informing participants that there were no correct answers, and the research would be kept confidential. Moreover, nested CFA performed in data analysis showed that the variables collected from the same source differed significantly from each other. Finally, CMV is not expected to inflate interactive effects (Podsakoff et al., 2012); in contrast, it can make it harder to uncover interactive effects (Siemsen et al., 2010). Therefore, CMV is unlikely to influence the mediating effect of organizational justice x job mobility interaction (*H2*). However, future research is recommended to replicate the existing study by collecting data from different sources or employing a longitudinal research design in order to minimize the possibility of CMV and thus strengthen the reliability of the current findings.

In conclusion, this study aimed to understand the outcomes of an important work stressor, effort-reward imbalance. While there has been accumulated knowledge on the negative outcomes of ERI including increased turnover intention, the literature on the mediational links and boundary conditions of the effects of ERI particularly on turnover

intention is lacking. To address this gap in the literature, this study, which was established on the pillars of equity theory, suggested organizational justice perception as the mediating mechanism and job mobility as the second stage moderating factor in the relationship between ERI and turnover intention. The results corroborated the equity perspective on the impact of ERI such that ERI was found to damage employees' organizational justice perception, which then exacerbated their turnover intention. Moreover, this indirect effect was more pronounced for employees with higher job mobility. This study provides a unique perspective on ERI by founding on equity theory to explain its outcomes and by treating ERI not just as a stressor but also as an important factor shaping employees' equity and justice perceptions. Moreover, this study adds to the previous research by revealing that job mobility, a non-work and non-organizational factor, can intensify negative outcomes of ERI and appeals to the importance of differences across individuals when explaining such outcomes.

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References/Kaynakça

- Abuhanoğlu, H. (2016). Çaba-Ödül Dengesizliği (ÇÖD) Ölçeğinin uzun Türkçe formunun geçerlik, güvenilirlik çalışması ile sağlık çalışanlarında ÇÖD'ün örgütsel stres ve örgütsel güven üzerindeki etkisinin analizi. (Yayımlanmamış Doktora Tezi). Gülhane Askeri Tıp Akademisi.
- Adams, J. S. (1965) Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2, pp. 267-299). Academic Press.
- Ahituv, A., & Lerman, R. I. (2011). Job turnover, wage rates, and marital stability: How are they related?. *Review of Economics of the Household*, 9, 221-249.
- Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: Replacing misconceptions with evidence-based strategies. *Academy of Management Perspectives*, 24(2), 48-64.
- Ambrose, M. L., & Schminke, M. (2009). The role of overall justice judgments in organizational justice research: a test of mediation. *Journal of Applied Psychology*, 94(2), 491.
- APA (American Psychological Association) (2009). Psychologically healthy workplaces have lower turnover, less stress, and higher satisfaction. <http://www.apaexcellence.org/assets/general/phwp->

- chart-2009.pdf (Accessed August 2021).
- Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a social exchange model. *Journal of Organizational Behavior*, 23(3), 267-285.
- Aslan, Ş. ve Uyar, S. (2018). Psikolojik sözleşme ihlali ile hissettirdiklerinin örgütsel özdeşleşme, iş tatmini ve işten ayrılma niyeti üzerine etkileri. *Dokuz Eylül Üniversitesi İktisadi İdari Bilimler Fakültesi Dergisi*, 33(1), 1-38.
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285.
- Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides, & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269-296). Lawrence Erlbaum.
- Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, 8, 274-289
- Bentler, P. M., & Yuan, K. H. (1999). Structural equation modeling with small samples: Test statistics. *Multivariate Behavioral Research*, 34(2), 181-197.
- Beschoner, P., von Wietersheim, J., Jarczok, M. N., Braun, M., Schönfeldt-Lecuona, C., Viviani, R., Jerg-Bretzke, L., Kempf, M., & Brück, A. (2021). Effort-reward-imbalance, burnout, and depression among psychiatrists 2006 and 2016-changes after a legislative intervention. *Frontiers in Psychiatry*, 12, 641912.
- Blau, P. (1964). *Exchange and power in social life*. Wiley.
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. Guilford Press.
- Cohen, A. (1999). The relation between commitment forms and work outcomes in Jewish and Arab culture. *Journal of Vocational Behavior*, 54, 371-391.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Lawrence Erlbaum Associates.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the Millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425-445.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.
- Cropanzano, R., Goldman, B. M., & Benson III, L. (2005). Organizational justice. In J. Barling, E. K. Kelloway, M R. Frone (Eds), *Handbook of work stress* (pp. 63-87). Sage.
- Cropanzano, R., Rupp, D. E., Mohler, C. J., & Schminke, M. (2001). Three roads to organizational justice. In G. R. Ferris (Ed.), *Research in personnel and human resources management*, (Vol. 20, pp. 1–123). Elsevier Science/JAI Press.
- De Vos, A., Forrier, A., Van der Heijden, B., & De Cuyper, N. (2017). Keep the expert! Occupational expertise, perceived employability and job search: A study across age groups. *Career Development International*, 22(3), 318-332.
- Derycke, H., Vlerick, P., Burnay, N., Declaire, C., D’Hoore, W., Hasselhorn, H. M., & Braeckman, L. (2010). Impact of the effort–reward imbalance model on intent to leave among Belgian health care workers: A prospective study. *Journal of Occupational and Organizational Psychology*, 83(4), 879-893.
- Devonish, D. (2018). Effort-reward imbalance at work: The role of job satisfaction. *Personnel Review*, 41(2), 319-333.

- Dorenkamp, I., & Weiß, E. E. (2018). What makes them leave? A path model of postdocs' intentions to leave academia. *Higher Education, 75*(5), 747-767.
- Dragano, N., Siegrist, J., Nyberg, S. T., Lunau, T., Fransson, E. I., Alfredsson, L., ... & Kivimäki, M. (2017). Effort–reward imbalance at work and incident coronary heart disease: A multicohort study of 90,164 individuals. *Epidemiology, 28*(4), 619-626.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology, 87*(3), 565-573.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149-1160.
- Fila, M. J., Purl, J., & Griffeth, R. W. (2017). Job demands, control and support: Meta-analyzing moderator effects of gender, nationality, and occupation. *Human Resource Management Review, 27*(1), 39-60.
- Ge, J., He, J., Liu, Y., Zhang, J., Pan, J., Zhang, X., & Liu, D. (2021). Effects of effort-reward imbalance, job satisfaction, and work engagement on self-rated health among healthcare workers. *BMC Public Health, 21*(1), 1-10.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*(2), 161-178.
- Govaerts, N., Kyndt, E., Dochy, F., & Baert, H. (2011). Influence of learning and working climate on the retention of talented employees. *Journal of Workplace Learning, 23*(1), 35-55.
- Grawitch, M. J., Trares, S., & Kohler, J. M. (2007). Healthy workplace practices and employee outcomes. *International Journal of Stress Management, 14*(3), 275-293.
- Greenberg, J. (1984) On the apocryphal nature of inequity distress. In R. Folger (Ed.), *The sense of injustice* (pp. 167-188). Plenum
- Greenberg, J. (1987). A taxonomy of organizational justice theories. *Academy of Management Review, 12*(1), 9-22.
- Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*(3), 463-488.
- Hassard, J., Teoh, K. R. H., Visockaite, G., Dewe, P., & Cox, T. (2018). The cost of work-related stress to society: A systematic review. *Journal of Occupational Health Psychology, 23*(1), 1–17.
- Holtz, B. C., & Harold, C. M. (2009). Fair today, fair tomorrow? A longitudinal investigation of overall justice perceptions. *Journal of Applied Psychology, 94*(5), 1185-1199.
- Hoven, H., & Siegrist, J. (2013). Work characteristics, socioeconomic position and health: A systematic review of mediation and moderation effects in prospective studies. *Occupational and Environmental Medicine, 70*(9), 663-669.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55.
- Hu, Q., Schaufeli, W. B., & Taris, T. W. (2011). The job demands–resources model: An analysis of additive and joint effects of demands and resources. *Journal of Vocational Behavior, 79*(1), 181-190.
- Hui, C., Law, K. S., & Chen, Z. X. (1999). A structural equation model of the effects of negative affectivity, leader-member exchange, and perceived job mobility on in-role and extra-role performance: A Chinese case. *Organizational Behavior and Human Decision Processes, 77*(1), 3-21.

- International Labour Organization. (2016). *Workplace stress. A collective challenge*. https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_466547.pdf
- Jex, S. M., & Yankelevich, M. (2008). Work stress. In J. Barling & C. L. Cooper (Eds), *The SAGE handbook of organizational behavior* (pp. 498-518). Sage Publications.
- Judge, T. A., & Colquitt, J. A. (2004). Organizational justice and stress: The mediating role of work-family conflict. *Journal of Applied Psychology, 89*(3), 395-404.
- Kachi, Y., Inoue, A., Eguchi, H., Kawakami, N., Shimazu, A., & Tsutsumi, A. (2020). Occupational stress and the risk of turnover: A large prospective cohort study of employees in Japan. *BMC Public Health, 20*(1), 1-8.
- Kacmar, K. M., Andrews, M. C., Van Rooy, D., Steilberg, R. C., & Cerrone, S. (2006). Sure everyone can be replaced but at what cost? Turnover as a predictor of unit-level performance. *Academy of Management Journal, 49*(1), 133-144.
- Kinman, G. (2016). Effort–reward imbalance and overcommitment in UK academics: Implications for mental health, satisfaction and retention. *Journal of Higher Education Policy and Management, 38*(5), 504-518.
- Kyndt, E., Dochy, F., Michielsen, M., & Moeyaert, B. (2009). Employee retention: Organisational and personal perspectives. *Vocations and Learning, 2*(3), 195-215.
- Lang, J., Ochsmann, E., Kraus, T., & Lang, J. W. (2012). Psychosocial work stressors as antecedents of musculoskeletal problems: A systematic review and meta-analysis of stability-adjusted longitudinal studies. *Social Science & Medicine, 75*(7), 1163-1174.
- Leineweber, C., Bernhard-Oettel, C., Eib, C., Peristera, P., & Li, J. (2021). The mediating effect of exhaustion in the relationship between effort-reward imbalance and turnover intentions: A 4-year longitudinal study from Sweden. *Journal of Occupational Health, 63*(1), e12203.
- Li, J., Galatsch, M., Siegrist, J., Müller, B. H., Hasselhorn, H. M., & European NEXT Study group. (2011). Reward frustration at work and intention to leave the nursing profession—Prospective results from the European longitudinal NEXT study. *International Journal of Nursing Studies, 48*(5), 628-635.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*(2), 151-173.
- Loerbroks, A., Schilling, O., Haxsen, V., Jarczok, M. N., Thayer, J. F., & Fischer, J. E. (2010). The fruits of ones labor: Effort–reward imbalance but not job strain is related to heart rate variability across the day in 35–44-year-old workers. *Journal of Psychosomatic Research, 69*(2), 151-159.
- Maertz Jr, C. P., & Griffeth, R. W. (2004). Eight motivational forces and voluntary turnover: A theoretical synthesis with implications for research. *Journal of Management, 30*(5), 667-683.
- Matsunaga, M. (2008). Item parceling in structural equation modeling: A primer. *Communication Methods and Measures, 2*(4), 260-293.
- Maurer, T. J., & Lippstreu, M. (2008). Who will be committed to an organization that provides support for employee development?. *Journal of Management Development, 27*(3), 328-347.
- Monster, (2014). Dangerously stressful work environments force workers to seek new employment. At <https://www.monster.com/about/a/dangerously-stressful-work-environments-force-workers-to-see-new-empl4162014-d3126696>. (Accessed August 2021).
- Ng, T. W., & Feldman, D. C. (2009). Re-examining the relationship between age and voluntary turnover. *Journal of Vocational Behavior, 74*(3), 283-294.
- Panatik, S. A. B., Rajab, A., Shaari, R., Saat, M. M., Wahab, S. A., & Noordin, N. F. M. (2012).

- Psychosocial work condition and work attitudes: Testing of the effort-reward imbalance model in Malaysia. *Procedia-Social and Behavioral Sciences*, 40, 591-595.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.
- Preacher, K. J., & Hayes, A. F. (2008). Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *The Sage sourcebook of advanced data analysis methods for communication research* (pp. 13-54). Sage.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227.
- Rasmussen, V., Turnell, A., Butow, P., Juraskova, I., Kirsten, L., Wiener, L., Patenaude, A., Hoekstra-Weebers, J., & Grassi, L. (2016). Burnout among psychosocial oncologists: an application and extension of the effort-reward imbalance model. *Psycho-Oncology*, 25(2), 194-202.
- Rubenstein, A. L., Eberly, M. B., Lee, T. W., & Mitchell, T. R. (2018). Surveying the forest: A meta-analysis, moderator investigation, and future-oriented discussion of the antecedents of voluntary employee turnover. *Personnel Psychology*, 71(1), 23-65.
- Rugulies, R., Aust, B., & Madsen, I. E. (2017). Effort-reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies. *Scandinavian Journal of Work, Environment & Health*, 43(4), 294-306.
- Satoh, M., Watanabe, I., & Asakura, K. (2017). Occupational commitment and job satisfaction mediate effort-reward imbalance and the intention to continue nursing. *Japan Journal of Nursing Science*, 14(1), 49-60.
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer & O. Hämmig (Eds), *Bridging occupational, organizational and public health* (pp. 43-68). Springer.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422-445.
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1(1), 27-41.
- Siegrist, J. (2008). Effort-reward imbalance and health in a globalized economy. *Scandinavian Journal of Work, Environment & Health*, 34(6), 163-168.
- Siegrist, J. (2017). The effort-reward imbalance model. In C. L. Cooper & J. C. Quick (Eds), *The handbook of stress and health: A guide to research and practice* (pp. 24-35). John Wiley & Sons.
- Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., & Peter, R. (2004). The measurement of effort-reward imbalance at work: European comparisons. *Social Science & Medicine*, 58(8), 1483-1499.
- Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods*, 13(3), 456-476.
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health—a meta-analytic review. *Scandinavian Journal of Work, Environment & Health*, 32(6), 443-462.
- Tayfur, O., Bayhan Karapinar, P., & Metin Camgoz, S. (2013). The mediating effects of emotional exhaustion cynicism and learned helplessness on organizational justice-turnover intentions linkage. *International Journal of Stress Management*, 20(3), 193-221.
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43(2), 178-190.
- Torá, I., Martínez, J. M., Benavides, F. G., Leveque, K., & Ronda, E. (2015). Effect of economic

- recession on psychosocial working conditions by workers' nationality. *International Journal of Occupational and Environmental Health*, 21(4), 328-332.
- Trevor, C. O. (2001). Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover. *Academy of Management Journal*, 44(4), 621-638.
- Van Breukelen, W., Van der Vlist, R., & Steensma, H. (2004). Voluntary employee turnover: Combining variables from the 'traditional' turnover literature with the theory of planned behavior. *Journal of Organizational Behavior*, 25(7), 893-914.
- Wayne, S. J., Shore, L. M., & Liden R. C. (1997). Perceived Organizational Support and Leader Member Exchange: A Social Exchange Perspective. *Academy of Management Journal*, 40, 82- 111.
- Wheeler, A. R., Gallagher, V. C., Brouer, R. L., & Sablinski, C. J. (2007). When person-organization (mis) fit and (dis) satisfaction lead to turnover: The moderating role of perceived job mobility. *Journal of Managerial Psychology*, 22(2), 203-219.
- Zeynel, E., & Köksal, K. (2020). Sosyal etki ve örgütsel adalet algısı ilişkisinde duygusal bulaşıcılığın düzenleyici rolü. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 22(2), 455-466.
- Zohar, D. (1995). The justice perspective of job stress. *Journal of Organizational Behavior*, 16(5), 487-495.