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Employees' Occupational Well-Being Within the Job Demands-Resources Theory[1]

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Keywords: JD-R theory, job satisfaction, fatigue, mastery goal orientation.

JEL Codes: M54, J28, J23, J81

Abstract: This study investigates the relationship between mastery goal orientation and job satisfaction within the job demands-resources (JD-R) theory, as well as the moderating role of job demands in this relationship. It also examines the relationship between job demands and fatigue and explores whether mastery goal orientation moderates this relationship. Survey data were collected from blue-collar employees working in hazelnut-processing businesses in the Turkish provinces of Ordu and Giresun, yielding 307 usable responses from six organizations. The hypotheses were tested using OLS regression analyses that included interaction terms. The findings indicate that mastery goal orientation positively predicts job satisfaction, whereas the moderating effect of job demands on this relationship is not supported. Additionally, job demands positively predict personal fatigue, and mastery goal orientation moderates this effect. Overall, the results suggest that the theoretical scope of the JD-R theory may be extended by incorporating different outcome variables and resources.

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[1] It is declared that this article has been prepared in accordance with research and publication ethics principles.

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Araştırma Makalesi *Açık Erişim*

İş Talepleri Kaynakları Teorisinde Çalışanların Mesleki İyi Oluşları

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Anahtar Kelimeler: İT-K teorisi, iş tatmini, yorgunluk, uzman amaç yönelimi

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Öz: Bu çalışmada iş talepleri-kaynakları (İT-K) kuramı temelinde, uzman amaç yönelimi ve iş tatmini arasındaki ilişki ve bu ilişki üzerinde iş taleplerinin düzenleyici rolü incelenmiştir. Aynı zamanda iş talepleri ve yorgunluk arasındaki ilişki ve bu ilişki üzerinde uzman amaç yöneliminin düzenleyici rolü incelenmiştir. Çalışmada Türkiye'de Ordu ve Giresun illerinde faaliyet gösteren fındık işletmelerindeki mavi yakalı çalışanlardan anket yöntemiyle veri toplanmıştır. Altı işletmeden 307 kişiye ulaşılmıştır. Araştırma hipotezleri, etkileşim terimlerinin dâhil edildiği OLS regresyon analizleri aracılığıyla test edilmiştir. Analizler sonucunda elde edilen çalışma bulguları, uzman amaç yöneliminin iş tatmini üzerindeki pozitif yönlü etkisini desteklerken, bu ilişki üzerindeki iş taleplerinin düzenleyici rolünü desteklememiştir. Ayrıca, araştırma sonucunda, iş taleplerinin kişisel yorgunluğu pozitif yönlü etkilediği ve bu etki üzerinde uzman amaç yönelimin düzenleyici etki yarattığı bulgularına ulaşılmıştır. Bu bulgular, farklı sonuç değişkenleriyle ve kaynaklarla İT-K teorisinin çerçevesinin genişletilebileceğini göstermektedir.

1. Introduction

Relationships in the workplace-and the difficulties that emerge when these relationships deteriorate- have long been recognized as a significant concern for both employees and organizations (Maslach et al., 2001, p. 398). In recent years, managers, policymakers, and employees have increasingly acknowledged that occupational well-being is a critical determinant of human functioning and work performance (Bakker & Demerouti, 2018, p. 1). Occupational well-being, conceptualised as the level at which an individual experiences burnout or engagement in their work (Bakker & Demerouti, 2007), has gained significant momentum.

The job demands-resources theory (Bakker & Demerouti, 2007) proposes that job demands and job resources jointly influence occupational well-being, which encompasses experiences of burnout and work engagement. In this context, the theory's classical hypotheses predicting job demand-burnout and job resource-motivation processes have been tested and supported by empirical studies (De Jonge et al., 2001; Dorman & Zapf, 2002). The JD-R theory conceptualizes work engagement as part of the motivational process driven primarily by job resources. Maslach et al. (2001) characterized engagement through the dimensions of energy, involvement, and efficacy. Under favorable conditions-when adequate resources are available- employees tend to feel fully engaged in their work, experience high levels of energy, and are ready to invest time and effort in their job tasks. Employees perceive their work activities as meaningful and feel motivated to engage in them because the sense of accomplishment derived from these activities enhances their feelings of competence and effectiveness (Maslach & Leiter, 1997, p. 24). According to Schaufeli and Bakker (2004, p. 296), every job has its own demands, and when employees must continuously exert physical, psychological, social, or organizational effort, these demands generate specific physiological and psychological costs. Within this context, the JD-R theory conceptualizes burnout as a process of health deterioration resulting from excessive job demands. Demerouti et al. (2001) argue that high job demands drain employees' energy reserves, and that resource deficiency combined with high job demands, hinders employees' ability to cope effectively. As a result, it triggers a motivational process that leads to psychological withdrawal or disengagement from work. Building on this theoretical foundation, they proposed that when job demands are high and job resources are insufficient, these unfavorable working conditions deplete employees' energy and diminish their motivation, ultimately leading to burnout regardless of the nature of their profession.

The effects of job resources on motivation and of job demands on negative psychological outcomes, such as burnout, as proposed by the job demands-resources (JD-R) theory, have been supported by numerous empirical studies. For example, Albrecht (2012) found that job resources have a significant positive effect on employee engagement and well-being. Boyd et al. (2011) examined both the causal and reciprocal (i.e., bidirectional) effects of job demands and job resources on psychological stress and organizational commitment. Their findings indicated that job demands at Time 1 positively influenced psychological stress at Time 2, whereas job resources at Time 1 positively influenced organizational commitment at Time 2. De Jonge et al. (2001) found that job demands and job resources were among the most dominant causal factors influencing job satisfaction, whereas Dorman and Zapf (2002) found support for the mediating role of job demands (i.e., social stress factors) on psychological symptoms, such as burnout, operating only through the pathway of anger and irritation.

The majority of studies grounded in the JD-R theory conceptualize burnout as an indicator of the health-impairment process resulting from excessive job demands, and work engagement as an indicator of the motivational process driven by job resources (Demerouti & Bakker, 2011). However, the findings of Kar and Suar (2014) indicate that the manifestations of these two fundamental processes are not limited to burnout and work engagement; rather, human functioning may reflect broader processes (Novaes et al., 2018, p. 2). Within the context of these broader processes, workers in the Turkish food industry serve as an example, as it remains unclear how they respond to their work environment under conditions characterized by long working hours and excessive workloads. In this respect, Van Yperen and Janssen (2002, p. 1161), drawing on achievement goal theory, found that individuals differ in how they evaluate their work environment and how they respond to it. Specifically, they reported that working hard and exerting considerable effort to meet high job demands leads to fatigue; however, high job demands do not necessarily result in job dissatisfaction. They further suggested that the reason some individuals feel exhausted yet satisfied with their work under a heavy workload, whereas others feel both exhausted and dissatisfied, is related to individual goal orientation. Building on this literature, the present study primarily aims to test the robustness of the JD-R theory beyond burnout and engagement by examining different outcome variables.

In addition to the repeated use of the same outcome variables in studies within the JD-R literature, another issue is that "the vast majority of studies in occupational well-being follow a relatively simplistic stimulus-response model; assuming that employees are passive and simply react to the working conditions they are exposed to" (Bakker & Demerouti, 2018, p. 1). However, on some occasions -when managers are unreceptive to feedback or organizations prioritize other concerns during economic turmoil- it becomes particularly important for employees to mobilize their own resources and engage in proactive behaviors to cope with stress. Under highly stressful conditions, individuals are more likely to actively utilize their personal resources as a coping mechanism to reduce stress (Demerouti & Bakker, 2011). Although stressful aspects of the work environment are important predictors of burnout, researchers emphasize that individual differences must be taken into account. It has been suggested that personal resources can influence stress responses by moderating the relationship between job stressors and employees' stress reactions, and also empirical studies indicate that not only job resources but also personal resources contribute significantly to employees' well-being at work (Fick, 2017; Tremblay & Messervey, 2011). The limited attention given to personal resources in JD-R studies provided the basis for addressing this gap in the literature and conducting the present study.

This study examines the relationship between mastery goal orientation and job satisfaction, and the moderating role of job demands in this relationship. It also investigates the relationship between job demands and fatigue, as well as the moderating role of mastery goal orientation in this relationship. In this context, the study aims to expand the theoretical framework of the JD-R model by testing the theory using job satisfaction and personal fatigue as outcome variables, rather than the traditional dependent variables of burnout and engagement. Additionally, it incorporates mastery goal orientation as a personal resource within the theory's resources component.

2. Theoretical Background and Hypothesis Development

In this section, the research hypotheses are developed based on the theoretical framework, and the research model is presented.

2.1. The Relationships Between Mastery Goal Orientation, Job Satisfaction, and Job Demands

According to Demerouti et al. (2001), job resources are the physical, social, or organizational aspects of work that can be functional in achieving job goals, reduce job demands, and support personal development by promoting motivation, and to which positive value is attributed. According to the JD-R theory, personal resources, similar to job resources, have the potential to directly influence occupational well-being and can also interact with job demands to affect occupational well-being in different ways (Bakker & Demerouti, 2007).

According to Schaufeli and Taris (2014), personal resources can play five different roles in the relationship between job demands and well-being: as a mediator, a moderator, a precursor to job resources and demands, or a combination of these roles. These roles are not mutually exclusive, and empirical research provides support for all of them. Therefore, personal resources can be integrated into the JD-R model in various ways. Different types of explanatory models can be used to determine the role of personal resources. Personal resources are important; however, a specific explanatory framework determines how they should be integrated into the model.

According to Van Yperen and Janssen (2002), goal orientations are viewed as relatively stable personality traits supported by self-theories concerning the nature and development of individuals' abilities. This view aligns with motivation studies, which posit that employees' work outcomes are shaped by their underlying goal constructions (Butler, 1987, p. 474). The goal-setting motivation approach, which argues that conscious goals influence action, posits that goals affect work outcomes through four mechanisms. First, goals serve a directive function by focusing attention and effort on goal-relevant activities. Second, goals have an energizing function, such that higher goals lead to greater effort. Third, goals influence persistence; in this respect, challenging goals increase sustained effort over time. Finally, goals indirectly affect action by promoting the activation, discovery, and use of task-related knowledge and strategies (Locke & Latham, 2002, pp. 706–707). Goal orientations within the achievement goals framework are defined as cognitive representations of the outcomes individuals strive to achieve (Harackiewicz et al., 1998, p. 2). One such orientation, mastery goal orientation, reflects a focus on developing competence and is characterized by behaviors such as evaluating one's abilities in relation to task demands, linking outcomes to effort, seeking challenging tasks, viewing difficulty as an opportunity for further learning, and responding to challenges by seeking help and information that enhance learning (Butler, 2007, p. 241). Additionally, individuals with a mastery goal orientation tend to focus on factors that lead to success -such as development and mastery- which inherently involve effort and hard work. Therefore, when faced with obstacles, they are more likely to persist in order to perform their tasks effectively (Van Yperen & Janssen, 2002, p. 1168), and they are satisfied while enjoying the effort they invest (Elliot, 1999). Empirical studies, albeit limited, support the notion that individuals with a high mastery goal orientation report higher levels of satisfaction (e.g., Janssen & Van Yperen, 2004; Lai et al., 2010; Skaalvik & Skaalvik, 2013). Furthermore, within the framework of the JD-R theory, the positive effect of personal resources on job satisfaction has been supported by prior research. For example, Van Strydonck et al. (2025) found that higher levels of learning goal orientation are associated with increased job satisfaction. Consequently, higher levels of mastery goal orientation can be expected to correspond with higher levels of job satisfaction.

Goal-oriented individuals confronted with excessive work demands tend to cope by identifying strategies required to meet those demands successfully and by investing additional effort in their work. A consistent

link between mastery goal orientation and emotional outcomes -such as intrinsic interest, task enjoyment, and satisfaction- suggests that these coping strategies are unlikely to lead to a decline in job satisfaction. Individuals with a dominant mastery goal orientation focus on the work itself rather than on its outcomes and perceive work demands as challenging rather than threatening (Van Yperen & Janssen, 2002, pp. 1162-1168). Additionally, challenging job demands are expected to enhance employees' positive job outcomes (Bakker & Demerouti, 2017). This is because when individuals successfully cope with challenging job demands, they anticipate that valuable outcomes-such as personal growth and a sense of achievement-will result (LePine et al., 2005). This reasoning is consistent with the boost hypothesis within the JD-R theory framework (Bakker & Demerouti, 2024). When job demands are high, the importance of job resources increases and becomes crucial for fostering positive outcomes such as work engagement. In other words, job demands enhance the motivational potential of job resources. Although empirical support for this claim remains limited, studies by Bakker et al. (2007) and Yu et al. (2025) provide illustrative evidence. According to the findings of the study by Bakker et al. (2007), job resources were more strongly associated with work engagement under conditions of high job demands. Furthermore, the findings of the study by Yu et al. (2025) concluded that the combination of job demands and job resources increases individuals' job satisfaction. Therefore, it can be said that the positive relationship between mastery goal orientation and job satisfaction (H1) will be even stronger at high levels of job demands rather than at low levels. Because job demands and mastery goal orientation interact, challenging job demands can function as opportunity-creating rather than limiting factors for what individuals with a mastery goal orientation aim to achieve.

H1: Mastery goal orientation is positively related to job satisfaction.

H2: Job demands will moderate the relationship between mastery goal orientation and job satisfaction.

2.2. The Relationships Between Job Demands, Fatigue, and Mastery Goal Orientation

Theorists who view role tension as an inevitable feature of social life have argued that it stems from the difficulty of meeting specific role demands and, consequently, is a normal experience in all contexts (Sieber, 1974, p. 568). According to Schaufeli and Bakker (2004, p. 296), because every job has its own demands, the physical, psychological, social, and organizational aspects that require constant effort are associated with specific physiological and psychological costs. Although work demands are not inherently negative, they can become sources of work-related stress when meeting them requires great effort, leading to high costs that may result in negative reactions such as depression, anxiety, or burnout. There is substantial evidence that work stress can lead to symptoms such as tension, anxiety, fatigue, depression, indifference, and irritability (Greenhaus & Beutell, 1985, p. 80).

The job demands–resources theory (Bakker et al., 2023) posits that high job demands deplete employees' energy reserves, that a lack of resources hinders effective coping with these demands, and that this triggers a motivational process leading to mental withdrawal or disengagement. Based on this theoretical foundation, Demerouti et al. (2001, p. 499) proposed that high job demands combined with limited job resources create adverse working conditions that deplete employees' energy and undermine their motivation, ultimately leading to excessive fatigue regardless of the nature of their profession. The notion that increased work demands lead to greater fatigue has been supported by subsequent empirical studies. For example, Macdonald (2003) and Ramasamy et al. (2023), who examined workload in the context of job demand, concluded that fatigue increases as workload intensifies. Additionally, a study conducted among maritime

workers examined the effects of physical and psychological job demands on fatigue. The findings indicated that physical fatigue was associated primarily with physical job demands, whereas psychological fatigue was associated with both physical and psychological job demands (Bazazan et al., 2023). Based on these theoretical and empirical findings, it can be argued that there is a positive relationship between job demands and fatigue. In this sense, an important question is whether employees experiencing burnout -characterized by a negative cycle between job demands and well-being- can transform this cycle into a positive one (Bakker & Demerouti, 2018).

While this study assumes that an individual's level of job demands is positively related to their fatigue, it further assumes that the strength of this relationship will vary (weaken) as the individual's mastery goal orientation increases. In the JD-R model, job demands are proposed to contribute to higher levels of burnout, whereas personal psychological resources can enhance persistence through increased personal motivation and mitigate the effects of job demands, thereby influencing employees' levels of burnout (Chang et al., 2023). In this context, it is important to explain, from the JD-R theoretical framework, why employees' mastery goal orientation would function as a moderating variable in the relationship between job demands and fatigue. Employees who perceive that they have acquired new knowledge, skills, and associated expertise in their work may view themselves as successful. In this regard, it could be argued that challenging job demands create conditions conducive to these achievements. Mastery goal orientation, can be defined as a perspective toward achieving work-related goals based on the distinction between intrinsic and extrinsic motivation. Mastery goal orientation is strongly associated with intrinsic motivation (Adriaenssens et al., 2015, p. 151), when an employee adopts a mastery-oriented approach, the primary reason for pursuing goals is the development of competence. Accordingly, employees pursuing mastery goals aim to develop their skills for the purposes of learning and self-improvement (McCane, 2022, p. 15). Individuals with a mastery goal orientation, who are associated with greater resilience in the face of increased job demands, as well as higher levels of creativity, effort, and persistence, tend to experience lower levels of stress. This can be attributed to the fact that they perceive job tasks or demands as challenges rather than threats, and that failure is not a primary source of concern for them (Adriaenssens et al., 2015, pp.151-152). Mastery goal orientation, which reduces the perceived physical burden and psychological stress resulting from job demands and thus has the potential to influence fatigue levels, may serve as a moderating variable in this context. This study assumes that predicting fatigue requires considering the interaction between job demands and mastery goal orientation.

Energy, defined as the subjective feeling of alertness and activity, fluctuates daily (Doden et al., 2024, p. 1190). Increasing job demands can create a negative work environment that drains employee energy. However, in this study, this negative work environment is assumed to be more prevalent among individuals with low mastery goal orientation and less prevalent among those with high mastery goal orientation. Because mastery goal orientation develops a consistent link with emotional outcomes such as intrinsic interest, task enjoyment, and satisfaction, it can make employees' psychological readiness in the face of job demands more evident (Kahn, 1990). This readiness may enable them to transfer their physical, cognitive, and emotional energy to their job roles at a higher level (Kahn, 1992, p. 322). Thus, it can be stated that a high level of mastery goal orientation prevents the development of negative attitudes resulting from job demands and increases employee energy. These views are also consistent with the JD-R literature. Empirical studies show that both job and personal resources interact with demand variables and differentiate the effects of demands on outcome variables (e.g., Bakker et al., 2023; Novaes et al., 2018; Tremblay & Messervey,

2011; Van Yperen & Hagedoorn, 2003). In this sense, it can be said that mastery goal orientation acts as a buffer in the H3 relationship and reduces fatigue.

H3: Job demands are positively related to fatigue.

H4: Mastery goal orientation will moderate the relationship between job demands and fatigue.

2.3. Research Model of the Study

In the proposed research model, mastery goal orientation is expected to primarily influence job satisfaction, whereas job demands are expected to primarily influence fatigue. In this context, variations in mastery goal orientation are anticipated to be associated with corresponding variations in job satisfaction, while changes in job demands are expected to be associated with changes in fatigue levels. To obtain a more comprehensive understanding of the conditions under which job satisfaction and fatigue are likely to occur, moderating variables are also incorporated into the research model. To gain a deeper understanding of job satisfaction and fatigue, both personal and structural environmental variables were incorporated into the model to account for their potential joint influence on these dependent variables. In this context, job demands were hypothesized to moderate the relationship between mastery goal orientation and job satisfaction.

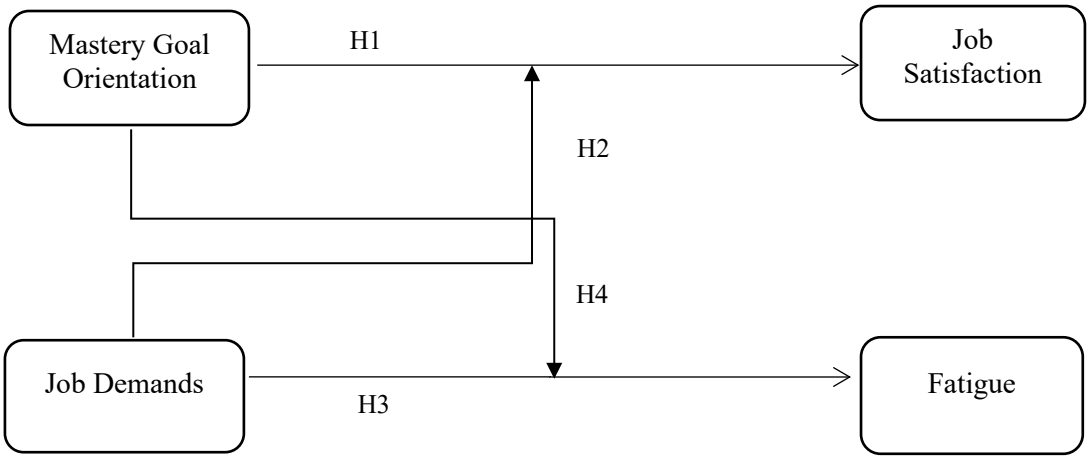


Figure 1. The Study Model Expresses the Hypotheses Developed Concerning Existing Literature
Source: Prepared by the authors

Additionally, mastery goal orientation was expected to moderate the relationship between job demands and fatigue. Thus, as an example, employee job satisfaction is considered not only in relation to mastery goal orientation as a potential antecedent, but also in terms of the conditions under which it emerges. In other words, identifying the contextual factors that shape job satisfaction constitutes an important research objective. According to the operant conditioning approach (Reynolds, 1977, p. 2), statements about the causes of behavior can be regarded as valid only if they specify the conditions under which that behavior can be produced. From this perspective, an adequate explanation of behavior is one that identifies the conditions that increase the likelihood of its recurrence.

In line with the above discussion, changes in job satisfaction are not only associated with mastery goal orientation but are also influenced by the contingency of job demands, operationalized through the interaction between mastery goal orientation and job demands. According to the job demands-resources

(JD-R) theory, the hypothesized positive relationship between mastery goal orientation and job satisfaction is expected to vary depending on job demands. Specifically, this relationship may be negligible at low levels of job demands but is hypothesized to be positive and stronger under conditions of high levels of job demands. Furthermore, changes in fatigue are not only associated with job demands but are also influenced by the contingency of mastery goal orientation, represented by the interaction between job demands and mastery goal orientation. According to the job demands–resources (JD-R) theory, the hypothesized positive relationship between job demands and fatigue is expected to depend on mastery goal orientation. Specifically, this relationship is anticipated to be stronger at low levels of mastery goal orientation but weaker -or potentially negligible- at high levels of mastery goal orientation.

3. Method

This section outlines the ethical approval obtained for the study, the sampling procedure, and the measurement scales used.

3.1. Ethical Permissions for the Study

In this study, all the rules specified in the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions" were followed. None of the actions specified under the second section of the directive, "Actions Contrary to Scientific Research and Publication Ethics", have been carried out. Before applying the questionnaire, the ethical board approved it by resolution of Recep Tayyip Erdoğan University Ethics Committee dated 12.03.2025, NO: 2025/101.

3.2. Sample and Data Collection Procedure

In this study, data were collected through a survey administered to blue-collar employees working in hazelnut factories located in the provinces of Ordu and Giresun in Türkiye. Data were obtained from 345 observations across six factories. After removing incomplete or biased responses, analyses were conducted using the remaining 307 observations. Approximately 71% of the participants were female. The participants' average age was 41.52 years (SD = 9.20), and their average work experience was 9.60 years (SD = 6.77).

3.3. Measures

All variables are measured on a five-point Likert scale unless otherwise specified. The owners of the scales have given their permission for them to be used.

Job demands were assessed with Van Yperen and Janssen's (2002) eleven-item scale (e.g., "Do you have problems with the workload?"; 1 = Never, 5 = Always; α for the original scale = 0.88; α for this study = 0.83).

Mastery goal orientation was measured using Van Yperen and Janssen's (2002) eleven-item scale, preceded by the prompt, "When do you feel most successful in your work?" (e.g., "When I learn something new that is fun to do"; 1 = Strongly Disagree, 5 = Strongly Agree; α for the original scale = 0.86; α for this study = 0.93).

Fatigue was assessed using Morfeld et al.'s (2007) six-item scale, following the question, "How do you feel at the end of a workday?" (e.g., "listless"; 1 = Not at All, 5 = Too Much; α for the original scale = 0.90; α for this study = 0.94).

Job satisfaction was measured using Başol and Çömlekçi's (2020) five-item scale (e.g., "I enjoy doing my job"; 1 = Strongly Disagree, 5 = Strongly Agree; α for the original scale = 0.93; α for this study = 0.90).

4. Findings

This section reports the normality tests as well as the validity and reliability analyses conducted prior to hypothesis testing. Subsequently, regression analyses were employed to test the study's hypotheses.

4.1. Test for Normality

To assess whether the data were normally distributed, skewness and kurtosis values were calculated for each item. Skewness values ranged from -1.179 to 0.019, whereas kurtosis values ranged from -1.246 to 1.183. According to Tabachnick and Fidell (2013), values between -1.50 and +1.50 indicate that the data can be considered approximately normally distributed.

4.2. Test of Measurement Models

Before proceeding to hypothesis testing, confirmatory factor analysis (CFA) was conducted in AMOS (Version 23) using all variables included in the research model. The model consisted of four factors: job demands (5 items), mastery goal orientation (11 items), fatigue (6 items), and job satisfaction (5 items). As a result of the CFA, six items (1, 2, 5, 6, 8, and 11) related to the job demands variable were excluded due to low factor loadings. The model provides sufficient information for estimation according to the Factor Complexity rule 1 described by Davis (1993), which requires at least three items for each construct. In the CFA, modification indices were reviewed, and four theoretically justifiable error covariances were added to the measurement model. Specifically, the residuals of MGO1-MGO2, MGO10-MGO11, JD3-JD10, and JS2-JS5 were allowed to covary. These covariances were specified only when they were supported by modification indices and theoretically meaningful, as the item pairs were conceptually related and expected to share residual variance beyond that explained by their respective latent constructs. The revised measurement model yielded improved fit indices while preserving the original factor structure.

The four-factor model demonstrated good fit to the data: $\chi^2(314) = 724.026$, $p < 0.001$, CFI = 0.93, TLI = 0.92, IFI = 0.93, RMSEA = 0.06 (Hu & Bentler, 1999). The four-factor model was compared with several alternative models.

Table 1. Fit Indexes

Measurement Models	$\chi 2$	P	Df	CFI	TLI	IFI	RMSEA
Hypothesized four-factor model	724.026	< 0.001	314	0.930	0.921	0.930	0.065
Three-factor model with fatigue and job satisfaction combined	1292.818	< 0.001	317	0.833	0.815	0.834	0.100
Three-factor model with job demands and fatigue combined	912.803	< 0.001	317	0.898	0.887	0.899	0.078
Three-factor model with job demands and job satisfaction combined	1077.306	< 0.001	317	0.870	0.856	0.870	0.089
Three-factor model with mastery goal orientation and fatigue combined	1630.370	< 0.001	317	0.775	0.751	0.776	0.116
Three-factor model with mastery goal orientation and job satisfaction combined	1050.948	< 0.001	317	0.874	0.861	0.875	0.087
One-factor model with all latent variables combined	2148.804	< 0.001	317	0.686	0.653	0.688	0.137

Source: Prepared by the authors.
Note: N = 307. CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; IFI = Incremental Fit Index; RMSEA = Root Mean Square Error of Approximation.

Although the three-factor model, in which job demands and fatigue were combined into a single factor, showed the closest fit to the four-factor structure, its fit indices remained only at the acceptable threshold: $\chi^2(317) = 912.803$, $p < 0.001$, CFI = 0.90, TLI = 0.89, IFI = 0.90, RMSEA = 0.08. Table 1 presents the goodness-of-fit values for the measurement model and the alternative models. Therefore, the results indicate that the scales used exhibit discriminant validity.

Regarding convergent validity, the Average Variance Extracted (AVE) is expected to exceed 0.50, while the Composite Reliability (CR) values should be greater than 0.70 (Fornell & Larcker, 1981). AVE is obtained by dividing the sum of the squared standardized factor loadings of the scale's items by the number of items. CR is calculated by dividing the sum of the squared standardized factor loadings of the items by the sum of this value and the sum of the error variances. The formulas for AVE and CR are presented below.

$$AVE = (\Sigma\lambda^2) / n \quad (1)$$

$$CR = \frac{(\sum_{i=1}^{n} \lambda_i)^2}{(\sum_{i=1}^{n} \lambda_i)^2 + \sum_{i=1}^{n} \varepsilon_i} \quad (2)$$

In the formulas, λ represents the standardized factor loading of each item, ε represents the error variance of each item, and n represents the total number of items. The analysis results indicate that both the AVE criterion (> 0.50) and the CR criterion (> 0.70) were satisfied for all variables. Accordingly, the results suggest that convergent validity is generally supported for the study's variables.

Table 2. Composite Reliability and Convergent Validity of the Measurement Scales

	Indicator	Loadings	S. E.	P Values	AVE	CR
Mastery Goal Orientation	MGO1	0,635	-	-	0.561	0.933
	MGO2	0,717	0.074	***		
	MGO3	0,680	0.107	***		
	MGO4	0,780	0.096	***		
	MGO5	0,755	0.113	***		
	MGO6	0,763	0.103	***		
	MGO7	0,751	0.111	***		
	MGO8	0,807	0.112	***		
	MGO9	0,853	0.100	***		
	MGO10	0,752	0.084	***		
	MGO11	0,730	0.086	***		
Job Demands	JD3	0.560	-	-	0.511	0.836
	JD4	0.700	0.174	***		
	JD7	0.601	0.149	***		
	JD9	0.824	0.183	***		
	JD10	0.845	0.195	***		
Job Satisfaction	JS1	0,560	-	-	0.623	0.891
	JS2	0,700	0.100	***		
	JS3	0,601	0.083	***		
	JS4	0,824	0.086	***		
	JS5	0,845	0.091	***		
Fatigue	F1	0,855	-	-	0.734	0.943
	F2	0,885	0.048	***		
	F3	0,884	0.053	***		
	F4	0,858	0.049	***		
	F5	0,870	0.052	***		
	F6	0,787	0.048	***		

Source: Prepared by the authors.
Note: S.E. = standard error.

Table 3. Correlation Coefficients and Descriptive Statistics

Variables	M	SD	1	2	3
1. Job Demands	3.34	0.917			
2. Mastery Goal Orientation	4.11	0.711	-0.275**		
3. Fatigue	3.27	1.148	0.574**	-0.265**	
4. Job Satisfaction	3.92	0.849	-0.209**	0.517**	-0.356**

Source: Prepared by the authors.
Note: N= 307; *p < .05, and **p < .01.

4.3. Test of Hypotheses

In this study, the Ordinary Least Squares (OLS) regression method was employed to examine the linear relationships among the variables and test the moderating effect. OLS estimates regression coefficients by

minimizing the sum of squared differences between observed and predicted values. To test the moderating effect, an interaction term formed by multiplying the independent and the moderator variables was included in the model. The statistical significance of the interaction term indicates that the effect of the independent variable on the dependent variable varies depending on the level of the moderator (Aiken & West, 1991). Furthermore, since White's nR^2 test indicated the presence of heteroskedasticity, the models were estimated using robust standard errors. This approach allows for more reliable estimation of standard errors, t-statistics, and confidence intervals in the presence of heteroskedasticity (Hayes & Cai, 2007; White, 1980).

Prior to conducting the analysis, the means of the variables included in the model were calculated. Subsequently, the job demands and mastery goal orientation variables were standardized to reduce potential multicollinearity (Katrichis, 1993), and an interaction term was created. Regression analyses were subsequently conducted.

Table 4. Results of the Regression Analyses

Job Satisfaction (R^2= 0.27)	**β**	**Robust S.E.**	**P**
Mastery Goal Orientation	0.431	0.014	0.000
Job Demands	-0.046	0.056	0.470
Job Demands x Mastery Goal Orientation	0.027	0.023	0.326
Fatigue (R^2=0.32)			
Job Demands	0.573	0.043	0.001
Mastery Goal Orientation	-0.174	0.055	0.051
Job Demands x Mastery Goal Orientation	0.063	0.015	0.027

Source: Prepared by the authors.
Note: N = 307. β = standardized coefficient; S.E. = standard error.

Examination of the regression analyses results showed that all predictor variables explained approximately 27% of the variance in job satisfaction (R^2= 0.270) and approximately 32% of the variance in fatigue (R^2= 0.316). Only mastery goal orientation had a significant and positive effect on job satisfaction ($\beta = 0.431$, $p < 0.001$). No significant effects of job demands or the interaction term on job satisfaction were observed ($\beta = -0.046$, $p > 0.05$; $\beta = 0.027$, $p > 0.05$, respectively). Job demands had a significant and positive effect on fatigue (β= 0.573, $p< 0.01$), whereas mastery goal orientation did not have a significant effect (β= –0.174, $p > 0.05$). Additionally, the interaction between job demands and mastery goal orientation had a significant and positive effect on fatigue ($\beta = 0.063$, $p < 0.05$). Based on these findings, Hypothesis 1, which posits that mastery goal orientation is positively related to job satisfaction, and Hypothesis 3, which posits that job demands are positively related to fatigue, were supported. However, Hypothesis 2, which proposes that the positive relationship between mastery goal orientation and job satisfaction will be even stronger at high levels of job demands, was not supported. Instead, the results showed that mastery goal orientation moderates the effect of job demands on fatigue (H4), such that when mastery goal orientation is high, the effect of job demands on fatigue weakens. A simple slope analysis was conducted to further examine Hypothesis 4.

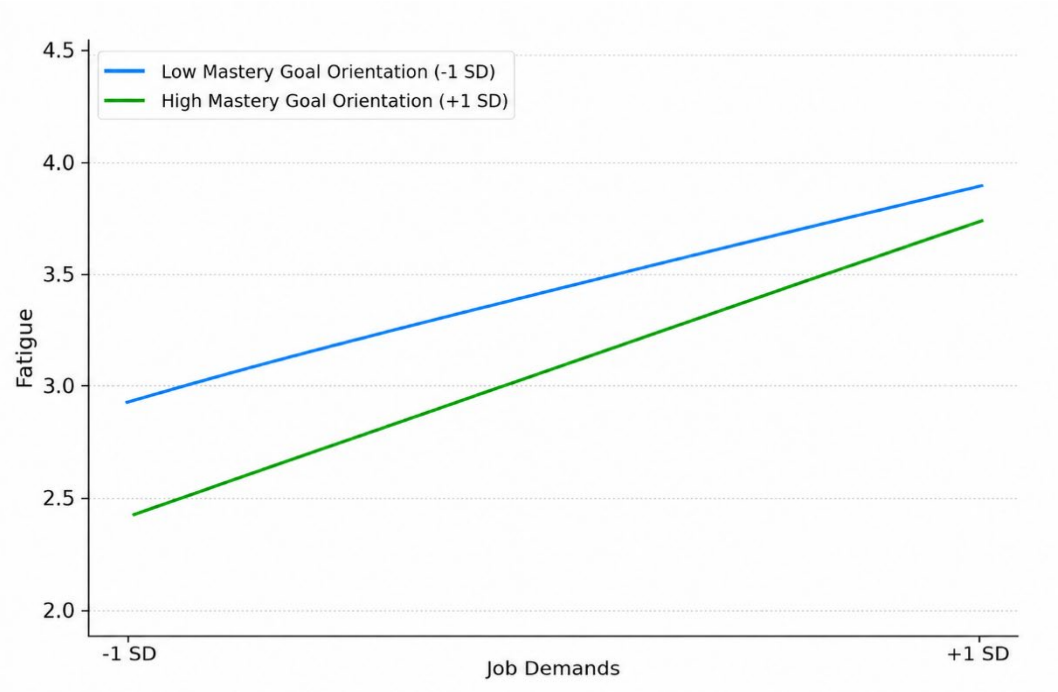


Figure 2. Simple Slope Analysis
Source: Prepared by the authors.

According to the results of the simple slope analysis, the effect of job demands on fatigue varies depending on whether mastery goal orientation is high or low. Specifically, when mastery goal orientation-a personal resource-is high, the impact of job demands on fatigue becomes weaker. Based on these findings, Hypothesis 4 is supported.

5. Conclusion and Discussion

In this study, based on the JD-R theory, the relationship between mastery goal orientation and job satisfaction and the moderating role of job demands in this relationship, as well as the relationship between job demands and fatigue and the moderating role of mastery goal orientation in this relationship, were examined. The findings of the study support the positive effect of mastery goal orientation on job satisfaction, but do not support the moderating role of job demands in this relationship. Furthermore, the results indicate that job demands positively affect personal fatigue and that mastery goal orientation has a moderating effect on this relationship. These findings support the robustness of JD-R theory with respect to the relationships between different outcome variables and personal resources. Consequently, the JD-R theory (Demerouti et al., 2001) is further empirically strengthened.

The study findings support the positive effect of mastery goal orientation on job satisfaction but do not support the moderating role of job demands in this relationship. According to JD-R theory, personal resources are viewed as highly valuable aspects of the self that are associated with positive beliefs about oneself and the world, support resilience in the face of stress, and contribute to an individual's potential to control and influence the work environment (Bakker & Demerouti, 2007; Bakker et al., 2014). According to Xanthopoulou et al. (2009, p. 236), personal resources play a functional role in achieving goals, protect individuals against threats and the associated physiological and psychological costs, and foster personal

growth and development. Since personal resources are individual characteristics that support energetic engagement in work, they may have the potential to directly influence occupational well-being (Bakker & Demerouti, 2007). In the context of the study findings, the correspondence between increasing levels of mastery goal orientation and increasing levels of job satisfaction can be considered a desirable contribution to employees' sense of self. The greater the mastery goal orientation, the more individuals view exerting greater effort as a desirable contribution to one's self, to such an extent that exerting effort itself becomes a sign of success (Van Yperen & Janssen, 2002). The findings of the present study support this view. In this study, mastery goal orientation developed a consistent link with emotional outcomes such as intrinsic interest and task enjoyment, which led to increased enjoyment of work and, consequently, increased job satisfaction through greater participation in work. These findings are consistent with other empirical studies in the literature. For example, Judge et al. (2004) reported a strong relationship between core self-evaluations, conceptualized as a personal resource, and job satisfaction. Xanthopoulou et al. (2009, pp. 236-241) conceptualize core self-evaluations as a motivational trait and demonstrate a strong relationship between self-evaluation as a personal resource and job satisfaction, as well as a positive relationship between specific personal resources -self-efficacy, organization-based self-esteem, and optimism- and work engagement. Likewise, these findings are consistent with those of Lai et al. (2010) and Skaalvik and Skaalvik (2013), who suggest that individuals with a high mastery goal orientation report higher levels of satisfaction.

The JD-R theory suggests that, in addition to the main effects of resources, the interaction between resources and demands is also important for the development of work motivation (Bakker & Demerouti, 2007). According to Van Yperen and Janssen (2002), individuals with a dominant mastery goal orientation focus on the work itself rather than on its outcomes and perceive work demands as challenging rather than threatening. Therefore, in this study, it is assumed that the positive relationship between mastery goal orientation and job satisfaction stated in Hypothesis 1 will be stronger at high levels of job demands than at low levels. Intrinsic motivation theory (Deci, 1975), also assumes that individuals are intrinsically motivated only by activities that arouse internal interest and possess an appealing quality, such as challenge. Intrinsic motivation theory (Ryan & Deci, 2000), which defines the natural tendencies toward assimilation, mastery, spontaneous interest, and exploration that are crucial for cognitive and social development and represent the fundamental source of enjoyment and vitality throughout life, has been instrumental in supporting the assumption that high levels of job demands will play a moderating role in Hypothesis 1. However, the study found no evidence to support the moderating effect of job demands on the positive relationship between mastery goal orientation and job satisfaction. According to the findings, varying levels of job demands (high vs. low) did not create a difference in the strength of the positive relationship between mastery goal orientation and job satisfaction. The results indicate that mastery goal orientation affects occupational well-being, as reflected in job satisfaction, but that it does not significantly contribute to enhancing the positive effect on job satisfaction when combined with job demands. Consequently, the positive relationship between mastery goal orientation and job satisfaction is not affected by varying levels of job demands. These findings can also be interpreted as indicating that the context of potential or actual resource loss (Hobfoll, 2001), as assumed in conservation of resources theory, did not occur, and that high levels of job demands were not perceived as challenging, even if they created a very modest resource gain; therefore, they did not affect job satisfaction through the interaction with mastery goal orientation. In short, the results do not support the proposed model suggesting that resources will have a stronger effect on job satisfaction, particularly when job demands are high (Bakker & Demerouti, 2007). At this stage of the discussion, it is also necessary to draw attention to an ongoing debate within job demands–resources theory, namely that not all job demands

are considered equal. Empirical studies have shown that the relationship between job demands and engagement is generally not statistically significant, although it may, in some cases, be positive or negative (Schaufeli & Taris, 2014, p. 56). In an attempt to explain these ambiguous findings, Crawford et al. (2010) distinguished between challenge and hindrance demands, which were perceived positively and negatively by employees, respectively. Their meta-analysis study revealed a negative relationship between hindrance demands and engagement and a positive relationship between challenge demands and engagement. In this context, the findings of the study indicate that employees do not perceive job demands as challenging as expected, that job demands do not interact with mastery goal orientation, and do not make any difference in the relationship between mastery goal orientation and job satisfaction.

As previously stated, goal orientations are relatively stable personality traits associated with the nature and development of individuals' abilities, and they tend to change slowly. In the context of the study's findings, unlike job resources, employees' personal resources are considered important in their own right, independent of any work environment or challenging conditions. However, it has been observed that job resources become significantly more beneficial for sustaining job motivation under conditions of high job demands (Bakker et al., 2007; Borst et al., 2019).

In this context, our findings suggest that personal resources, specifically mastery goal orientation, exert a direct effect on employees' occupational well-being, consistent with JD-R literature reporting similar effects of job resources. To the best of our knowledge, no previous study has tested the interaction between personal resources and job demands in predicting employee occupational well-being within the JD-R theoretical framework. This study conducted this test and highlighted the distinction between personal and job resources.

However, the JD-R theory posits that personal resources, much like job resources, have the potential to directly influence occupational well-being and may also produce different effects on occupational well-being through their interaction with job demands (Bakker & Demerouti, 2007). The findings of this study suggest that employees' adaptation to the environment varies according to their levels of personal resources, whereas these resource levels themselves are not influenced by environmental factors.

Despite these significant findings, caution is warranted. The claim that "Personal resources do not require a difficult situation or a challenging task to translate into job satisfaction" is not theoretically consistent with either goal-orientation theory (Butler, 2007) or intrinsic motivation theory (Ryan & Deci, 2000). Perhaps more importantly, it does not align with the JD-R theory, which equates job resources with personal resources and asserts that "job resources become much more effective in sustaining job motivation under conditions of high job demands." Recognizing this, Demerouti and Bakker (2011) noted that "Which job demands and resources play a role in a specific organization and a specific job occupation depends on the characteristics of the job." In this regard, these findings concerning blue-collar employees in the hazelnut industry may serve as an early warning, indicating that particular attention should be paid to sample selection in future studies aiming to test the JD-R theory. In this context, work communities that are open to learning and experimentation and that emphasize innovation and creativity may be more suitable research samples.

Additionally, the research findings indicate that work demands have a positive effect on personal fatigue and that mastery goal orientation moderates this relationship. The results of Hypothesis 3 further demonstrate that increasing job demands are associated with higher levels of personal fatigue. The findings

suggest that increasing job demands deplete employees' reserve energy and cause mental withdrawal. Demerouti et al. (2001) describe the impact of job demands as follows: "High job demands consume the employee's reserve energy, prevent effective coping with high job demands through resource depletion, and initiate a motivational process that encourages mental withdrawal or disengagement". Based on this theoretical foundation, they argued that when job demands are high and job resources are insufficient, such adverse working conditions lead to energy depletion and undermine employee motivation, resulting in burnout regardless of the nature of the profession. This assumption suggests that when work demands are high, employees are likely to experience elevated levels of burnout due to insufficient resources. Support for Hypothesis 3 further indicates that employees experience fatigue under excessive work demands. When workload is considered within the scope of job demands, these findings are consistent with those of Macdonald (2003) and Ramasamy et al. (2023), who found that fatigue increases as workload intensifies; Bowling et al. (2015), who reported that workload is negatively related to various indicators of psychological and physical well-being; and Ilies et al. (2010), who showed that increased workload is associated with both psychological and physiological responses, as well as with decreases in daily well-being assessed at the end of the day.

However, the JD-R theory suggests that different job demands and resources can interact, particularly in predicting job stress. More specifically, the theory assumes that resources can reduce the effect of job demands on job stress. According to the JD-R theory, when individuals possess sufficient resources, they can mitigate the energy-depleting health-impairment process by balancing the stress caused by job demands while performing their work (Bakker & Demerouti, 2007). In this sense, it is predicted that the relationship proposed in Hypothesis 3 will differ across varying levels of mastery goal orientation. The findings of this study support this view. Specifically, compared with low levels of mastery goal orientation, the positive effect of job demands on fatigue was observed to be weaker at high levels of mastery goal orientation. Because a high level of mastery goal orientation fosters consistent links with emotional outcomes such as intrinsic interest, task enjoyment, and satisfaction, and enhances employees' psychological readiness (Kahn, 1990) in the face of job demands, thereby increasing employees' energy levels and reducing feelings of fatigue. As shown in the simple slope analysis in Figure 2, fatigue resulting from job demands is lower at high levels of individual resources (mastery goal orientation). These findings are consistent with prior empirical studies demonstrating that job control, which interacts with job demands, reduces the effect of job demands on fatigue (Van Yperen & Hagedoorn, 2003); that psychological flexibility, as a personal resource, regulates the relationship between job demands and negative emotions (Novaes et al., 2018); and that the relationship between excessive workload and job stress is moderated by compassion satisfaction, such that higher levels of compassion satisfaction are associated with lower levels of job stress (Tremblay & Messervey, 2011).

6. Limitations and Suggestions for Future Research

One limitation of this study is that all variables were measured at a single point in time, which limits the ability to draw causal inferences. To address this issue, it is recommended that independent, dependent, and moderator variables be measured at different time points (Aguinis et al., 2017). Future research could employ a longitudinal design, measuring these variables across different time points.

Secondly, the sample in this study consisted of blue-collar employees working in the hazelnut industry. Compared to white-collar employees or those in knowledge-intensive professions, this group may exhibit

lower levels of mastery goal orientation. In this context, the findings obtained from this sample, as discussed above, serve as an important cautionary note, indicating that particular attention should be paid to sample selection in future studies aiming to test the JD-R theory. Therefore, it is recommended that the research model be tested using samples from diverse sectors, such as software development or academia.

Thirdly, this study was conducted in a specific region, encompassing only two cities, which limits the generalizability of the findings. Therefore, it is recommended that the research model be tested in different regions and countries to assess its broader applicability.

Future studies may focus on resources that engage employees and promote proactive behaviors (e.g., job crafting) rather than those in which employees are treated passively, based on a simple stimulus–response model. Job crafting is an effective job design approach for preventing employee burnout and can be supported by organizations. Similarly, playful work design (Bakker & Slemp, 2026)-a newer approach that involves redesigning work to make it more enjoyable- can help reduce negative outcomes such as fatigue and enhance positive outcomes such as job satisfaction. Furthermore, rest environments provided by organizations in the workplace can mitigate the negative effects of job demands while promoting positive outcomes. Additionally, to expand the framework of JD-R theory, future studies should focus on variables at the organizational and team levels.

Overall, the findings of this study indicate that the JD-R theoretical framework can be tested and extended using different outcome variables and resources. Since the generalizability of this study's findings is limited by the specific region, sample size, and focus on blue-collar workers, the proposed research model should be tested across different regions, with diverse samples from various sectors, and using multiple measurement approaches to enable broader theoretical generalizations.

Increasing job demands (e.g., excessive workload, long working hours and emotional and physical demands), combined with employees' lack of sufficient skills or energy to meet these demands, can lead to negative outcomes such as stress, depression, anxiety, and burnout. Therefore, the sector's workload should be managed through effective shift scheduling rather than overtime, and sufficient staff should be recruited. As the JD-R model suggests, when high job demands are unavoidable, positive outcomes such as job satisfaction are more likely to increase when adequate job resources -including opportunities for career and personal development, training, mentoring, and regular feedback- are provided. Therefore, the sector should enhance employees' learning and skill development opportunities through training programs, professional certifications, and job rotation initiatives. Furthermore, this research findings indicate that mastery goal orientation has a direct positive effect on job satisfaction and that, when this personal resource is high, the negative impact of job demands on fatigue is mitigated. Therefore, a culture of training, problem-solving, and innovation should be fostered to encourage employees to view their tasks as opportunities for learning and development, while also supporting employees' personal resources.

The findings indicate that job satisfaction increases among employees with a high mastery goal orientation and that this personal resource mitigates the negative effect of job demands on fatigue. Therefore, managers should set goals that foster employees' desire to learn and develop and create an environment that tolerates mistakes and emphasizes mastery. In addition, to balance the workload, organizations should reduce excessive demands, distribute tasks fairly, implement job rotation, and provide additional staff or technological support as needed. At the same time, they should leverage the stress-reducing effects of job

resources by strengthening resources such as training, mentoring, feedback, and social support. Finally, by offering employees opportunities for job crafting and flexible work arrangements-including flexible work hours and location options- managers can enable employees to tailor their tasks to their skills and preferences, which can reduce monotony, boost motivation, and improve the balance between demands and resources.

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9. Author Contributions: Conceptual Framework: H.D., A.D., and G.D.; Method: H.D., A.D., and R.S.; Analysis: A.D.; Research: H.D., A.D., R.S., and G.D.; Data Organization: H.D. and A.D; First Draft Writing: H.D.; Review and Editing: H.D., A.D., and R.S.; Literature Review: H.D. and A.D. All authors have read and approved the final version of the article to be published.

10. Ethics Committee Statement and Intellectual Property Rights: The study was conducted in accordance with ethical committee principles, and all necessary permissions were obtained in compliance with intellectual property and copyright regulations. The ethical board approved it by resolution of Recep Tayyip Erdoğan University Ethics Committee dated 12.03.2025, NO: 2025/101.

11. Data Compliance: The data used in this study were collected with the informed consent of employees working in hazelnut businesses operating in the provinces of Ordu and Giresun, Türkiye. Participants were informed that the collected data would be used solely for scientific purposes. The data are not publicly available.

12. Use of Artificial Intelligence: AI tools were used only for language editing in this study.

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