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A contemporary view of work design: how do job complexity and job autonomy shape proactive work behavior through role breadth self-efficacy?

İş tasarımına güncel bir bakış: işin karmaşıklığı ve iş özerkliği, rol genişliği öz-yeterliliği aracılığıyla proaktif iş davranışını nasıl şekillendirir?

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ABSTRACT

This study investigates how work design influences proactive work behavior (PWB) by considering specific key work characteristics and a motivational mediating variable. This study identifies the roles of job complexity and autonomy, as well as the mediating role of role breadth self-efficacy (RBSE), in shaping proactive work behavior (PWB). This research employed a quantitative approach to gather and analyze data. Responses were collected from 350 employees using a structured questionnaire and a convenience sampling technique. SPSS served as the primary tool for data analyze, including Pearson correlation and regression analysis, and the mediation effect was assessed using the Process Macro in combination with the bootstrap technique. According to the results, PWB is positively affected not only by job complexity but also by job autonomy and RBSE acts as an important mediator in these relationships. The findings provide important theoretical and practical perspectives for organizations seeking to build a proactive workforce capable of coping with dynamic work environments through effective work design.

Keywords: Work Design, Proactive Work Behavior, Role Breadth Self-Efficacy

Jel Classificaton: M00, M10, M19

ÖZ

Bu çalışma, belirli iş özelliklerini ve motivasyonel bir aracı değişkeni dikkate alarak iş tasarımının proaktif iş davranışını nasıl etkilediğini incelemektedir. Araştırma, proaktif iş davranışının ortaya çıkmasında iş karmaşıklığı ve iş özerkliğinin rolününü ortaya koyarken, rol genişliği öz-yeterliliğin bu ilişkide aracı bir faktör olduğunu göstermektedir. Araştırmada nicel bir yöntem kullanılmış, 350 çalışandan anket ve kolayda örnekleme yoluyla veri toplanmıştır. Verilerin değerlendirilmesinde Pearson korelasyon ve regresyon analizleri gerçekleştirilirken SPSS yazılımı kullanılmıştır. Aracı etkiyi değerlendirmek için ise, Process Macro ile bootstrap tekniği uygulanmıştır. Sonuçlara göre, proaktif iş davranışı hem iş karmaşıklığından hem de iş özerkliğinden olumlu yönde etkilenmekte ve rol genişliği öz-yeterliliği bu ilişkilerde önemli bir aracı rol üstlenmektedir. Araştırma bulguları, hem iş tasarımı alanındaki literatüre katkı sağlamakta hem de iş tasarımı aracılığıyla proaktif bir iş gücü oluşturmayı hedefleyen kuruluşlara önemli çıkarımlar sunmaktadır.

Anahtar Kelimeler: İş Tasarımı, Proaktif İş Davranışı, Rol Genişliği Öz-Yeterliliği

JEL Sınıflaması: M00, M10, M19

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1. Introduction

In contemporary business environments, organizations increasingly confront challenging pressures such as global competition, economic and political instability, the technological revolution, changing customer expectations, and increasing demands for ethical and sustainable practices. Many organizations are rethinking their strategic and structural approaches to become more flexible and resilient in response to these pressures. Such rapidly changing and unpredictable situations force organizations to respond and adapt to evolving circumstances (Grant & Ashford, 2008; Parker & Collins, 2010; Boonyarit, 2023; Fraccaroli et al., 2024).

A key condition for high employee performance in today's uncertain, unpredictable and highly interdependent environment is proactive work behavior (PWB) (Griffin et al., 2007; Matsuo, 2024), which includes the capacity to take initiative, focus on the future and control changes (Parker & Collins, 2010). The reason for this is that the favorable impact of employees' PWB on the organization (Vough et al., 2017) is reflected in the early identification of potential problems, quicker adaptation to external changes, and greater assurance of achieving organizational objectives (Parker et al., 2010; Awad et al., 2024). In line with this idea, the positive influence of employees' PWB on both individual and organizational performance has been explored and supported by research (Parker & Collins, 2010; Bindl & Parker, 2011; Parker et al., 2019; Saihood & Al-Jader, 2021; Gupron & Yandi, 2024).

It is a fact that job design or work design is a crucial factor influencing employee behavior (Ohly & Schmitt, 2016; Osibanjo et al., 2018; Katz et al., 2023). Originally conceived and utilized in the early 1900s in accordance with the Principles of Scientific Management, job design has undergone a significant shift over the past century from simplification and specialization to more comprehensive models. This shift points to the growing importance of job design in helping individuals and organizations proactively address contemporary business challenges and issues (Oldham & Fried, 2016; Kanse & Fruhen, 2022; Fraccaroli et al., 2024).

Job complexity and job autonomy are the two of the most frequently examined dimensions due to their presumed impact on proactive behavior (Axtell & Parker, 2003; Parker et al., 2006; Frese et al., 2007; Hartog & Belschak, 2012; Wu & Parker, 2017; Permata & Mangundjaya, 2021; Schmitt, 2022). Employees in complex jobs accomplish their tasks using cognitive skills such as problem solving and analytical reasoning, whereas employees with job autonomy have some degree of control over how they perform their work (Hackman & Oldham, 1976; Knight et al., 2021). Previous research indicates that when individuals' work in roles characterized by complexity and autonomy, they have a higher tendency to take initiative, go beyond formal job descriptions and contribute strategically to the organization (Fay & Frese, 2001; Parker et al., 2019). In this way, it is known that these work dimensions increase organizational responsiveness and innovation capacity because they increase individuals' commitment, creativity and innovative thinking (Morgeson & Humphrey, 2006; Grant & Parker, 2009; Parker, 2014).

Parker et al., (2010) suggested that contextual factors influence the motivational aspects of employees, which subsequently affect proactive behavior, and therefore greater scholarly attention should be directed toward motivational variables to explore how context fosters proactive behavior within organizations. Some research highlights the importance of RBSE, which is the self-belief that one can take on a wider range of duties and obligations outside their conventional role boundaries (Parker et al., 2006; Sonnentag & Spychala, 2012, Parker et al., 2019) in enhancing employees' proactive behavior, accepting that employees should trust their own capabilities to take initiative and navigate difficult situations effectively (Parker et al., 2010; Martin et al., 2013; Hwang et al., 2015).

This study seeks to reveal the effects of job complexity and job autonomy on PWB, while examining the mediating role of RBSE in these relationships. To this end, it first evaluates the direct impacts of job complexity and autonomy on PWB. Then, it evaluates how these work characteristics impact RBSE and how RBSE in turn impacts PWB. Finally, the study analyses whether RBSE serves as a mediator in the relationship involving the two work design dimensions with PWB. The research findings aim to provide insights into how organizations operating in an ever-changing environment can foster PWB through work design intervention to better prepare for the future.

The next section provides a brief overview of the evolution of work design theories from rigid and simplistic models to those more aligned with today's business conditions and the changing nature of work. After this section, the key variables of the study, namely job complexity, job autonomy, RBSE and PWB, are briefly explained and their interrelationships are emphasized to develop the conceptual framework that supports the research hypotheses. The next one presents the methodological approach of the study. The final section presents the empirical findings and discusses their theoretical and practical implications, offering insights for both academics and professionals.

2. Review of Literature and Hypothesis Construction

2.1. A Brief Historical Insight into Work Design

Work, and trying to do one's best while working, has long been one of the most important human endeavors, essential for survival and a central part of daily life throughout history (Harari, 2015). However, the Industrial Revolution was a turning point in human history in organizing work in a more formal and systematic way to provide more efficient and effective results.

One of the earliest approaches to job design emerged when Smith (1776) introduced the division of labor. According to this perspective, breaking down the production process into distinct steps and assigning workers specialized tasks was believed to boost productivity while minimizing the necessity for lengthy training (Kanse & Fruhen, 2022). After Smith, who explained the organization of the work activities through simplification and specialization, Charles Babbage (1792-1871) also emphasized the benefits of work specialization (Parker & Wall, 1998).

Frederick Winslow Taylor (1911) reconceptualized the division of labor within the framework of the Principles of Scientific Management he put forward and also devoted special attention to the standardization of task performance (Kanse & Fruhen, 2022). Henry Ford implemented one of the best examples of job simplification practices with the assembly line he introduced at the Ford Motor Company in 1914 (Parker & Wall, 1998).

Lillian & Frank Gilbreth (1917) conducted time and motion studies aimed at investigating how work could be performed more efficiently. Their attention to worker fatigue and welfare established them as early pioneers in the fields of ergonomics and human factors (Gibson et al., 2015).

Between 1924 and 1932, several influential work design studies were conducted by Mayo, Roethlisberger, and Dickson at Western Electric's Hawthorne facility, demonstrating how informal social dynamics among employees and supportive supervisory practices positively impacted productivity (Gale, 2004).

When it became clear that that excessive specialization and division of labor under the Scientific Management Approach reduced job satisfaction and motivation, managers and researchers made the first attempts to take organizational and individual factors into account and thus the motivational factor began to be taken into account in job design (Griffin & McMahan, 1993). The period from the 1950s to the mid-to-late 1970s marked a phase of major conceptual progress in job design theory. Both the Motivator-Hygiene Theory and the Job Characteristics Model, which originated in the United States, focused on how individual jobs could be effectively structured. In contrast, the British sociotechnical systems approach adopted a more collective perspective by emphasizing the design of work at the group level (Parker & Wall, 1998).

A notable contribution to the field of work design was made by Frederick Herzberg with the introduction of his Motivator-Hygiene Theory (Herzberg, 1968). In this model, Herzberg argued that rather than representing opposite extremes, job satisfaction and dissatisfaction stem from different factors. Furthermore, the concept of job enrichment, which focuses on increasing motivation and satisfaction by increasing responsibility, task variety, and opportunities for personal growth, was introduced by Herzberg and continues to be influential in modern work design practice. Moreover, Herzberg's framework, like the sociotechnical systems approach proposed by the Tavistock Institute, departs significantly from the principles of scientific management (Kanse & Fruhen, 2022).

Trist, Bamforth and Emery of the Tavistock Institute turned their focus to job design through research in the British mining industry (Trist & Bamforth, 1951). Their findings underlined the importance of social dynamics in the organizational settings laying the foundation for Sociotechnical Systems Theory and drawing attention to negative effects of excessive task specialization. According to the Socio-Technical Systems Approach, organizations are composed of interconnected social and technical subsystems and its central proposition is the integration of these two (Shani & Lau, 2005). This theoretical development marked a significant shift in work design thinking from a narrow focus on technical efficiency toward a broader, integrated understanding of work systems that acknowledges the interdependence between humans and technology in organizational settings.

Developed by Richard Hackman and Greg Oldham, the Job Characteristics Model (JCM), along with its theoretical framework (Hackman & Oldham, 1974, 1975, 1976) is recognized as one of the greatest contributions in the field of job design theory (Parker, 2014). Influenced by both Motivator-Hygiene Theory and Sociotechnical Systems Theory, the model is grounded in five key job characteristics: autonomy, skill variety, task identity, task significance, and feedback. The specified dimensions are posited as triggers of three critical psychological states: experiencing work as meaningful, feeling personally responsible for outcomes, and understanding the consequences of one's efforts. These psychological states, in turn, are theorized to drive employee-related and work-related outcomes.

Significant transformations in working life since the 1980s have encouraged the emergence of new perspectives on job design, giving rise to theoretical developments and

comprehensive frameworks (Fraccaroli et al., 2024). These new models began to take into account a combination of organizational, environmental, and individual factors that influence job design (Parker & Wall, 1998). One of the efforts to advance job design theory during this period came from Campion (1988), who introduced the Multi-Method Job Design Questionnaire. In his study, Campion restructured and expanded job characteristics into four main dimensions -mechanical, motivational, biological and perceptual/motor approaches- offering a more holistic assessment of job design characteristics.

Nearly three decades after the development of the JCM, Stephen Humphrey, Jennifer Nahrgang, and Frederick Morgeson significantly expanded the scope of the model through the development of the Work Design Questionnaire (Morgeson & Humphrey, 2006; Humphrey et al., 2007). Within the scope of this extended model, newly incorporated job dimensions, including problem solving, task variety, and job complexity, brought the total to 18, which were categorized into motivational, social, and contextual dimensions. Furthermore, the autonomy dimension was classified into three distinct sub-dimensions to capture its multifaceted nature.

While the JCM primarily focuses on the structural components of individual jobs, more recent approaches have adopted a broader and more dynamic perspective. These perspectives emphasize not only how work is structured, but also how it is coordinated, experienced by employees, and situated within its organizational context (Grant et al., 2010; Parker, 2014). Reflecting this conceptual shift, researchers such as Morgeson & Humphrey (2008) have advocated for the use of the term work design in place of job design, asserting that "work design" better reflects the impact of environmental and contextual factors on roles and responsibilities. Therefore, this study uses both job design and work design concepts, considering the temporal context and the scope of the relevant models.

In addition to the motivational perspective in job design, a significant contribution came from Robert Karasek in 1979. Based on the concept of psychological strain, Karasek (1979) introduced an alternative job design framework, initially known as the Job Strain Model and later widely recognized as the Job Demands-Control Model. It focuses on the interaction between job demands and the degree of control job holders have over their work. It proposes that greater autonomy can act as a protective factor that alleviates the adverse impacts associated with high job demands. An extended version of this framework, the Job Demands-Control-Support Model (Karasek & Theorell, 1990), incorporates social aspects of the work environment. According to this revised framework, workplace social support is recognized as a key protective factor that helps mitigate the negative impacts of high job demands.

Introduced in 2001 through the research efforts of Demerouti and her colleagues, the Job Demands-Resources (JD-R) Model explains the mechanisms underlying workplace burnout. As with the Job Demands-Control Model, it emphasizes the balance between job demands and employee well-being. However, it extends previous models by including not only job demands but also a variety of work resources, which are aspects of the work context that support employee motivation and resilience. The model was later refined by Bakker & Demerouti (2017), who integrated new dimensions such as personal resources, job crafting, and self-undermining behaviors, thereby broadening its applicability to contemporary work environments.

Another crucial development within work design theory is the move away from traditional, top-down, manager-driven approaches towards more flexible models in which employees are more actively engaged in shaping their own work. From the early 2000s onwards, extensive scholarly attention in this field has been directed towards job crafting, defined as the proactive changes employees make to better align their work with strengths, values, and interests (Wrzesniewski & Dutton, 2001; Wrzesniewski et al., 2013; Tims et al., 2016; Kooij et al., 2017). According to this view, individuals are no longer seen as passive agents of predefined roles but rather as active agents who constantly change and influence work contexts through intentional behaviors. Contemporary theoretical perspectives increasingly view work design as a dynamic and multi-level process shaped by the interplay between formal organizational structures and individual-level initiatives (Parker et al., 2025).

The most recent addition to work design theory, the SMART Work Design Model, was proposed by Sharon K. Parker and Caroline Knight (2024). This model emerged in response to contemporary organizational challenges, such as the rise of digital technologies, the shift to remote and hybrid work, accelerating burnout rates, and the increasing emphasis on improving job quality, and the SMART Work Design Model is argued to present a contemporary perspective for comprehending and dealing with the complexity of modern work design. The model classifies work characteristics into five overarching dimensions: stimulating, mastery, autonomous, relational and tolerable. Each category addresses critical elements of job quality, reflecting the changing demands of contemporary work environments. By integrating key aspects of previous work design theories into a more comprehensive and multidimensional framework, the SMART model can be useful for professionals to improve employee experiences and outcomes. It is also argued that the model is an important advancement in the work design literature by emphasizing the psychological mechanisms through which work design affects individual and work

outcomes (Parker & Knight, 2024). In this model, autonomy is defined similarly to how it is conceptualized in Morgeson & Humphrey's (2006) model and is addressed through three sub-dimensions. According to the model, employees whose jobs are autonomous have meaningful control over what they do and how they do it. On the other hand, stimulating work characteristics refer to roles that involve a high level of cognitive complexity and variety stemming from one's duties and responsibilities. In such jobs, the design allows employees to be more cognitively engaged and to use their mental abilities, such as problem solving and creativity. Employees in jobs with stimulating characteristics are intellectually challenged and have tasks that offer variety in how they fulfil their responsibilities (Parker & Knight, 2024).

A notable advancement in the work design literature is the increasing focus on the team level of analysis. While traditional job design research has predominantly centered on individual roles and tasks, scholars have begun to emphasize the need to examine job design at the team level, as teams form the main social and organizational context in which work is carried out (Morgeson & Humphrey, 2008). Among the key contributions in this area, Campion et al., (1993) stated that both job design and work process factors are fundamental determinants of team effectiveness. Important contributions in this area include Campion et al.'s (1993) study in which both job design and work process factors were identified as key determinants of team effectiveness. Building on this work, subsequent research (Cohen & Bailey, 1997; Carter et al., 2019) has explored how various job design features influence team outcomes. More recent studies have examined the effects of elements such as task significance and feedback, particularly in virtual teams (Gibson et al., 2010; Handke et al., 2020, 2022).

2.2. Study Variables and Theoretical Relationships

2.2.1. Job Complexity and PWB

Job complexity describes the level of cognitive, problem-solving, and decision-making requirements that employees face while performing their tasks (Morgeson & Humphrey, 2006). Complex jobs require employees to exhibit skills including analytical thinking, flexibility and creative problem solving beyond merely performing routine tasks. Such jobs usually consist of uncertain, knowledge-intensive and variable tasks and require employees to use the ability to combine various sources of information, synthesize and develop new solutions for these tasks (Parker et al., 2019). Job complexity can affect employees' level of initiative (Humphrey et al., 2007) and increase their responsibilities. The necessity to develop different approaches to problems in complex jobs and to determine the appropriate solution from many possible approaches creates opportunities for employees to exhibit proactive behaviors and the skills acquired can be applied to such behaviors (Frese et al., 2007).

In traditional frameworks like the JCM, job complexity is reflected indirectly through core job dimensions. However, Morgeson & Humphrey (2006) proposed that job complexity should be conceptualized as a distinct and independent construct. Building on this view, they introduced a work design measurement tool that allows job complexity to be assessed separately from the original JCM components.

Some studies in the literature suggest that job complexity can produce negative consequences such as burnout and stress due to intense cognitive demands (Li et al., 2023). Nevertheless, job complexity is often viewed positively because it leads to positive outcomes such as psychological empowerment, supports learning and development, and fosters personal growth, satisfaction and creativity (Morgeson & Humphrey, 2006; Frese et al., 2007). Furthermore, it is positively related to various forms of proactive behavior (Ohly et al., 2006; Frese et al., 2007; Ohly & Schmitt, 2016).

In the current working context, employees are expected to demonstrate proactive behaviors to lead their organizations to success (Parker, 2010). Proactive behavior is taking initiatives to improve current conditions and questioning the existing situation rather than settling into the status quo (Crant, 2000) and they are predictive and change-oriented, self-initiated and persistent behavior. Employees who exhibit proactive behavior aim to improve and change themselves or a situation, and the activities they initiate are future-oriented (Parker et al., 2006).

Across organizational contexts, proactive behavior fall into the categories of proactive work behavior, proactive strategic behavior and proactive person-environment fit behavior. In PWB, it is significant to improve the internal context of the organization and prevent future obstacles in advance (Parker & Collins, 2010).

Academic research highlights the impact of job complexity on PWB. For instance, Grant & Parker (2009) indicated that complex jobs present more cognitive challenges to employees enabling them to engage in proactive behavior. Jobs with high complexity develop employees' problem-solving and initiative skills, and the development of these skills strengthens their tendency to innovate and make improvements in business.

In a further study, Morgeson et al. (2006) highlighted that tasks with elevated complexity increase employees' perception of involvement and responsibility in their jobs and such tasks trigger their behavior such as taking initiative and innovation. Employees in high complexity jobs have more freedom and creativity, enhancing their ability to foresee

and solve future issues. The requirement to develop different approaches to problems in complex tasks and to determine the appropriate solution among many possible options creates an opportunity for employees to exhibit proactive behavior, and the skills they acquire can be utilized in doing so (Frese et al., 2007).

As a result, job complexity, as a work characteristic that develops employees' problem-solving, creativity and analytical thinking skills, is a factor that encourages PWB. Complex work environments where employees face cognitively challenging tasks increase their tendency to innovate in work processes, develop solutions and proactively approach future challenges. In this context, job complexity appears to be an important work design factor that elicits PWB. Given the link between job complexity and PWB, the current research formulates the subsequent hypothesis:

Hypothesis 1: Job complexity has a significant positive impact on PWB.

2.2.2. Job Autonomy and PWB

Job autonomy describes the extent of discretion and control employees exercise in organizing and executing their tasks. Hackman and Oldham (1976) highlighted that this job characteristic elevates employees' intrinsic motivation and job satisfaction by allowing them more freedom in how, when and by what methods they perform their tasks. Similarly, Parker defined job autonomy as the control, independence and decision-making freedom that employees exercise in certain aspects of their work while performing their duties. This concept strengthens employees' sense of responsibility, intrinsic motivation and job satisfaction by giving them more flexibility in how, when and by what methods they do their jobs (Grant & Parker, 2009). In the contemporary business context, job autonomy is recognized as a critical job structuring factor that encourages employees to be more creative, flexible and solution-oriented in fast-changing and uncertain environments (Parker, 2014; Parker & Knight, 2024).

Job autonomy is considered as a critical work design element that encourages employees to engage in PWB. Having job autonomy enables individuals to see themselves as the source and responsible for their activities, to take responsibility for the results and success (Bakker & Demerouti, 2017), to take ownership of problems (Parker et al., 2010), to bring more effective solutions to problems (Frese & Zaph, 1994), to be willing to act and take responsibility, to maintain persistent behaviors despite obstacles, and to be effective in achieving results (Den Hartog & Belschak, 2012). Based on the established positive link between job autonomy and PWB, the current research formulates the subsequent hypothesis:

Hypothesis 2: Job autonomy has a significant positive impact on PWB.

2.2.3. RBSE: Effects of Job Complexity and Autonomy, and Its Role in PWB

Job complexity is a key factor in fostering the development of RBSE. Complex jobs require employees to develop creative thinking, problem-solving and analytical skills to overcome the challenges they face. Morgeson & Humphrey (2006) stated that job complexity enables employees to assume more responsibility which positively influences the enhancement of RBSE. While employees working in complex jobs gain competence in analyzing work processes and overcoming difficulties; their self-confidence increases. As the degree of complexity in a job increases, the complexity of decision-making rises accordingly. Such jobs require employees to utilize and develop a wide range of advanced knowledge, skills, and abilities, while also enhancing their experiences of success. Parker et al., (2010) identified that RBSE supports individuals in exhibiting proactive behaviors such as innovating in business processes, taking responsibility and developing solutions. It is stated that when employees have elements of complexity and autonomy in their jobs, they feel more competent and, this in turn, strengthens proactive behaviors (Parker et al., 2019).

Job autonomy improves employees' RBSE by giving them increased freedom in decision-making processes during task execution (Parker et al., 2006). Provided that jobholders have the independence to approach their jobs in their own way, they can improve their responsibility-taking and problem-solving skills. Grant & Parker (2009) stated that employees enjoying significant independence in their roles have increased self-confidence, which enables them to respond effectively to a more diverse set of tasks.

A substantial body of literature indicates that job autonomy supports employees' proactive behaviors by enhancing their self-efficacy (Ohly & Fritz, 2007; Parker et al., 2006). Theoretical frameworks similarly emphasize job autonomy as a key factor in fostering proactive action, as it tends to boost intrinsic motivation and self-confidence. These psychological resources consequently allow individuals in the workplace to engage with their work context more effectively and with greater initiative. Those with strong self-efficacy are more inclined to take action independently, without needing external direction, which may contribute to greater proactivity within the work environment (Parker et al., 2010; Wang et al., 2021).

Academic research on these relationships indicates that job autonomy and job complexity enhance employees' RBSE, which subsequently fosters their PWB. According to research, individuals' perception of themselves as capable of performing a specific task enables them to execute their tasks effectively, persist in completing them, cope with change, set more challenging goals, and devise more effective strategies.

Additionally, belief in self-efficacy gives individuals the feeling that they can control their environment and have a high likelihood of success (Parker et al., 2006; Parker & Collins, 2010) In this context, RBSE enables employees to exhibit PWB by forming the basis for behaviors such as developing innovative solutions in work processes, suggesting changes positively transforming the work environment. Building on the established positive associations among job complexity, job autonomy, RBSE, along with its relationship to PWB, the current research formulates the subsequent hypotheses:

Hypothesis 3: Job complexity has a significant positive impact on RBSE.

Hypothesis 4: Job autonomy has a significant positive impact on RBSE.

Hypothesis 5: RBSE has a significant positive impact on PWB.

2.2.4. The Mediating Role of RBSE

As employees successfully engage in complex and autonomous tasks, their RBSE is boosted, which in turn enhances their self-confidence in dealing with broader roles. This increased self-efficacy makes them more likely to exhibit forward-thinking, self-initiated behaviors that benefit both individual and organizational goals (Axtell & Parker, 2003; Griffin et al., 2007; Grant & Parker 2009; Parker & Collins, 2010).

RBSE serves as a crucial mediator in linking job complexity and autonomy to PWB. By enhancing employees' sense of competence and preparedness, job complexity and autonomy promote the growth of proactive behaviors. In this framework, RBSE is pivotal in facilitating the link between work characteristics and the emergence of employees' PWB. Based on the prior information, the current research formulates the subsequent hypotheses:

Hypothesis 6: Job complexity influences PWB through the mediating role of RBSE.

Hypothesis 7: Job autonomy influences PWB through the mediating role of RBSE.

3. Methods and Findings

3.1. Study Sample

Scholarly research offers different approaches to establish the appropriate number of respondents. Hair et al., (2010) recommend a minimum of 5 respondents per scale item. Since there are 40 questions in this study, the sample size is calculated as 40X5=200. Therefore, a sample size of at least 200 respondents is sufficient. Another approach to determining sample size comes from Guilford (1954), who stated that the sample size in research should exceed 200. Consistent with the perspective of both authors, this study aimed for a respondent count greater than 200. White-collar employees in Istanbul were reached through a convenience sampling method, and the findings are based on data obtained from 350 usable questionnaires. Therefore, the study sample consists of 350 white-collar employees working in Istanbul.

Of the respondents, 186 (53.1%) were female and 164 (46.9%) were male. Respondents' ages ranged from 21 to 68, with an average of 37 years (SD=8.1). 93.1% of the respondents had graduated from college/university/masters/doctorate. The average total work experience was 14 years (SD=8.2), while their average working time in the last job was 7 years (SD=7.1). Of the respondents, 179 (51.1%) work in manufacturing, and 171 (48.9%) work in service companies.

3.2. Data Collection Tool

In the questionnaire used to collect the study's data, the following four scales were used.

Job Complexity Scale: The four-item Job Complexity Scale developed by Semmer in 1982 and adapted by Zacher and Frese in 2011 was used in the research. Responses to this and the subsequent scale were obtained using a 6-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". As a result of factor analysis, it was determined that the factor loadings for the scale items ranged from 0.87 to 0.91 and that the scale had a two-factor structure. With a Cronbach's alpha of 0.73, the scale showed good internal reliability.

Job Autonomy Scale: The scale used in this study, consisting of nine items and three sub-dimensions, namely work scheduling, decision making and work methods, was developed by Morgeson and Humphrey (2006). Based on the factor analysis results, the factor loadings for the scale items ranged from 0.71 to 0.90, and a single-factor structure was identified. The scale's Cronbach's alpha value of 0.94 indicates a high level of reliability.

RBSE Scale: The research relied on Parker's seven-item RBSE scale (1998). Responses were obtained using a 6-point Likert scale ranging from "I am not at all confident" to "I am completely confident". Based on factor analysis, factor loadings for the scale items ranged from 0.72 to 0.82, and a single-factor structure was identified. The scale's Cronbach's alpha value of 0.88 indicates good reliability.

PWB Scale: The research relied on the thirteen-item, four-factor PWB scale developed by Parker and Collins (2010). Responses were obtained using a 6-point Likert scale ranging from "Never" to "Very often". Factor analysis revealed a three-factor structure, confirming the scale's validity, with item factor loadings between 0.49 and 0.86. Cronbach's alpha values range from 0.78 to 0.90 for the sub-dimensions, with an overall reliability score of 0.90 for the scale.

3.3. Methods of Statistical Data Analysis

The study's dataset underwent thoroughly analyzed utilizing SPSS software to extract meaningful insights. In the initial phase, correlation analysis was conducted to explore the associations among the variables. Once the relationships between the variables were identified, hypothesis testing proceeded. Regression analysis was employed to assess the impacts of job complexity on RBSE and PWB; job autonomy on RBSE and PWB; and RBSE on PWB. To investigate the mediating influence of RBSE in the relationships between job complexity and autonomy, and PWB, the bootstrap method was applied using the Process Macro.

4. Findings

In the data evaluation phase, the correlations between job complexity, job autonomy, RBSE and PWB were first examined. Table 1 summarizes the findings derived from the analysis.

As depicted in Table 1, significant positive relationships are evident between job complexity and RBSE ($r=0.394$; $p<0.001$), job complexity and PWB ($r=0.366$; $p<0.001$), job autonomy and RBSE ($r=0.393$; $p<0.001$), job autonomy and PWB ($r=0.313$; $p<0.001$), and RBSE and PWB ($r=0.599$; $p<0.001$).

Once the relationships among the variables were established, regression analyses were performed to evaluate the strength and direction of the effects and to test the hypotheses. Below are the findings from the regression analysis assessing the effect of job complexity on PWB.

As indicated in Table 2, the regression model assessing the impact of job complexity on PWB is statistically significant ($F=53.805$; $p=0.000<0.001$). The R^2 value indicates that job complexity explains 13.1% of the variance in PWB. Key findings of the regression analysis indicate that the impact of job complexity on PWB is statistically significant ($t=7.335$; $p<0.001$), with a one-unit increase in job complexity leading to a 23.7% increase in PWB. Therefore, the hypothesis "Job complexity has a significant positive impact on PWB" is supported.

Below are the findings from the regression analysis conducted to determine the influence of job autonomy on PWB.

Table 3 demonstrates that the regression model capturing the impact of job autonomy upon PWB is statistically significant ($F=37.800$; $p=0.000<0.001$). The R^2 value indicates that job autonomy accounts for 9.5% of the variance in PWB. The regression analysis also reveals that the impact of job autonomy on PWB is statistically significant ($t=6.148$; $p<0.001$), with each one-point increase in job autonomy associated with a 0.184-point rise in PWB. In line with this result, the hypothesis "Job autonomy has a significant positive impact on PWB" is supported.

Below are the findings from the regression analysis examining how job complexity affects RBSE.

Table 4 demonstrates that the regression model capturing the impact of job complexity upon RBSE is statistically significant ($F=63.877$; $p<0.001$). The R^2 value indicates that job complexity explains 15.3% of the variance in RBSE. Key findings of the regression analysis indicate that the impact of job complexity on RBSE is statistically significant ($t=7.992$; $p<0.001$), with each one-point increase in job complexity associated with a 26.4%-point rise in RBSE. Therefore, the hypothesis "Job complexity has a significant positive impact on RBSE" is supported.

Below are the findings from the regression analysis examining how job autonomy affects RBSE.

Table 5 demonstrates that the regression model capturing the impact of job autonomy upon RBSE is statistically significant ($F=63.407$; $p<0.001$). The R^2 value indicates that job autonomy explains 15.2% of the variance in RBSE. Key findings of the regression analysis indicate that the impact of job autonomy on RBSE is statistically significant ($t=7.963$; $p<0.001$), with each one-point increase in job autonomy associated with a 23.9%-point rise in RBSE. Therefore, the hypothesis "Job autonomy has a significant positive impact on RBSE" is supported.

Below are the findings from the regression analysis examining how RBSE affects PWB.

Table 6 demonstrates that the regression model capturing the impact of RBSE upon PWB is statistically significant ($F=194.818$; $p<0.001$). The R^2 value shows that RBSE explains 35.7% of the variance in PWB. Key findings of the regression analysis indicate that the effect of RBSE on PWB is statistically significant ($t=13.958$; $p<0.001$), with each one-point increase in RBSE associated with a 57.8%-point rise in PWB. Therefore, the hypothesis "RBSE has a significant positive impact on PWB" is supported.

SPSS Process v2.16.3 was used to test the mediation effect, with Model 4 selected because the research hypotheses involve only a single mediator variable (Figure 1).

The bootstrap method is regarded by researchers as providing greater reliability compared to the Baron & Kenny approach (1986) and the Sobel test (Gürbüz, 2021; Hayes, 2022). This study employed Process Macro, designed by Hayes (2022), for conducting analyses. Using this method, the bootstrap technique was applied with 5000 resamples. In mediation analysis employing the bootstrap technique, the 95% confidence interval must exclude zero to confirm the study's hypotheses (MacKinnon et al., 2004). The existence of mediation was evaluated through the confidence intervals generated by the bootstrap method. If the effect remains significant but the effect coefficient decreases, it is considered partial mediation.

The next section begins by exploring how RBSE mediates the relationship between job complexity and PWB, utilizing the Process model. Full mediation occurs when the effect of the independent variable disappears completely after accounting for the mediator.

Figure 2 illustrates the theoretical model designed to investigate how RBSE functions as a mediator linking job complexity and PWB.

Table 7 displays the findings from the mediation analysis addressing the sixth hypothesis of this research.

Analysis of the direct association between job complexity and PWB indicated that, without RBSE in the model, job complexity significantly and positively affects PWB (β=0.237; t=7.335; LLCI=0.174, ULCI=0.301; p<0.001). Moreover, job complexity accounts for 13.4% (R^2=0.134) of the variance in PWB.

When exploring the indirect influence of job complexity on PWB, results indicated that the standardized indirect effect coefficient through RBSE (β=0.137; SE=0.023; LLCI=0.094, ULCI=0.188) is significant, given that the confidence intervals exclude zero. This result indicates that RBSE mediates the effect of job complexity on PWB. Another indication of mediation is the Sobel test result, where the Z value proved to be statistically significant (Sobel test Z=6.5830; p=0.001<0.01). This further confirms that mediation occurs.

To assess the extent of mediation, the change in the effect of the independent variable over the dependent variable was analyze after introducing the mediator. In the absence of the mediator, job complexity significantly influenced PWB (β=0.237). With the inclusion of RBSE as a mediator, this effect decreased (β=0.100; t=3.343; LLCI=0.041, ULCI=0.158; p<0.01), while remaining statistically significant. These results confirm partial mediation by

Table 1: Correlations for Study Variables

Variable	Job Complexity	Job Autonomy	RBSE	PWB
Job Complexity	1	0.555(**)	0.394(**)	0.366(**)
Job Autonomy	0.555(**)	1	0.393(**)	0.313(**)
RBSE	0.394(**)	0.393(**)	1	0.599(**)
PWB	0.366(**)	0.313(**)	0.599(**)	1

**p<0.01

Table 2: Findings from Regression Analysis Demonstrating the Impact of Job Complexity on PWB

Dependent Variable	Independent Variable	β	Std. Error	Beta	t	p	F	Model (p)	R^2	R^2 (Fix.)
PWB	Still	3.481	0.144		24.170	0.000***	53.805	0.000***	0.134	0.131
	Job Complexity	0.237	0.032	0.366	7.335	0.000***				

***p<0.001

Table 3: Findings from Regression Analysis Demonstrating the Impact of Job Autonomy on PWB

Dependent Variable	Independent Variable	β	Std. Error	Beta	t	p	F	Model (p)	R^2	R^2 (Fix.)
PWB	Still	3.755	0.127		29.512	0.000***	37.800	0.000***	0.098	0.095
	Job Autonomy	0.184	0.030	0.313	6.148	0.000***				

***p<0.001

Table 4: Findings from Regression Analysis Demonstrating the Impact of Job Complexity on RBSE

Dependent Variable	Independent Variable	β	Std. Error	Beta	t	p	F	Model (p)	R^2	R^2 (Fix.)
RBSE	Still	3.843	0.147		26.087	0.000***	63.877	0.000***	0.155	0.153
	Job Complexity	0.264	0.033	0.394	7.992	0.000***				

***p<0.001

Table 5: Findings from Regression Analysis Demonstrating the Impact of Job Autonomy on RBSE

Dependent Variable	Independent Variable	β	Std. Error	Beta	t	p	F	Model (p)	R^2	R^2 (Fix.)
RBSE	Still	4.009	0.128		31.419	0.000***	63.407	0.000***	0.154	0.152
	Job Autonomy	0.239	0.030	0.393	7.963	0.000****				

***p<0.001

Table 6: Findings from Regression Analysis Demonstrating the Impact of RBSE on PWB

Dependent Variable	Independent Variable	B	Std. Error	Beta	t	p	F	Model (p)	R^2	R^2 (Fix.)
PWB	Still	1.623	0.209		7.779	0.000***	194.818	0.000***	0.359	0.357
	RBSE	0.578	0.041	0.599	13.958	0.000***				

***p<0.001

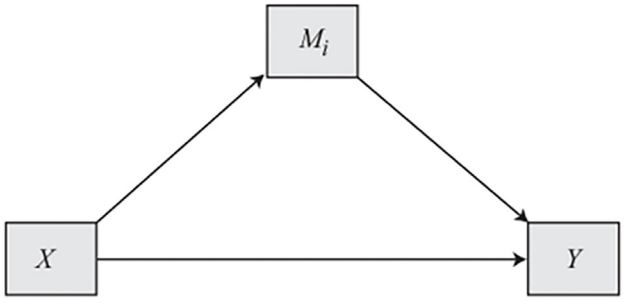

Figure 1: Process Model with a Single Mediator

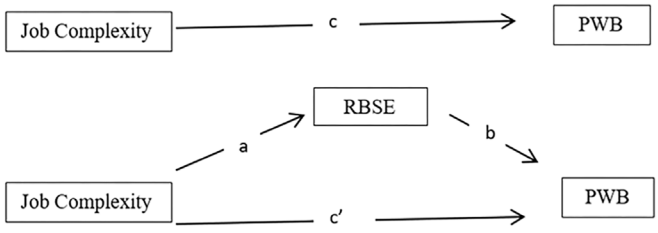

Figure 2: Path Analysis Exploring How RBSE Mediates the Link Connecting Job Complexity and PWB

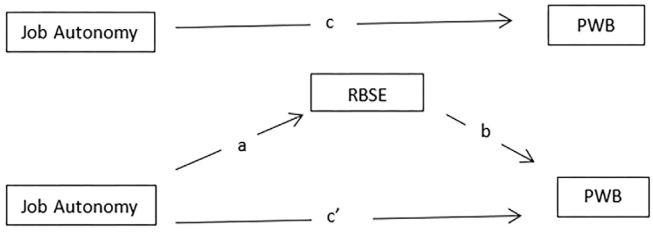

Figure 3: Path Analysis Exploring How RBSE Mediates the Link Connecting Job Autonomy with PWB

RBSE, in the relationship between job complexity and PWB, and support the sixth hypothesis proposed within this research.

The following section first examines RBSE's role in mediating the relationship between job autonomy and PWB, using the Process model.

Figure 3 presents the theoretical model developed to analyze RBSE acting as a mediator between job autonomy and PWB.

Table 8 displays the findings from the mediation analysis addressing the seventh hypothesis of this research.

Analysis of the direct association between job autonomy and PWB indicated that, without RBSE in the model, job autonomy significantly and positively affects PWB (β=0.184; t=6.148; LLCI=0.125, ULCI=0.243; p<0.01). Moreover, job autonomy accounts for 9.8% (R^2=0.098) of the variance in PWB.

When exploring the indirect influence of job autonomy on PWB, the results indicated that the standardized indirect effect coefficient through RBSE (β=0.130; SE=0.022; LLCI=0.090, ULCI=0.177) was statistically significant, given that the confidence intervals excluded zero. This result indicates that RBSE mediates the relationship between job autonomy and PWB. Another indication of mediation is the Sobel test result, in which the Z value proved to be statistically significant (Sobel Test Z=6.6382; p=0.001<0.01). This further confirms the presence of mediation.

To assess the extent of mediation, the variation in the effect exerted by the independent variable over the dependent variable was analyzed after introducing the mediator. In the absence of the mediator, job autonomy significantly influenced PWB (β=0.184). With the inclusion of RBSE as a mediator, this effect decreased (β=0.054; t=1.980; LLCI=0.002, ULCI=0.108, p<0.05), while remaining statistically significant. These results confirm partial mediation by RBSE in the relationship between job autonomy and PWB, and they support the seventh hypothesis proposed in this research.

Table 7: Bootstrap Analysis Results Assessing RBSE's Function as a Mediator between Job Complexity and PWB

Effect	Path	β	S.E	t	p	LLCI	ULLC	R^2
Direct Effect (Without Mediation)	Job Complexity=>PWB	0.237	0.032	7.335	0.000***	0.174	0.301	0.134
Mediated Effect	RBSE=>PWB	0.520	0.044	11.700	0.000***	0.433	0.607	0.379
	Job Complexity =>PWB	0.100	0.030	3.343	0.001***	0.041	0.158	
Indirect Effect	Job Complexity =>RBSE=>PWB	0.137	0.023			0.094	0.188	
Sobel Test: Effect:0,1374; S.H:0,0209; Z:6,5830; p=0.001<0.01								
***p<0.001								

Table 8: Bootstrap Analysis Results Assessing RBSE's Function as a Mediator between Job Autonomy and PWB

Effect	Path	β	S.E	t	p	LLCI	ULLC	R^2
Direct Effect (Without Mediation)	Job Autonomy=>PWB	0.184	0.030	6.148	0.000***	0.125	0.243	0.098
Mediated Effect	RBSE=>PWB	0.544	0.045	12.114	0.000***	0.455	0.632	0.366
	Job Autonomy =>PWB	0.054	0.027	1.980	0.049*	0.002	0.108	
Indirect Effect	Job Autonomy=>RBSE=>PWB	0.130	0.022			0.090	0.177	
Sobel Test: Effect:0.129; S.H:0.0196; Z:6.6382; p=0.001<0.01								
*p<0.05, **p<0.01, ***p<0.001								

5. Conclusion

The research assessed how job complexity and job autonomy influence PWB, while also exploring RBSE's mediation within these connections. It was determined that the results obtained in the research support the research hypotheses.

Following the research, initial findings identified how job complexity, job autonomy and RBSE impact PWB, as well as how job complexity and job autonomy predict RBSE.

Following the research, initial findings identified how job complexity, job autonomy and RBSE impact PWB, as well as how job complexity and autonomy predict RBSE. Following the identification of the relationships among the variables, RBSE's function as a mediator linking job complexity and job autonomy with PWB was assessed. Based on the findings, RBSE acts as a mediator linking job complexity and autonomy to PWB. A substantial portion of the influence arising from job complexity and autonomy regarding PWB is accounted for by RBSE, positioning RBSE as a key mediator connecting job complexity and autonomy with PWB.

The findings from analysis aligned well with existing literature. Within the scope of the research, analysis results regarding how job complexity influences PWB (Morgeson & Humphrey, 2006; Frese et al., 2007; Grant & Parker, 2009), how job autonomy influences PWB (Parker et al., 2006; Ma et al, 2022; Permata & Mangundjaya, 2021; De Spiegelaere et al., 2016; Sonnentag & Spychala, 2012); how RBSE influences PWB (Yang et al., 2024; Yuspahruddin et al., 2024); how RBSE operates as a mediator connecting job complexity with PWB (Frese et al., 2007); as well as between job autonomy and PWB (Sonnentag & Spychala, 2012; Parker et al., 2006) are consistent with previous research.

5.1. Theoretical Implications

This research adds value by addressing a critical aspect of performance relevant to today's context, investigating how job complexity and autonomy relate to PWB, examining a key motivational factor serving as a mediator within selected work dimensions, adopting a contemporary work design perspective, and extending this exploration into the Turkish cultural context.

The research deepens understanding of work design and PWB by uncovering RBSE's mediating role in linking job complexity and autonomy with PWB. The findings elucidate how these work features foster proactive behavior, emphasizing RBSE's function as a pivotal motivational pathway enhancing PWB.

Another contribution of this study lies in utilizing a contemporary work design approach. After the JCM, which was used as an important job design model for many years, the approach presented by Morgeson & Humphrey (2006) recognized job complexity as a distinct job dimension. In this context, the job complexity dimension, which reflects nature of work in current business life, was evaluated in this study using a contemporary scale. Additionally, Morgeson and Humphrey developed a job autonomy scale encompassing job scheduling autonomy, decision-making autonomy, and work methods autonomy several years after the JCM.

This contemporary framework was adopted in this study to assess job autonomy.

The contributions of job complexity and autonomy to PWB have been examined separately in prior studies. Although Frese et al. (2007) explored the connection between these two job dimensions and personal initiative which is recognized as a form of proactive behavior, the present research stands among the earliest attempts to investigate how both dimensions are associated with PWB.

Research investigating how work dimensions influence PWB within Turkish culture remains scarce (Maden-Eyiusta, 2016). By pioneering an investigation of how job complexity and autonomy shape PWB within Turkish culture through a contemporary work design framework, this research offers a new perspective in this regard.

5.2. Practical Implications

The exhibit of PWB by employees is important for organizations to cope with the pressures they face for different reasons. For this reason, organizations can consider different ways to increase employees' control over their work and job autonomy to promote PWB. In this context, delegation, flexible work models, focusing on goals, granting employees autonomy over methods, encouraging participation in decision-making, promoting job-crafting practices, and offering training and development opportunities may serve as appropriate strategies.

Based on the findings, another recommendation for practitioners and managers aiming to enhance PWB is to raise the complexity level of employees' jobs. Different ways such as enriching their tasks, providing skill diversity, providing problem solving opportunities, diversifying job roles, rotation and reassignment, participation in decision making processes, and using technology can increase the complexity of employees' jobs.

Increased RBSE resulting from job autonomy and job complexity increases employees' PWB. In this context, employees' PWB can be increased by increasing job autonomy and job complexity, or by directly boosting RBSE. To this end, providing development opportunities such as training, coaching, mentoring, implementing supportive leadership styles, managers being role models for employees, and giving positive feedback can be taken into consideration to increase RBSE.

5.3. Future Research

This research explored how specific work dimensions influence PWB, addressing RBSE's function as a mediator. Further research incorporating additional work dimensions and motivational factors as mediators within the model could expand insights into how work design fosters PWB.

Furthermore, the interactions between work characteristics may be another subject worth examining. Moreover, the moderating role of work dimensions in different models should also be considered, as one work dimension may increase the influence of another.

The impact of job autonomy and job complexity may vary depending upon cultural factors alongside individual differences. These variations can be examined in relation to PWB as well as other organizational and individual outcomes.

Several prior studies have addressed the negative consequences associated with elevated job complexity and autonomy. The influence of excessive job complexity, job autonomy, and other work characteristics on PWB and various organizational or individual outcomes remains as a subject deserving further exploration.

Considering the various antecedents of PWB, how they jointly affect PWB alongside work dimensions may be another issue worth investigating.

5.4. Limitations

The findings and contributions of this research should be considered in the light of its recognized limitations. A limitation concerns the restricted set of work dimensions addressed by the research. Future studies could extend that by investigating more work dimensions, as well as organizational and individual factors, to give a more comprehensive view of variables that may influence PWB. Moreover, since one work dimension may affect others, it is essential to explore the interrelationships between the variables affecting proactive behavior.

Another limitation lies in relying on a single measurement tool, resulting in the effects of two work dimensions being captured at a single point in time. Recognizing that these effects may change over time, these changes can be explored through longitudinal research designs. Furthermore, as the research data are derived from employees' self-reported perceptions—an approach for capturing subjective experiences—the use of multiple data sources can increase objectivity and strengthen the validity of the findings. Moreover, with the aim of increasing the generalizability of the research, alternative sampling methods can be used instead of convenience sampling, and the size of the sample group can be increased.

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Footnotes

Authorship Contributions

Concept: Uysal, B., Design: Uysal, B., Data Collection or Processing: Uysal, B., Analysis or Interpretation: Uysal, B., Uyargil, C., Literature Search: Uyargil, C., Writing: Uysal, B., Uyargil, C.

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