

The relationship between perceived supervisor support and employees' entrepreneurial behavior: The moderating role of gender

Algılanan yönetici desteği ile çalışanların girişimci davranışları arasındaki ilişki: Cinsiyetin düzenleyici rolü

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Abstract

This study examines the relationship between perceived supervisor support (PSS) and employees' entrepreneurial behavior (EB) and whether the strength of this relationship differs by gender. Cross-sectional survey data were obtained from 494 blue- and white-collar employees working in public, private, and public-private partnership organizations in Türkiye. The data were analyzed using linear regression and Hayes's PROCESS Model 1. The results showed that PSS was positively and significantly associated with entrepreneurial behavior ($\beta = .496$, $R^2 = .246$, $p < .001$). The interaction between PSS and gender was also significant ($b = -.1816$, $p = .004$, $\Delta R^2 = .0128$). Simple slope analysis indicated that PSS was positively associated with entrepreneurial behavior among both men and women, although the association was stronger among men. Supplementary analyses further indicated that education level moderated the PSS-EB relationship, whereas age, marital status, work experience, organization type, and work category did not. The findings indicate that supervisor support is an organizational resource associated with employees' entrepreneurial behavior and that the strength of this relationship may vary across employee characteristics.

Keywords: Perceived Supervisor Support, Entrepreneurial Behavior, Gender

JEL Codes: M12, M54, L26

Öz

Bu çalışma, algılanan yönetici desteği (AYD) ile çalışanların girişimci davranışları (GD) arasındaki ilişkiyi ve bu ilişkinin gücünün cinsiyete göre farklılaşıp farklılaşmadığını incelemektedir. Kesitsel araştırmanın verileri, Türkiye'de kamu, özel ve kamu-özel ortaklığı kurumlarında çalışan 494 mavi ve beyaz yakalı çalışandan elde edilmiştir. Veriler doğrusal regresyon ve Hayes PROCESS Model 1 kullanılarak analiz edilmiştir. Bulgular, AYD ile girişimci davranış arasında pozitif ve istatistiksel olarak anlamlı bir ilişki bulunduğunu göstermiştir ($\beta = .496$, $R^2 = .246$, $p < .001$). AYD ile cinsiyet arasındaki etkileşim de anlamlıdır ($b = -.1816$, $p = .004$, $\Delta R^2 = .0128$). Basit eğim analizi, AYD ile girişimci davranış arasındaki ilişkinin hem erkeklerde hem de kadınlarda pozitif olduğunu, ancak erkeklerde daha güçlü gerçekleştiğini göstermiştir. Tamamlayıcı analizlerde eğitim düzeyinin AYD-GD ilişkisini düzenlediği; yaş, medeni durum, çalışma deneyimi, kurum türü ve çalışma kategorisinin ise bu ilişkide anlamlı bir düzenleyici rol oynamadığı belirlenmiştir. Bulgular, yönetici desteğinin çalışanların girişimci davranışlarıyla ilişkili bir örgütsel kaynak olduğunu ve bu ilişkinin gücünün çalışan özelliklerine göre farklılaşabileceğini göstermektedir.

Anahtar Kelimeler: Algılanan Yönetici Desteği, Girişimci Davranış, Cinsiyet

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Introduction

Organizations' capacity to adapt and innovate depends partly on employees' ability to identify opportunities, take initiative, generate solutions, and implement innovations within their daily work. Such behaviors lie at the heart of the "intrapreneurship" approach, which does not limit entrepreneurship solely to starting a new business (De Jong & Wennekers, 2008). Employees' entrepreneurial behavior within an organization is a critical factor that directly influences the organization's capacity for adaptation and innovation. Actions such as generating solutions to problems, developing new ideas, proposing alternatives to existing processes, and taking responsibility in uncertain environments indicate that employees not only go beyond their job descriptions but also actively contribute to enhancing the organization's competitive strength. Such behaviors entail a "visible cost" (i.e., employees investing time, energy, and sometimes taking risks), indicating that organizations must encourage and support these behaviors. Therefore, entrepreneurial behavior is strategically important for both individual performance and organizational innovation.

In this study, entrepreneurial behavior is defined as employees directing their efforts toward entrepreneurial actions to create value within the organization. Pearce et al. (1997) conceptualized entrepreneurial behavior as a measurable set of behaviors at the employee level, arguing that managerial behavior can shape subordinates' entrepreneurial activity. This approach aligns with the broader organizational behavior literature, which emphasizes that entrepreneurial behavior is not merely an individual tendency but is also shaped by management practices and signals from the work environment. In this respect, entrepreneurial behavior refers to actions displayed by employees within their existing organizational context and should be distinguished from entrepreneurial intention, which primarily concerns an individual's conscious inclination or intention to engage in entrepreneurial activity in the future. This distinction is particularly important in the present study because the focus is not on employees' intentions to become entrepreneurs but on the entrepreneurial behaviors they actually display within their organizations (De Jong & Wennekers, 2008; Pearce et al., 1997).

Entrepreneurial behavior often involves decision-making under conditions of uncertainty and risk. When employees propose a new idea or challenge the existing order, the likelihood of making mistakes may increase; they may face the risk of social evaluation and potential sanctions; and they may also need to expend extra time and energy (Covin & Slevin, 1991). Therefore, the emergence of entrepreneurial behavior should be evaluated not only in terms of individual tendencies but also in conjunction with the social context of work, manager-employee interactions, and the organizational climate (De Jong & Wennekers, 2008; Pearce et al., 1997). Recent studies focusing on work conditions and employee well-being also suggest that understanding entrepreneurial behavior within the work conditions-resources-well-being framework may be explanatory (Escrig-Tena et al., 2025).

In this context, perceived supervisor support (PSS) refers to an employee's belief that their supervisor values their contributions, cares about their well-being, and provides support when required. Organizational Support Theory provides the primary theoretical foundation for explaining the role of such perceptions in employee behavior. According to this perspective, employees interpret supportive treatment from organizational representatives, including supervisors, as an indication that their contributions are valued and their well-being is taken into consideration (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). Social exchange and reciprocity principles provide a complementary explanation by suggesting that employees may respond to supportive treatment with attitudes and discretionary behaviors that benefit the organization. PSS can therefore function not merely as an emotional indicator of goodwill but also as a social and organizational resource that shapes employees' behavior.

The role of PSS in fostering entrepreneurial behavior may be understood through two complementary mechanisms suggested by prior research. First, prior research suggests that PSS may reduce some of the social costs associated with taking initiative and engaging in innovative actions by strengthening employees' sense of being valued and, potentially, psychological safety. Studies on employee "voice behaviors" such as expressing ideas, raising issues, and proposing improvements, have also shown that perceived support facilitates employees' behaviors of speaking up and contributing to the organization's benefit; this has been linked to processes such as psychological ownership (Andiyasari et al., 2017). Second, PSS may also help sustain effort by facilitating access to resources. Indeed, a study demonstrating PSS's moderating role in the relationship between perceived training intensity and work effort suggested that when support levels are low, training investments may be less likely to translate into expected behavioral outcomes, whereas PSS may function as a contextual resource (Dysvik et al., 2014).

The literature indicates that leadership practices and employee resources are both important in the emergence of intrapreneurial behavior. Kim and Beehr (2023) emphasize that intrapreneurial behavior within organizations must be considered in conjunction with leadership contexts that strengthen employee resources. Findings in the Turkish context showing the relationship between PSS and employees' motivational states and psychological resources are also consistent with this research. Ekmekçioğlu (2020) demonstrated the relationship between perceived supervisor support and work engagement and reported that career-related self-efficacy may play a role in this relationship. Additionally, findings from a sample of healthcare workers in Türkiye suggest that motivation may be related to intrapreneurship, indicating that it is meaningful to consider employee entrepreneurship in conjunction with contextual and motivational dynamics (Terzibaş & Öcel, 2025). Although these studies do not directly test the same model as the present research, they provide relevant evidence suggesting that managerial and organizational resources may create conditions that facilitate entrepreneurial behavior.

However, the literature also suggests that PSS may not always produce positive behavioral patterns. For instance, Li et al. (2022) showed that supervisor support can, under certain conditions, generate reciprocity pressure and contribute to unethical pro-supervisor behavior. Although this outcome differs substantially from entrepreneurial behavior, it demonstrates that the behavioral consequences of supervisor support may be context-sensitive rather than universally positive. This context-sensitive pattern reinforces the importance of avoiding a “one-size-fits-all” assumption when evaluating the effects of PSS and highlights the need to examine potential boundary conditions that may influence how supervisor support is translated into employee behavior.

In this study, gender is considered one such boundary condition because entrepreneurial behavior has a social meaning that may interact with gender-related expectations. Entrepreneurial behavior includes agentic characteristics such as visibility, taking initiative, asserting oneself, and, in some circumstances, challenging the status quo (Eagly & Karau, 2002; Grant & Ashford, 2008). The social and organizational feedback associated with such behaviors, as well as their perceived risks, may vary according to gender norms (Eagly, 1987). Although gender differences in entrepreneurship have frequently been examined through entrepreneurial intention, this literature provides a relevant basis for considering whether the same psychological or organizational resource may operate differently for women and men. For example, research conducted among business and economics students in Chile has shown that gender adds a distinct analytical dimension to entrepreneurial intentions (Contreras-Barraza et al., 2021). Similarly, studies conducted within the framework of the Theory of Planned Behavior (TPB) have demonstrated that relationships among attitudes, perceived behavioral control, and entrepreneurial intention may vary by gender (Vamvaka et al., 2020). Other TPB-based research has likewise suggested that the determinants of entrepreneurial intention may require gender-sensitive analysis (Che Nawi et al., 2022).

A second channel explaining gender differences involves personal psychological resources. A study examining the relationship between resources such as psychological capital and entrepreneurial orientation—and the gender differences in this relationship—demonstrates that gender differences in entrepreneurial outcomes are driven not only by cultural norms but also by patterns of psychological resources such as perceived control and self-efficacy (Villanueva-Flores et al., 2021). Furthermore, recent studies explaining intention within the TPB framework by integrating university support into the model emphasize that the perception of support can be a determining factor in attitude and intention processes, pointing to the generalizability of the “support → psychological processes → entrepreneurial outcomes” pathway (Vu et al., 2024). In the entrepreneurship literature, gender differences have often been examined through entrepreneurial attitudes and intentions, with reports indicating that distinct patterns can be observed in attitudes and orientations toward entrepreneurship among women and men (Sánchez Cañizares & Fuentes García, 2010; Yordanova & Tarrazon, 2010). Conditional process models also suggest that gender may play a moderating role by indicating that certain motivational relationships may operate differently depending on gender (Kong & Choo, 2022). Findings showing that stereotype perception, perceived social support, and self-efficacy can strengthen intentions in the context of women's entrepreneurship suggest that resources such as “support” may acquire different meanings within a gender context and that their power to translate into behavior may vary (Hamdani et al., 2023). Collectively, these studies provide a basis for considering whether, even when women and men report similar levels of supervisor support, the extent to which such support is translated into entrepreneurial behavior may differ.

Despite the growing literature on organizational support and employee entrepreneurship, the specific relationship between perceived supervisor support and employees' entrepreneurial behavior remains

insufficiently clarified, particularly with respect to the conditions under which this relationship may vary. Organizational Support Theory has been widely used to explain employees' attitudes and discretionary behaviors (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002), whereas studies on employee entrepreneurship have more commonly emphasized leadership, individual resources, motivation, broader work conditions, and the contextual role of supervisor support (Escrig-Tena et al., 2025; Kim & Beehr, 2023; Revuelto-Taboada et al., 2023; Terzibaş & Öcel, 2025). Moreover, although gender has received considerable attention in entrepreneurship research, much of this literature has focused on entrepreneurial attitudes and intentions rather than on entrepreneurial behavior displayed by employees within existing organizations (Contreras-Barraza et al., 2021; Sánchez Cañizares & Fuentes García, 2010; Vamvaka et al., 2020; Yordanova & Tarrazon, 2010). Consequently, whether gender constitutes a boundary condition in the relationship between supervisor support and enacted entrepreneurial behavior remains an issue that warrants further investigation.

In summary, the conceptual framework of this study rests on three main considerations. First, Organizational Support Theory serves as the primary theoretical framework, suggesting that support received from supervisors as organizational representatives can shape employees' attitudes and behaviors, while social exchange and reciprocity principles provide a complementary explanation for employees' behavioral responses to such support (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). Second, entrepreneurial behavior represents employee actions aimed at creating value within the organization and may involve uncertainty, additional effort, and social costs (De Jong & Wennekers, 2008; Pearce et al., 1997). Third, the relationship between support and entrepreneurial behavior may be context-sensitive, and gender may constitute an important boundary condition in this relationship (Contreras-Barraza et al., 2021; Eagly & Karau, 2002; Kong & Choo, 2022; Vamvaka et al., 2020). Against this background, this study aims to examine the relationship between employees' perceived supervisor support and entrepreneurial behavior and to determine whether the strength of this relationship differs significantly by gender. By doing so, the study seeks to contribute to the literature by connecting supervisor-specific support more directly with employee-level entrepreneurial behavior and by examining gender not merely as a source of mean differences, but as a potential moderator of the relationship between organizational support resources and entrepreneurial behavior. The following section develops these relationships in greater detail and presents the research hypotheses and model.

Conceptual background and relationships among the study variables

Entrepreneurial behavior and its importance

Entrepreneurial behavior is not limited to the establishment of a new business but may also emerge when employees identify opportunities, develop new ideas, take initiative, and seek innovative solutions within existing organizations. In this respect, the literature on intrapreneurship extends the concept of entrepreneurship to organizational settings and emphasizes the role of employees in innovation, renewal, and value creation (De Jong & Wennekers, 2008). Entrepreneurial behavior represents the employee-level behavioral dimension of this broader process. Pearce et al. (1997) conceptualized entrepreneurial behavior as a set of observable employee behaviors involving entrepreneurial initiative within the organizational context and emphasized that managerial practices can influence the extent to which such behaviors are exhibited.

Entrepreneurial behavior is particularly important because organizations increasingly depend on employees who go beyond routine task requirements and contribute to adaptation and innovation. Employees displaying entrepreneurial behavior may identify opportunities, propose alternatives to established practices, introduce new ideas, and assume responsibility under uncertain conditions. At the same time, these behaviors may involve additional effort, uncertainty, and social or professional risks. Employees who advocate a new approach or challenge an established practice may face the possibility of failure or negative evaluation, making the organizational context in which such behavior occurs especially important (Covin & Slevin, 1991; De Jong & Wennekers, 2008; Pearce et al., 1997). This perspective also explains why employee entrepreneurial behavior should be considered in conjunction with managerial and organizational resources rather than solely as an individual disposition.

At this point, it is important to distinguish entrepreneurial behavior from the related concepts of entrepreneurial intention and entrepreneurial motivation. Entrepreneurial intention generally refers to an individual's conscious intention or commitment to engage in entrepreneurial activity in the future and is therefore commonly treated as an antecedent of subsequent entrepreneurial action (Liñán & Chen, 2009; Thompson, 2009). Entrepreneurial motivation, by contrast, addresses the reasons and motivational forces that encourage individuals to pursue entrepreneurship. Shane et al. (2003) argue

that understanding entrepreneurial activity requires consideration of the motivations underlying entrepreneurial decisions in addition to environmental conditions and opportunities.

One established approach to entrepreneurial motivation is the push–pull perspective. Push factors refer to circumstances that may encourage individuals toward entrepreneurship because of unfavorable or restrictive conditions, such as dissatisfaction with existing employment, limited career opportunities, or employment insecurity. Pull factors, in contrast, reflect attractive aspects of entrepreneurship, including perceived opportunities, independence, achievement, and the prospect of creating value. Importantly, push and pull factors need not be mutually exclusive; individuals may be influenced by combinations of both. Kirkwood (2009), for example, found that both women and men reported combinations of push and pull motivations, while some specific motivations differed by gender.

Although entrepreneurial intention, motivation, and push–pull factors are important for understanding why individuals become inclined toward entrepreneurship, they do not constitute the dependent construct examined in the present study. The current research focuses on employees who are already situated within organizations and examines the entrepreneurial behaviors they report displaying in that organizational setting. In other words, the research question concerns not whether an individual intends to establish a business or why an individual may be motivated to enter entrepreneurship, but whether organizational support from a supervisor is associated with entrepreneurial action within the employee's existing work context. Accordingly, entrepreneurial intention and motivation provide relevant conceptual background, whereas employee entrepreneurial behavior constitutes the focal outcome of the present research.

Perceived supervisor support and entrepreneurial behavior

Perceived supervisor support represents employees' perceptions that their supervisors value their contributions, care about their well-being, and provide assistance when needed. Organizational Support Theory (OST) provides the primary theoretical basis for explaining why such support may shape employee behavior. According to OST, employees develop general beliefs concerning the extent to which the organization values their contributions and cares about their well-being, and treatment received from supervisors may contribute to these perceptions because supervisors are viewed as organizational representatives (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). Social exchange and reciprocity principles complement this perspective by suggesting that employees who perceive supportive treatment may respond through greater effort and discretionary behaviors that benefit the organization.

The literature on employee entrepreneurship, on the other hand, emphasizes that entrepreneurial behaviors involve uncertainty and risk; therefore, organizational context and managerial practices may be decisive in the emergence of such behaviors (De Jong & Wennekers, 2008; Pearce et al., 1997). When these two lines of literature are considered together, supervisor support can be expected to facilitate employees' orientation toward entrepreneurial actions such as taking initiative, evaluating opportunities, proposing improvements, and contributing to innovation.

Existing empirical evidence also supports this expectation. Studies examining employee voice have shown that perceived support is associated with employees' willingness to express ideas and suggestions intended to improve organizational functioning (Andiyasari et al., 2017). Similarly, Dysvik et al. (2014) demonstrated that perceived supervisor support may function as an important contextual resource in translating organizational investments into employee effort. More recent research also indicates that leadership practices and employee resources are relevant to the development of entrepreneurial behavior within organizations. Kim and Beehr (2023), for example, showed that empowering leadership and employee resources are important in facilitating employees' entrepreneurial behavior. Findings from Türkiye are broadly compatible with this line of reasoning: perceived supervisor support has been associated with work engagement and career-related self-efficacy (Ekmekçioğlu, 2020), while employee motivation has been linked to intrapreneurship among healthcare employees (Terzibaş & Öcel, 2025). More recent evidence further supports the importance of supervisor-related resources in the intrapreneurial process. Revuelto-Taboada et al. (2023), in a study of employees in the banking sector, found that supervisor support played a moderating role in the relationship between high-performance work systems and intrapreneurial behavior, suggesting that the behavioral implications of organizational practices may depend on the support employees receive from their immediate supervisors.

These studies do not establish that the same mechanisms necessarily operate in the present sample, particularly because constructs such as employee voice and psychological safety were not directly measured in this study. Nevertheless, they provide relevant theoretical and empirical grounds for

expecting supervisor support to create conditions in which employees are more willing to invest effort, take initiative, and engage in entrepreneurial actions. Thus, rather than assuming that support directly produces a particular unmeasured psychological mechanism, the present study treats perceived supervisor support as an organizational resource that may facilitate entrepreneurial behavior.

Based on this theoretical rationale, the first and primary expectation of the study is that perceived supervisor support is positively associated with entrepreneurial behavior. Accordingly, the following hypothesis was developed:

H1: Perceived supervisor support is positively associated with employees' entrepreneurial behavior.

The moderating role of gender

The second focus of this study is whether the strength of the association between perceived supervisor support and entrepreneurial behavior differs by gender. Social Role Theory proposes that societal expectations attributed to women and men can influence behavioral patterns and organizational interactions; consequently, the same organizational resource, such as supervisor support, may not necessarily translate into identical behavioral outcomes across gender groups (Eagly, 1987; Eagly et al., 2000).

Role Congruity Theory provides a complementary explanation for this possibility. Gender norms may influence the evaluation of behaviors involving agency, initiative, assertiveness, and visibility, particularly when such behaviors are perceived as more consistent with traditionally masculine roles (Eagly & Karau, 2002). Entrepreneurial behavior may involve several of these agentic characteristics because employees are expected to take initiative, make their ideas visible, assume responsibility under uncertainty, and sometimes challenge established ways of working (Eagly & Karau, 2002; Grant & Ashford, 2008). Therefore, the perceived social costs and benefits associated with entrepreneurial action may differ across gendered organizational contexts.

Previous entrepreneurship studies provide further grounds for considering gender as a potential boundary condition. Gender differences have been identified in entrepreneurial attitudes and intentions (Sánchez Cañizares & Fuentes García, 2010; Yordanova & Tarrazon, 2010), while studies based on the Theory of Planned Behavior have shown that the relationships among attitudes, perceived behavioral control, and entrepreneurial intention may differ according to gender (Contreras-Barraza et al., 2021; Vamvaka et al., 2020). Research has also indicated that motivational processes (Kong & Choo, 2022), psychological resources (Villanueva-Flores et al., 2021), and perceived social support and self-efficacy (Hamdani et al., 2023) may acquire different importance in gender-related entrepreneurship processes.

Recent organizational research provides more direct evidence that gender may condition how organizational resources are translated into innovation-related behavior. Al-Taie and Khattak (2024) found that gender significantly moderated the relationship between perceived organizational support and innovative work behavior, indicating that the behavioral implications of perceived support may differ across gender groups. Similarly, Blomkvist et al. (2025) showed that gender-related organizational conditions, including competitive culture and role-model effects, were associated differently with the emergence of female and male intrapreneurs. Together, these recent findings reinforce the relevance of examining gender not merely as a source of mean differences but as a contextual factor that may shape how organizational resources are translated into entrepreneurial or innovation-related behavior.

However, these findings have predominantly been generated in research on entrepreneurial intention, attitudes, or independent entrepreneurship. The present study extends this question to entrepreneurial behavior among employees within existing organizations. It does not assume that one gender is inherently more entrepreneurial than the other. Rather, the theoretical expectation is that the strength with which a contextual organizational resource—perceived supervisor support—is translated into entrepreneurial behavior may differ by gender. Accordingly, gender is treated as a potential boundary condition in the PSS–entrepreneurial behavior relationship.

Therefore, the following moderation hypothesis is proposed:

H2: Gender significantly moderates the relationship between perceived supervisor support and employees' entrepreneurial behavior.

Demographic and occupational characteristics as supplementary contextual factors

Although the primary focus of this study is the association between perceived supervisor support and entrepreneurial behavior and the moderating role of gender, employees' perceptions and behaviors may also vary across demographic and occupational contexts. Perceived supervisor support is formed

through employees' interactions with supervisors and the broader organizational environment, while entrepreneurial behavior is similarly influenced by the conditions under which employees perform their work (De Jong & Wennekers, 2008; Kurtessis et al., 2017; Pearce et al., 1997). Accordingly, characteristics such as age, education, work experience, organization type, work category, and marital status may provide additional contextual information for interpreting the focal relationships examined in the study.

In the original analytical framework, these variables were considered primarily in terms of whether the levels of perceived supervisor support and entrepreneurial behavior differed across employee groups. However, group mean differences and moderation address conceptually different questions. Whereas mean comparisons indicate whether employees in different categories report different levels of perceived supervisor support or entrepreneurial behavior, moderation analysis examines whether the strength of the relationship between perceived supervisor support and entrepreneurial behavior differs across these categories. Considering this distinction, demographic and occupational variables were retained as supplementary contextual factors rather than as central components of the theoretical model.

Accordingly, independent-samples t-tests and, depending on the homogeneity-of-variance results, conventional one-way ANOVA or Welch's ANOVA were used to examine group differences in perceived supervisor support and entrepreneurial behavior. In addition, supplementary moderation analyses were conducted to assess whether age, education level, marital status, work experience, organization type, and work category altered the relationship between perceived supervisor support and entrepreneurial behavior. These analyses were intended to provide a broader assessment of the contextual robustness and potential boundary conditions of the focal relationship rather than to introduce additional post hoc hypotheses into the main research model.

Research model

Based on the theoretical arguments presented above, the primary research model focuses on the relationship between perceived supervisor support and entrepreneurial behavior and the moderating role of gender in this relationship. Perceived supervisor support is expected to be positively associated with employees' entrepreneurial behavior (H1), while gender is expected to moderate the strength of this association (H2). Organizational Support Theory provides the primary theoretical foundation for the proposed association, whereas Social Role Theory and Role Congruity Theory provide complementary explanations for the proposed moderating role of gender.

The demographic and occupational variables examined in the study are not included as formal components of the primary research model. Instead, they are assessed through supplementary group-difference and moderation analyses to provide additional contextual evidence concerning the robustness and possible boundary conditions of the perceived supervisor support–entrepreneurial behavior relationship. The proposed research model is presented in Figure 1.

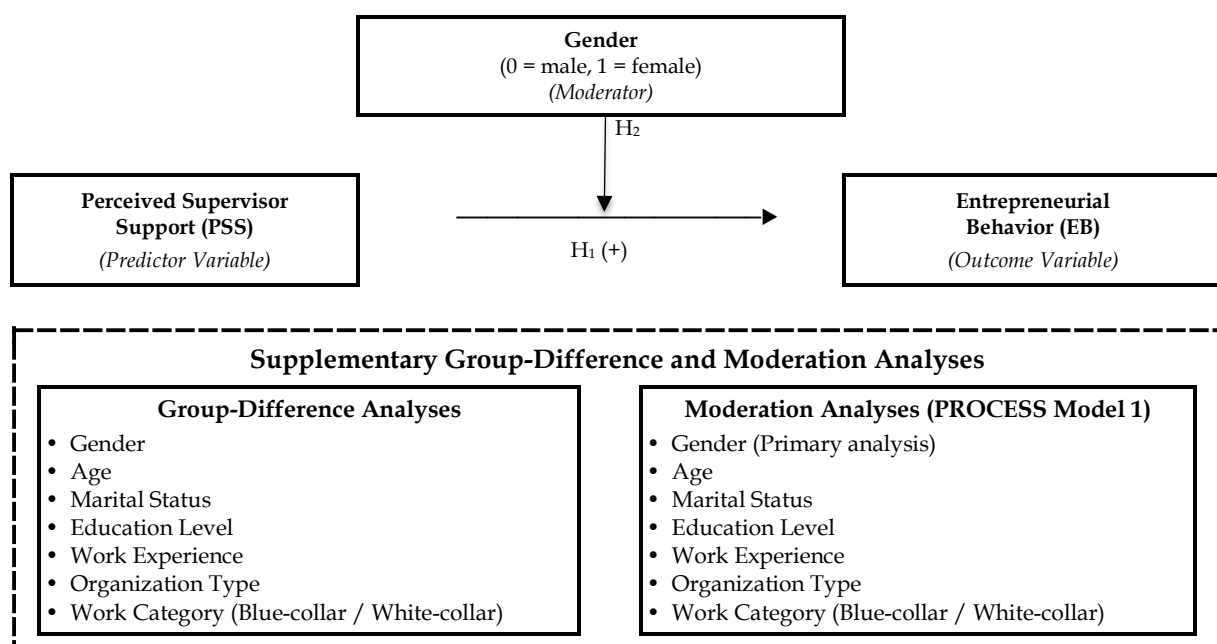


Figure 1: Research Model

Source: Produced by the author.

Method

This section outlines the methodological approach adopted to address the research objectives of this study. It presents the study design, sample and data collection procedure, measurement instruments, and analytical strategy used to test the proposed relationships.

Purpose and design of the study

This study aims to examine the relationship between employees' perceived supervisor support and entrepreneurial behavior and to test whether the strength of this relationship differs significantly by gender. Additionally, to support the contextual interpretation of the findings, supplementary analyses were conducted to assess whether the levels of perceived supervisor support and entrepreneurial behavior differed according to variables such as age, marital status, educational level, work experience, organization type (public/private/public-private partnership), and work category (blue-collar/white-collar). These demographic and occupational characteristics were also examined as potential moderators of the relationship between perceived supervisor support and entrepreneurial behavior as supplementary analyses. Gender, however, remained the focal theoretically derived moderator in the primary research model.

The study is based on a correlational survey design within a quantitative research approach and employed a cross-sectional data collection strategy. Data were collected using a survey, and the constructs were measured using scales with established validity and reliability in Türkiye. The association between perceived supervisor support and entrepreneurial behavior was examined using linear regression, while variation in the strength of this association by gender was assessed through regression-based conditional process analysis using Hayes's PROCESS macro (Hayes, 2022). Group differences and additional moderation analyses involving demographic and occupational characteristics were conducted as supplementary analyses to provide a broader contextual assessment of the focal relationship.

Population, sample, and data collection process

The study population comprised blue- and white-collar employees working in public, private, and public-private partnership organizations in Türkiye. Organization type was self-reported by participants as public, private, or public-private partnership. The public-private partnership category included respondents who identified their employing organization as operating under such an arrangement; the organizations' legal status was not independently verified by the researchers.

Because no comprehensive sampling frame covering these employee groups was available, a nonprobability convenience sampling approach was used. Eligibility required participants to be currently employed in one of the targeted organizational contexts, provide informed consent, and complete the focal study measures. Survey links were distributed through email, WhatsApp, social media, and institutional or professional networks. Because the open survey link could be forwarded and the number of individuals who viewed or received it could not be precisely recorded, a conventional response rate could not be calculated reliably.

Approximately 550 submitted questionnaires were initially screened. Incomplete questionnaires and submissions identified as duplicates during the initial screening were excluded. Because separate exclusion counts for incomplete and duplicate submissions were not retained, only the combined approximate number of excluded records can be reported. The final analytic sample comprised 494 participants. The retained dataset contained no item-level missing values; therefore, no missing-data imputation was performed. Subsequent regression diagnostics identified three cases with standardized residuals greater than 3 in absolute value. However, Cook's distance did not exceed .103 and leverage did not exceed .034, indicating that these observations did not exert undue influence on the estimated models; consequently, they were retained. Completion time was not recorded and therefore was not used as an exclusion criterion.

Gender was self-reported through a questionnaire item offering two response options: male and female. No additional response category was included. For the moderation analysis, gender was dummy-coded as 0 = men and 1 = women. Accordingly, the term gender is used consistently throughout the manuscript, and the categories refer to participants' self-reported questionnaire responses rather than a direct assessment of biological sex.

Data collection was conducted between April 7, 2026, and May 15, 2026.

Ethical considerations

The study was reviewed by the Ethics Committee for Human Research in the Social Sciences at Bolu Abant İzzet Baysal University on March 30, 2026 (No. 2026/03) and deemed ethically sound. Data collection commenced on April 7, 2026, following ethics committee approval. Before participating in the survey, all participants were informed about the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses, and their informed consent was obtained. No personally identifiable information was collected, and the data were used solely for scientific purposes.

Measurement instruments

All scale items used in the study were rated on a 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly agree). Higher scale scores indicate an increased level of the relevant construct. The questionnaire was designed to assess perceived supervisor support, participants' entrepreneurial behavior, and demographic and occupational characteristics.

Perceived supervisor support was measured using the 11-item unidimensional scale developed by Giray and Şahin (2012). The scale assesses employees' perceptions regarding the extent to which their supervisors value their contributions, care about them, and provide support when needed.

Entrepreneurial behavior was measured using a 6-item scale adapted by Akkoç et al. (2019), based on the Turkish adaptation of the scale developed by Pearce et al. (1997). The scale was selected because its level of analysis and behavioral focus correspond directly to the dependent construct examined in the present study: entrepreneurial behavior displayed by employees within an existing organizational setting. The purpose of the study is not to measure employees' intentions to become entrepreneurs or to operationalize intrapreneurship as a broader organizational construct, but rather to examine the entrepreneurial actions employees report exhibiting in their current work context. Therefore, a measure focusing specifically on employee-level entrepreneurial behavior was considered conceptually consistent with the research objective and model. The availability of a Turkish version with previously established psychometric adequacy provided additional support for its use in the present sample (Akkoç et al., 2019).

Entrepreneurial behavior was treated as a unidimensional construct in accordance with the scale application adopted in this study. The previously validated Turkish version reported by Akkoç et al. (2019) was used without any additional translation or wording modification. Items 1, 2, and 5 were positively worded, whereas Items 3, 4, and 6 were negatively worded. Before the scale score was calculated, the negatively worded items were reverse-coded using the transformation $6 - \text{original response}$; accordingly, responses of 1, 2, 3, 4, and 5 were recoded as 5, 4, 3, 2, and 1, respectively. Correct implementation of the reverse coding was checked before the reliability and main analyses. The scale score was calculated as the arithmetic mean of the six items, with higher scores indicating higher levels of entrepreneurial behavior.

Data analysis

Data analysis was conducted using IBM SPSS Statistics version 27, IBM SPSS Amos version 23, and Hayes's PROCESS macro version 5.0. The analysis proceeded in the following order: screening for completeness and duplicate submissions; reverse coding of EB Items 3, 4, and 6; calculation of scale scores; assessment of missing data, distributions, multicollinearity, and influential observations; evaluation of the measurement model using confirmatory factor analysis with maximum likelihood estimation; descriptive statistics and correlations; group-difference analyses; the focal regression and moderation analyses; and supplementary moderation and robustness analyses. The final analytic dataset contained no missing values, and no imputation was performed. Unless otherwise specified, all tests were two-tailed and evaluated at $\alpha = .05$; FDR-adjusted q values were reported for the predefined families of multiple comparisons.

The focal moderation analysis was estimated using Hayes's PROCESS macro version 5.0, Model 1, with entrepreneurial behavior as the outcome, perceived supervisor support as the predictor, and gender as the moderator (0 = male, 1 = female). PSS and gender were mean-centered before constructing the interaction term. Consequently, the PSS coefficient in the centered model represents the association at the sample mean of gender rather than the group-specific slope for men; the associations for men and women were therefore interpreted using simple slope estimates. The full-model R^2 , adjusted R^2 , overall F statistic, interaction-related ΔR^2 , regression coefficients, and analytic 95% confidence intervals were reported. Bootstrap resampling was not used for the focal moderation coefficients. Because heteroskedasticity was detected, HC3 heteroskedasticity-consistent standard errors and 95% confidence intervals were additionally reported for the focal interaction and simple slopes.

A sensitivity analysis based on the noncentral F distribution was verified using SciPy version 1.17.0. With $N = 494$, $\alpha = .05$, a target power of .80, three predictors in the full model (PSS, gender, and their interaction), and one tested interaction term, the minimum detectable incremental effect was $f^2 = .01595$ (approximately .016; numerator $df = 1$, denominator $df = 490$). This calculation pertains to the conventional OLS test of the interaction-related increase in R^2 and does not establish equivalent power for HC3 heteroskedasticity-robust inference.

A covariate-adjusted robustness model was also estimated to examine whether the focal $PSS \times$ gender interaction was sensitive to observed differences in participant composition. The covariates were selected on conceptual grounds rather than according to their statistical significance. Age and work experience were included as indicators of career stage, education level as an indicator of human-capital background, and organization type and work category as indicators of employment context. Marital status was included as an additional demographic characteristic. Multicategorical covariates were entered using indicator coding, with the first category of each variable serving as the reference group. The adjusted model was estimated using HC3 heteroskedasticity-consistent inference, and the sign, magnitude, confidence interval, and statistical significance of the focal interaction were compared with those obtained from the unadjusted model.

Regression diagnostics were conducted for both the unadjusted and covariate-adjusted moderation models. Linearity and functional-form adequacy were evaluated using residual-versus-predicted plots with LOWESS smooths and the Ramsey RESET test. Homoskedasticity was assessed using the Breusch-Pagan and White tests. Because each participant contributed a single response and the study did not include repeated measurements, independence was addressed primarily through the research design; Durbin-Watson statistics were also reported descriptively. When heteroskedasticity was detected, HC3 heteroskedasticity-consistent standard errors and confidence intervals were used for robustness inference.

Because the supplementary analyses involved multiple statistical tests, the Benjamini-Hochberg false discovery rate (FDR) procedure was applied at $q = .05$ (Benjamini & Hochberg, 1995). The analyses were organized into four conceptually distinct test families: 14 omnibus group-difference tests involving PSS and EB, six omnibus supplementary moderation tests, six education-specific simple slopes, and five interaction contrasts comparing the education categories with the primary education reference group. Adjusted q values are reported alongside the unadjusted p values. The two theoretically derived focal hypotheses, H1 and H2, were treated as confirmatory and were not included in the supplementary-test families. Pairwise comparisons conducted using Tukey or Games-Howell procedures were not subjected to an additional FDR adjustment because these procedures already control multiplicity within their respective comparison families.

Preliminary analyses, reliability, and construct validity

Means, standard deviations, skewness, kurtosis, and Pearson correlations were calculated for the study variables. The normality of the distributions was evaluated primarily on the basis of skewness and kurtosis values and graphical examinations. Kolmogorov-Smirnov and Shapiro-Wilk tests were also considered, but their results were interpreted cautiously because of the relatively large sample size.

The internal consistency of the perceived supervisor support and entrepreneurial behavior scales was assessed using Cronbach's alpha and corrected item-total correlations. Confirmatory factor analysis was subsequently conducted using maximum likelihood estimation in IBM SPSS Amos. Perceived supervisor support and entrepreneurial behavior were initially specified as two distinct latent constructs without correlated residuals. Inspection of the initial model indicated substantial shared residual variance among EB3, EB4, and EB6, all of which were reverse-worded items. Rather than removing these items, a correlated-uniqueness specification was tested by allowing the residuals of EB3-EB4, EB3-EB6, and EB4-EB6 to covary. To evaluate whether these associations reflected wording-related method variance, an alternative orthogonal method-factor model was also estimated in which EB3, EB4, and EB6 loaded simultaneously on the entrepreneurial behavior factor and a reverse-wording method factor that was specified as uncorrelated with the substantive constructs. Standardized factor loadings, composite reliability (CR), average variance extracted (AVE), the latent construct correlation, and model-fit statistics were evaluated. The modified two-factor model was also compared with the unmodified two-factor model and a one-factor model containing the same reverse-item residual covariances. The standardized root mean square residual (SRMR) was calculated from the discrepancies between the standardized observed and model-implied correlation matrices.

Regression assumptions were also examined before hypothesis testing. Multicollinearity was evaluated using tolerance and variance inflation factor (VIF) statistics, whereas potentially influential observations

were assessed using Cook's distance, leverage, and residual diagnostics. Perceived supervisor support and gender were mean-centered when constructing the focal interaction term to reduce nonessential multicollinearity associated with moderation analysis.

Testing the main model

Based on the theoretical arguments presented above, the primary research model focuses on the relationship between perceived supervisor support and entrepreneurial behavior and the moderating role of gender in this relationship. Perceived supervisor support is expected to be positively associated with employees' entrepreneurial behavior (H1), while gender is expected to moderate the strength of this association (H2). Organizational Support Theory provides the primary theoretical foundation for the proposed association, whereas Social Role Theory and Role Congruity Theory provide complementary explanations for the proposed moderating role of gender.

Moderation analysis: The moderating role of gender

To test the moderating role of gender in the relationship between perceived supervisor support and entrepreneurial behavior, moderation analyses were conducted within the scope of Model 1 using Hayes's PROCESS macro (Hayes, 2022). In the analyses, the predictor variable was defined as perceived supervisor support and the moderator variable as gender (0 = male, 1 = female).

The decision criterion in the moderation test was the coefficient and significance of the interaction term (PSS $\times$ Gender). Results are reported with the coefficient (b), standard error (SE), t-value, p-value, and 95% confidence intervals (LLCI-ULCI); the contribution of the interaction to the model was assessed via ΔR^2 . When the interaction term was found to be significant, simple slopes (conditional effects for male and female groups) were reported to interpret the relationship.

Supplementary group-difference and moderation analyses

To provide additional contextual evidence, supplementary analyses were conducted for age, marital status, education level, work experience, organization type, and work category. These analyses were not treated as additional confirmatory hypotheses but were intended to assess group differences and potential boundary conditions of the focal perceived supervisor support-entrepreneurial behavior relationship.

For variables with two categories, independent-samples t-tests were used to examine differences in perceived supervisor support and entrepreneurial behavior. For variables with three or more categories, one-way ANOVA was applied. Homogeneity of variances was assessed using Levene's test. Tukey HSD post-hoc comparisons were used when the homogeneity assumption was satisfied, whereas Games-Howell comparisons were preferred when this assumption was violated. Effect sizes were reported using Cohen's d for two-group comparisons.

In addition, each demographic and occupational characteristic was examined as a potential moderator of the relationship between perceived supervisor support and entrepreneurial behavior using PROCESS Model 1. Binary moderators were entered directly using their categorical coding. Variables with three or more categories were treated as multicategorical moderators using indicator coding, with the first category serving as the reference group. For multicategorical moderators, the overall significance of the interaction was evaluated using the omnibus test of the change in R^2 attributable to the interaction terms. Individual contrasts and conditional effects were examined only to clarify the pattern of moderation and were interpreted cautiously when the overall interaction was not statistically significant.

Demographic and occupational variables

Participants' background characteristics were recorded using a set of demographic and occupational variables and coded as categorical groups to ensure comparability in the group difference analyses. Demographic variables included gender (male, female), age (18–25, 26–35, 36–45, 46–55, and 56 and above), and marital status (married, single). Occupational variables comprised education level (primary education, high school, associate degree, bachelor's degree, master's degree, and doctorate), tenure/length of work experience (less than 1 year, 1–8 years, 9–16 years, 17–24 years, and 25 years and above), organization type (public sector, private sector, and public-private partnership), and work category (white-collar and blue-collar). These variables were used as grouping factors in the independent-samples t-tests for two-category variables and in conventional one-way ANOVA or Welch's ANOVA procedures for variables comprising three or more categories, depending on whether the homogeneity-of-variance assumption was satisfied. In addition, gender was examined as the focal moderator in the primary research model, while age, marital status, education level, work experience,

organization type, and work category were examined as potential moderators in supplementary analyses.

Findings

This section reports the study's empirical results. It first summarizes the sample characteristics and descriptive statistics, followed by reliability and construct validity assessments, assumption checks, correlation and hypothesis-testing results, and supplementary group-difference and moderation analyses.

Sample characteristics and descriptive statistics

In this study, analyses were conducted using the usable data obtained from **494** participants. The demographic and occupational distributions of the participants (age, gender, marital status, education, work experience, organization type, and work category [blue-collar/white-collar]) are presented in Table 1.

Table 1: Frequency and Percentage Analyses by Demographic Data

		N	%
Gender	Male	221	44.7
	Female	273	55.3
Age	18–25	140	28.3
	26–35	141	28.5
	36–45	128	25.9
	46–55	63	12.8
	56 and above	22	4.5
Marital status	Married	266	53.8
	Single	228	46.2
Education	Primary	44	8.9
	High school	136	27.5
	Associate degree	102	20.6
	Bachelor's degree	152	30.8
	Master's degree	42	8.5
Work experience	Doctorate	18	3.6
	Less than 1 year	85	17.2
	1–8 years	177	35.8
	9–16 years	104	21.1
	17–24 years	87	17.6
Organization type	25 years and above	41	8.3
	Public sector	169	34.2
	Private sector	234	47.4
	Public–private partnership	91	18.4
Work category	Blue-collar	269	54.5
	White-collar	225	45.5

Scale reliability, descriptive statistics, and construct validity

The mean, standard deviation, and internal consistency reliability (Cronbach's α) values for the scales are presented in Table 2. Higher scores indicate a higher level of the relevant constructs.

Table 2: Descriptive Statistics and Reliability of the Scales

Scale	N	Number of items	Total score Mean	Total Score SD	Mean Item Score (Total Score/Number of Items)	Cronbach's α	CR	AVE
Perceived Supervisor Support (PSS)	494	11	39.23	10.390	3.566	.941	.942	.595
Entrepreneurial Behavior (EB)	494	6	19.9798	4.5423	3.330	.720	.652	.284

Note: CR = composite reliability; AVE = average variance extracted.

According to Table 2, the Perceived Supervisor Support Scale demonstrated high internal consistency ($\alpha = .941$), composite reliability (CR = .942), and satisfactory convergent validity (AVE = .595). The Entrepreneurial Behavior Scale showed acceptable internal consistency based on Cronbach's alpha ($\alpha = .720$); however, its CR (.652) and AVE (.284) values were below conventional thresholds, indicating limited composite reliability and convergent validity. This measurement limitation was therefore considered explicitly in the subsequent analyses and interpretation of the findings.

The corrected item–total correlations for the Entrepreneurial Behavior Scale ranged from .375 to .514, indicating that all items contributed to the scale at an acceptable level. In addition, all “alpha if item deleted” values were lower than the overall Cronbach's alpha coefficient ($\alpha = .720$), indicating that removing any item would not improve the scale's internal consistency. Similarly, the corrected item–total correlations for the Perceived Supervisor Support Scale ranged from .698 to .800, indicating strong item contributions. The “alpha if item deleted” values ranged from .934 to .938 and remained below the overall reliability coefficient ($\alpha = .941$); therefore, no item removal was considered necessary.

Table 3: Confirmatory Factor Analysis and Measurement Model Results

Panel A. Standardized factor loadings							
Construct	Standardized factor loadings						
PSS	PSS1 = .717; PSS2 = .770; PSS3 = .823; PSS4 = .832; PSS5 = .768; PSS6 = .792; PSS7 = .805; PSS8 = .768; PSS9 = .762; PSS10 = .720; PSS11 = .720						
EB	EB1 = .739; EB2 = .753; EB3 = .291; EB4 = .253; EB5 = .648; EB6 = .155						
Wording-method factor	EB3 = .586; EB4 = .761; EB6 = .698						
Panel B. Measurement-model comparisons							
Model	χ^2 (df)	χ^2/df	CFI	TLI	GFI	RMSEA [90% CI]	SRMR
Initial two-factor model	748.406 (118)	6.342	.869	.849	.835	.104 [.097, .111]	.072
Modified two-factor model	427.570 (115)	3.718	.935	.923	.903	.074 [.067, .082]	.045
Orthogonal wording-method model	427.570 (115)	3.718	.935	.923	.903	.074 [.067, .082]	.045
One-factor model	607.286 (116)	5.235	.898	.880	.868	.093 [.085, .100]	.056

Note: λ = standardized loading on the substantive construct. EB3, EB4, and EB6 were reverse-worded items. In the modified two-factor model, residual covariances were specified between EB3–EB4, EB3–EB6, and EB4–EB6; the corresponding standardized residual correlations were .482, .433, and .556, respectively. In the alternative method-factor model, the three reverse-worded items loaded on an orthogonal wording factor while retaining their loadings on EB. The PSS–EB latent correlation was .665. No items were removed. The modified two-factor model fitted significantly better than both the initial model, $\Delta\chi^2(3) = 320.836$, $p < .001$, and the one-factor model, $\Delta\chi^2(1) = 179.716$, $p < .001$. The one-factor model incorporated the same reverse-wording controls. SRMR values were calculated from the standardized observed and model-implied correlation residuals.

Table 3 presents the standardized factor loadings and the results of the measurement-model comparisons. The initial two-factor model without correlated residuals did not demonstrate adequate fit, $\chi^2(118) = 748.406$, $p < .001$, $\chi^2/df = 6.342$, CFI = .869, TLI = .849, GFI = .835, RMSEA = .104, 90% CI [.097, .111], and SRMR = .072. Examination of the model indicated substantial shared residual variance among EB3, EB4, and EB6, which were the three reverse-worded entrepreneurial behavior items. Accordingly, residual covariances were specified between EB3–EB4, EB3–EB6, and EB4–EB6 to account for their common wording direction. This modification significantly improved model fit, $\Delta\chi^2(3) = 320.836$, $p < .001$. The modified two-factor model demonstrated acceptable fit, $\chi^2(115) = 427.570$, $p < .001$, $\chi^2/df = 3.718$, CFI = .935, TLI = .923, GFI = .903, RMSEA = .074, 90% CI [.067, .082], and SRMR = .045. No scale items were removed.

The alternative orthogonal wording-method model produced equivalent fit and yielded standardized method-factor loadings of .586 for EB3, .761 for EB4, and .698 for EB6. These results support the interpretation that the shared variance among the three items was associated with their reverse wording. In the modified substantive model, standardized loadings ranged from .717 to .832 for PSS and from .155 to .753 for EB. PSS demonstrated satisfactory composite reliability and convergent validity (CR = .942; AVE = .595), whereas EB showed comparatively weak composite reliability and convergent validity (CR = .652; AVE = .284). The latent correlation between PSS and EB was .665. Nevertheless, the two-factor model fitted significantly better than the alternative one-factor model, $\chi^2(116) = 607.286$, $\chi^2/df = 5.235$, CFI = .898, TLI = .880, GFI = .868, RMSEA = .093, 90% CI [.085, .100], SRMR = .056, $\Delta\chi^2(1) = 179.716$, $p < .001$. Thus, the findings support the empirical distinctiveness of PSS and EB, although results involving entrepreneurial behavior should be interpreted cautiously because of its limited convergent validity.

Assessment of the normality assumption (Skewness–Kurtosis)

Before proceeding to the parametric analyses, the distribution characteristics of the PSS and EB variables were examined using skewness and kurtosis coefficients, normality tests, and graphical inspections. The skewness and kurtosis values were .094 and .783 for EB and $-.583$ and $-.019$ for PSS, respectively, indicating no substantial deviation from normality. Although Kolmogorov–Smirnov and Shapiro–Wilk

tests were statistically significant ($p < .001$), these tests are sensitive to minor deviations in relatively large samples. Graphical examinations using histograms and Q-Q plots also indicated no severe distributional problems. Accordingly, the use of parametric analyses was considered appropriate.

Regression assumptions and diagnostic checks

To support the reliability of the regression and moderation results, multicollinearity and influential observations were examined. The PSS and gender variables were mean-centered before constructing the interaction term. Tolerance and VIF values indicated no problematic multicollinearity (maximum VIF = 1.880). Cook's distance (maximum = .103) and centered leverage (maximum = .034) indicated that no individual observation exerted excessive influence on the model. Although a small number of standardized residuals exceeded ± 3 , the influence diagnostics did not indicate a systematic problem severe enough to affect the regression or moderation analyses.

Correlation analyses

Pearson's correlation analysis was conducted to examine the bivariate relationships between the variables. Since the gender variable was dichotomously coded (0 = male, 1 = female), correlations between gender and other variables can be interpreted using the point-biserial correlation. The correlation results are shown in Table 4.

Table 4: Correlations among Variables

Variables	1	2	3
1. PSS (PSS_MEAN)	1		
2. EB (EB_MEAN)	.496** ($p < .001$)	1	
3. GENDER	-.005 ($p = .914$)	.005 ($p = .912$)	1

Note: ** $p < .01$ (two-tailed). N = 494.

According to Table 4, there is a positive and statistically significant relationship between perceived supervisor support (PSS) and entrepreneurial behavior (EB) ($r = .496$, $p < .001$). This finding indicates that higher levels of perceived supervisor support are associated with higher levels of entrepreneurial behavior, providing preliminary evidence for H1. The relationship between the gender variable and both PSS ($r = -.005$, $p = .914$) and EB ($r = .005$, $p = .912$) was not significant. These findings indicate that gender was not significantly associated with the mean levels of either PSS or EB. This does not contradict the moderation result, because mean-level differences and differences in the strength of a relationship represent distinct statistical questions.

Regression results and hypothesis testing

A simple linear regression analysis was conducted to examine the association between perceived supervisor support and entrepreneurial behavior. The results are presented in Table 5.

Table 5: Regression Results for the Association Between PSS and EB

Outcome variable (Y)	Predictor variable (X)	B	SE	β	t	p	R^2	F (df)	95% CI (Lower-Upper)
EB	PSS	0.397	0.031	.496	12.654	< .001	.246	160.130 (1, 492)	[0.336, 0.459]

Note: B = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; CI = confidence interval. All p -values are two-tailed.

The simple linear regression results indicated a positive and statistically significant association between perceived supervisor support and entrepreneurial behavior. The regression model was statistically significant, $F(1, 492) = 160.130$, $p < .001$, and accounted for 24.6% of the variance in entrepreneurial behavior ($R^2 = .246$; adjusted $R^2 = .244$). Perceived supervisor support was positively associated with entrepreneurial behavior ($B = 0.397$, $SE = 0.031$, $t = 12.654$, $p < .001$, $\beta = .496$). The 95% confidence interval for the unstandardized regression coefficient [0.336, 0.459] did not include zero, further supporting the statistical significance of this association. Accordingly, H1 was supported.

Moderation analysis: The moderating role of gender

Before examining moderation, independent-samples t -tests indicated no significant gender differences in perceived supervisor support ($t = .106$, $p = .915$) or entrepreneurial behavior ($t = -.106$, $p = .915$). Hayes's PROCESS Model 1 was used to examine whether the strength of the association between perceived supervisor support and entrepreneurial behavior differed by gender. Entrepreneurial

behavior (EB_MEAN) was specified as the outcome variable, perceived supervisor support (PSS_MEAN) as the predictor variable, and gender as the moderator (0 = male, 1 = female). Moderation was evaluated based on the coefficient and statistical significance of the PSS_MEAN $\times$ gender interaction term, and the incremental variance accounted for by the interaction was reported using ΔR^2 . The results are presented in Table 6.

Table 6: PROCESS Model 1 Results for Gender Moderation and HC3 Robustness Check

Panel A. Conventional OLS regression coefficients						
Variable	b	SE	t	p	LLCI	ULCI
Constant	3.3295	0.0294	113.1631	< .001	3.2717	3.3874
PSS	0.3818	0.0316	12.0733	< .001	0.3197	0.4440
Gender (0 = Male, 1 = Female)	0.0113	0.0592	0.1902	.849	-0.1050	0.1275
PSS $\times$ Gender	-0.1816	0.0625	-2.9062	.004	-0.3044	-0.0588
Panel B. Simple Slopes for the PSS-EB association by gender						
Group	Effect (b)	SE	t	p	LLCI	ULCI
Male (0)	0.4822	0.0428	11.2788	< .001	0.3982	0.5662
Female (1)	0.3006	0.0456	6.5951	< .001	0.2110	0.3901
Panel C. Model summary						
Model component	$R^2 / \Delta R^2$	Adjusted R^2	F	df1	df2	p
Full moderation model	.2584	.2538	56.9074	3	490	< .001
PSS $\times$ Gender interaction	.0128	—	8.4462	1	490	.004
Panel D. HC3 heteroskedasticity-robust inference						
Term	b	HC3 SE	t	p	LLCI	ULCI
PSS $\times$ Gender	-0.1816	0.0872	-2.0826	.038	-0.3530	-0.0103
PSS slope among men	0.4822	0.0674	7.1569	< .001	0.3498	0.6146
PSS slope among women	0.3006	0.0554	5.4290	< .001	0.1918	0.4094
Panel E. Comparison of unadjusted and covariate-adjusted models using HC3 inference						
Model	R^2	Adjusted R^2	Interaction b	HC3 SE	p	95% CI
Unadjusted model	.2584	.2538	-0.1816	0.0872	.038	[-0.3530, -0.0103]
Covariate-adjusted model	.3028	.2733	-0.1813	0.0881	.040	[-0.3544, -0.0082]

Note: N = 494. EB was specified as the outcome variable, PSS as the predictor, and gender as the moderator (0 = male, 1 = female). PSS and gender were mean-centered before constructing the interaction term. Therefore, the PSS coefficient in Panel A represents the association at the sample mean of gender rather than the slope for the male group; group-specific slopes are reported in Panel B. Panels A–C report conventional OLS inference obtained using Hayes's PROCESS macro version 5.0, Model 1. Panel D reports HC3 heteroskedasticity-consistent standard errors and 95% confidence intervals as a robustness check. The interaction remained statistically significant under HC3 inference. LLCI = lower limit of the 95% confidence interval; ULCI = upper limit of the 95% confidence interval. The covariate-adjusted model included age, education level, marital status, work experience, organization type, and work category. Multicategorical covariates were entered using indicator coding. The reference categories were 18–25 years for age, primary education for education level, married for marital status, less than one year for work experience, public sector for organization type, and blue-collar for work category. The adjusted model was statistically significant under HC3 inference, $F(20, 473) = 6.4863$, $p < .001$. The maximum variance inflation factor was 3.65, indicating no serious multicollinearity. The sign, magnitude, and statistical significance of the focal PSS $\times$ gender interaction remained substantively unchanged after covariate adjustment.

As shown in Table 6, the full moderation model was statistically significant, $F(3, 490) = 56.9074$, $p < .001$, accounting for 25.84% of the variance in entrepreneurial behavior ($R^2 = .2584$; adjusted $R^2 = .2538$). Under conventional OLS inference, the PSS $\times$ gender interaction was statistically significant ($b = -0.1816$, $SE = 0.0625$, $t = -2.9062$, $p = .004$, 95% CI [-0.3044, -0.0588]) and accounted for an additional 1.28% of the variance ($\Delta R^2 = .0128$, $F(1, 490) = 8.4462$, $p = .004$). This result indicates that the strength of the association between perceived supervisor support and entrepreneurial behavior differed by gender. Simple slope analysis showed that perceived supervisor support was positively associated with entrepreneurial behavior among both men ($b = 0.4822$, $p < .001$, 95% CI [0.3982, 0.5662]) and women ($b = 0.3006$, $p < .001$, 95% CI [0.2110, 0.3901]), although the association was stronger among men. The focal interaction remained statistically significant when HC3 heteroskedasticity-consistent inference was used ($b = -0.1816$, HC3 SE = 0.0872, $t = -2.0826$, $p = .038$, 95% CI [-0.3530, -0.0103]). The HC3 simple

slopes were also positive and statistically significant among men ($b = 0.4822$, $p < .001$, 95% CI [0.3498, 0.6146]) and women ($b = 0.3006$, $p < .001$, 95% CI [0.1918, 0.4094]). Accordingly, H2 was supported, although the modest incremental variance and attenuation under robust inference warrant cautious interpretation.

The covariate-adjusted robustness model included age, education level, marital status, work experience, organization type, and work category. The adjusted model was statistically significant under HC3 inference, $F(20, 473) = 6.4863$, $p < .001$, with $R^2 = .3028$ and adjusted $R^2 = .2733$. After adjustment, the PSS $\times$ gender interaction remained negative and statistically significant ($b = -0.1813$, HC3 SE = 0.0881, $t = -2.0578$, $p = .040$, 95% CI [-0.3544, -0.0082]). The adjusted simple slopes remained positive and statistically significant among men ($b = 0.4835$, $p < .001$, 95% CI [0.3495, 0.6176]) and women ($b = 0.3022$, $p < .001$, 95% CI [0.1873, 0.4171]). The similarity between the unadjusted and adjusted interaction coefficients indicates that the focal moderation result was not materially altered by the observed demographic and occupational covariates. Nevertheless, adjustment for these measured characteristics cannot eliminate the possibility of confounding by unmeasured variables.

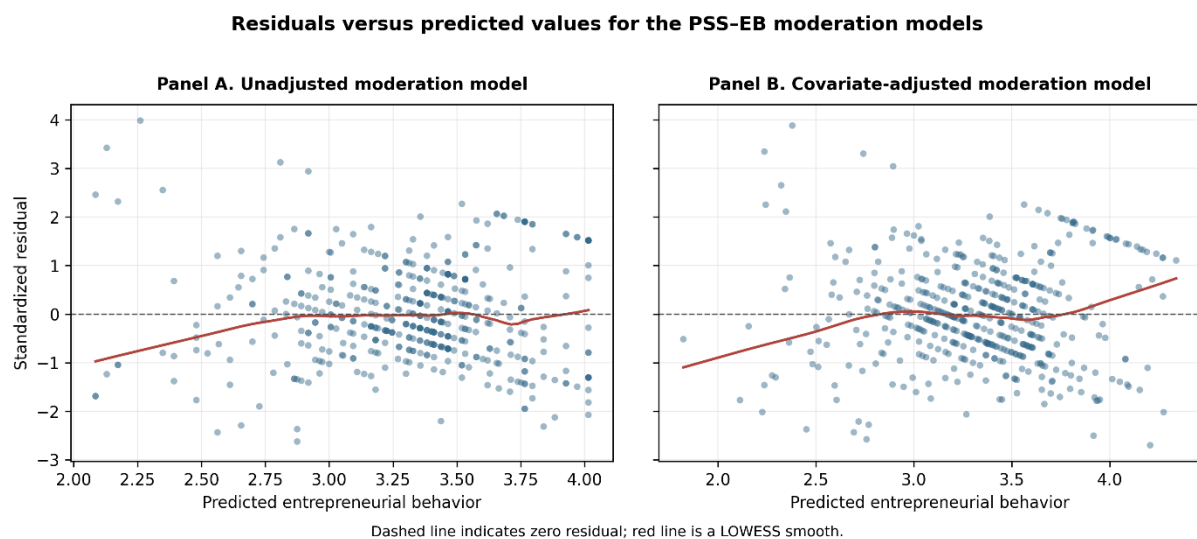


Figure 2: Residuals Versus Predicted Values for the PSS-EB Moderation Models

Note. Panel A presents the unadjusted moderation model, and Panel B presents the covariate-adjusted model. The dashed horizontal line represents a standardized residual of zero, and the red line represents the LOWESS smooth.

The residual-versus-predicted plots are presented in Figure 2. The LOWESS smooths and Ramsey RESET tests did not provide strong evidence of functional-form misspecification in either the unadjusted model, $F(1, 489) = 0.645$, $p = .422$, or the covariate-adjusted model, $F(1, 472) = 0.638$, $p = .425$. However, the Breusch-Pagan tests indicated heteroskedasticity in both the unadjusted model, $\chi^2(3) = 17.070$, $p < .001$, and the adjusted model, $\chi^2(20) = 47.993$, $p < .001$. The White tests led to the same conclusion (both $p < .001$). The Durbin-Watson statistics were 1.457 for the unadjusted model and 1.578 for the adjusted model. Because the observations were cross-sectional and had no substantively meaningful temporal ordering, these values were interpreted descriptively rather than as time-series diagnostics. Taken together, the diagnostics supported retaining the specified linear functional form but indicated nonconstant residual variance. Therefore, HC3 heteroskedasticity-consistent inference was used to evaluate the robustness of the focal interaction and simple slopes.

Supplementary group-difference analyses

To support the contextual interpretation of the findings, supplementary analyses examined whether perceived supervisor support and entrepreneurial behavior differed according to demographic and occupational characteristics. Independent-samples t-tests were used for variables comprising two groups, with adjusted degrees of freedom reported when equal variances could not be assumed. For variables comprising three or more groups, the homogeneity-of-variance assumption was assessed using Levene's test. When Levene's test was not significant, conventional one-way ANOVA was used as the omnibus test, followed by Tukey's HSD test when appropriate. When Levene's test was significant, Welch's ANOVA was used instead of the conventional omnibus F test, and Games-Howell comparisons were subsequently examined. All demographic and occupational variables were coded as categorical groups as described in the "Demographic and occupational variables" section. These analyses were treated as supplementary contextual analyses rather than as tests of additional formal hypotheses. The results are presented in Table 7.

Table 7: Differences in PSS and EB by Demographic and Occupational Characteristics

Panel A. Independent-samples t-test results									
Variable and group coding	PSS: <i>t</i> (df)		PSS <i>p</i> (<i>q</i>)		EB: <i>t</i> (df)		EB <i>p</i> (<i>q</i>)		Effect size
Gender: 1 = Male, 2 = Female	0.106 (430.848)		.915 (.986)		−0.106 (387.074)		.915 (.986)		PSS: <i>d</i> = .010; EB: <i>d</i> = −.010
Marital status: 1 = Married, 2 = Single	−0.007 (492)		.994 (.994)		−0.740 (455.650)		.460 (.715)		PSS: <i>d</i> = −.001; EB: <i>d</i> = −.067
Work category: 1 = Blue-collar, 2 = White-collar	1.152 (492)		.250 (.437)		−0.309 (492)		.757 (.964)		PSS: <i>d</i> = .104; EB: <i>d</i> = −.028
Panel B. One-way ANOVA and Welch's ANOVA results									
Variable and group coding	PSS Levene <i>p</i>	PSS omnibus test	PSS <i>p</i> (<i>q</i>)	EB Levene <i>p</i>	EB omnibus test	EB <i>p</i> (<i>q</i>)	Post-hoc results	PSS: ω ² [95% CI]	EB: ω ² [95% CI]
Age: 1 = 18–25; 2 = 26–35; 3 = 36–45; 4 = 46–55; 5 = 56 and above	.055	<i>F</i> (4, 489) = 3.743	.005 (.024)	.005	Welch's <i>F</i> (4, 117.675) = 4.102	.004 (.024)	EB, Games-Howell: 1 > 3 (<i>p</i> = .004); 2 > 3 (<i>p</i> = .019). PSS, Tukey: 5 < 1 (<i>p</i> = .013); 5 < 2 (<i>p</i> = .005).	.022 [.003, .068]	.020 [.004, .064]
Education: 1 = Primary; 2 = High school; 3 = Associate degree; 4 = Bachelor's degree; 5 = Master's degree; 6 = Doctorate	.261	<i>F</i> (5, 488) = 1.774	.116 (.233)	< .001	Welch's <i>F</i> (5, 108.159) = 2.937	.016 (.056)	EB, Games-Howell: 3 > 4 (<i>p</i> = .028). No significant PSS comparison.	.008 [.000, .049]	.016 [.002, .062]
Work experience: 1 = Less than 1 year; 2 = 1–8 years; 3 = 9–16 years; 4 = 17–24 years; 5 = 25 years and above	.039	Welch's <i>F</i> (4, 171.571) = 2.754	.030 (.083)	.264	<i>F</i> (4, 489) = 0.595	.666 (.933)	PSS, Games-Howell: no significant pairwise differences.	.016 [.001, .061]	.000 [.000, .026]
Organization type: 1 = Public; 2 = Private; 3 = Public-private partnership	.440	<i>F</i> (2, 491) = 7.407	< .001 (.009)	.022	Welch's <i>F</i> (2, 227.332) = 2.305	.102 (.233)	PSS, Tukey: 2 > 1 (<i>p</i> = .008); 3 > 1 (<i>p</i> = .001). EB, Games-Howell: no significant pairwise differences.	.025 [.004, .065]	.008 [.000, .040]

Note: PSS = perceived supervisor support; EB = entrepreneurial behavior. Conventional one-way ANOVA and Tukey's post-hoc test were used when the homogeneity-of-variance assumption was satisfied. When Levene's test was significant, Welch's ANOVA was used as the omnibus test, followed by Games-Howell pairwise comparisons where appropriate. For the two-group comparisons, adjusted degrees of freedom are reported when equal variances could not be assumed. Values in parentheses are Benjamini-Hochberg FDR-adjusted *q* values calculated across the 14 omnibus group-difference tests. Statistical significance after FDR correction was evaluated at *q* < .05. Tukey and Games-Howell pairwise *p* values are already adjusted for multiple comparisons within their respective test families. For comparisons involving three or more groups, omega squared (ω^2) is reported as a bias-adjusted estimate of the proportion of variance explained. The 95% confidence intervals for ω^2 were calculated using percentile bootstrap estimates based on 5,000 resamples. Negative estimates and confidence limits were reported as zero because the population effect-size parameter is nonnegative. Cohen's *d* is reported for two-group comparisons.

As shown in Table 7, perceived supervisor support and entrepreneurial behavior did not differ significantly by gender, marital status, or work category, either before or after FDR adjustment (all *q* > .05). The corresponding effect sizes were also small, indicating limited practical differences between these two-group categories.

In the multigroup comparisons, PSS differed significantly across age groups, $F(4, 489) = 3.743$, *p* = .005, *q* = .024. Tukey comparisons indicated that employees aged 56 years and older reported lower PSS than those aged 18-25 years (*p* = .013) and 26-35 years (*p* = .005). Because the homogeneity-of-variance assumption was not satisfied for EB (Levene's *p* = .005), Welch's ANOVA was used. The age difference in EB remained statistically significant after FDR adjustment, Welch's $F(4, 117.675) = 4.102$, *p* = .004, *q* = .024. Games-Howell comparisons showed that employees aged 18-25 years reported higher EB than those aged 36-45 years ($M = 3.462$ vs. 3.146 , *p* = .004). Employees aged 26-35 years also reported higher EB than those aged 36-45 years ($M = 3.394$ vs. 3.146 , *p* = .019).

PSS did not differ significantly by education level, $F(5, 488) = 1.774$, *p* = .116, *q* = .233. For EB, Levene's test was significant (*p* < .001), and Welch's ANOVA produced a nominally significant result before multiplicity correction, Welch's $F(5, 108.159) = 2.937$, *p* = .016. However, this difference did not remain statistically significant after FDR adjustment (*q* = .056). Accordingly, the Games-Howell comparison

indicating higher EB among associate-degree holders than among bachelor's-degree holders ($M = 3.489$ vs. 3.195 , $p = .028$) should be regarded as exploratory. Similarly, the work-experience difference in PSS was nominally significant, Welch's $F(4, 171.571) = 2.754$, $p = .030$, but did not remain significant after FDR adjustment ($q = .083$); none of the Games–Howell pairwise comparisons was significant. EB did not differ by work experience, $F(4, 489) = 0.595$, $p = .666$, $q = .933$. Finally, PSS differed significantly by organization type after FDR adjustment, $F(2, 491) = 7.407$, $p < .001$, $q = .009$. Tukey comparisons indicated that private-sector employees ($p = .008$) and employees in public-private partnerships ($p = .001$) reported higher PSS than public-sector employees. Because the variance assumption was not satisfied for EB (Levene's $p = .022$), Welch's ANOVA was applied and showed no significant difference by organization type, Welch's $F(2, 227.332) = 2.305$, $p = .102$, $q = .233$. The corresponding effect sizes were small. Age accounted for approximately 2.2% of the variance in PSS and 2.0% of the variance in EB, whereas organization type accounted for approximately 2.5% of the variance in PSS. The effect sizes associated with education level and work experience were also small or negligible. Thus, even when an omnibus group difference was statistically significant, the proportion of variance explained by the grouping variable remained limited.

Supplementary moderation analyses

In response to the broader contextual question of whether the focal relationship operates similarly across employee groups, supplementary moderation analyses were conducted for age, education level, marital status, work experience, organization type, and work category. PROCESS Model 1 was used in all analyses. Multicategorical variables were examined using indicator coding, and the overall interaction effect was evaluated on the basis of the change in explained variance attributable to the interaction terms. The results are summarized in Table 8.

Table 8: Supplementary Moderation Analyses

Moderator	ΔR^2	F	df1	df2	p (q)	Result
Work category	.0036	2.329	1	490	.128 (.255)	Not significant
Organization type	.0068	2.259	2	488	.106 (.255)	Not significant
Age	.0072	1.185	4	484	.317 (.437)	Not significant
Education level	.0509	7.116	5	482	< .001 (< .001)	Significant
Marital status	.0001	.075	1	490	.784 (.784)	Not significant
Work experience	.0066	1.083	4	484	.365 (.437)	Not significant

Note: ΔR^2 represents the additional proportion of variance explained by the interaction term(s). For multicategorical moderators, the reported F test represents the omnibus interaction test. The q values were calculated using the Benjamini–Hochberg false discovery rate procedure across the six supplementary omnibus moderation tests. Education level remained statistically significant after FDR adjustment.

As shown in Table 8, work category, organization type, age, marital status, and work experience did not significantly moderate the relationship between perceived supervisor support and entrepreneurial behavior (all omnibus $p > .05$). Thus, the strength of the PSS–entrepreneurial behavior relationship was generally similar across these demographic and occupational categories.

Table 9: Education-Specific Associations and Interaction Contrasts

Panel A. Simple slopes for the association between PSS and EB						
Education level	n	b	SE	p	q	95% CI
Primary education	44	0.7057	0.0939	< .001	< .001	[0.5211, 0.8903]
High school	136	0.4624	0.0576	< .001	< .001	[0.3492, 0.5756]
Associate degree	102	0.5414	0.0707	< .001	< .001	[0.4023, 0.6804]
Bachelor's degree	152	0.1673	0.0537	.002	.003	[0.0618, 0.2727]
Master's degree	42	0.2878	0.1356	.034	.034	[0.0213, 0.5543]
Doctorate	18	0.3095	0.1370	.024	.029	[0.0403, 0.5787]
Panel B. Interaction contrasts relative to primary education						
Comparison		b	SE	p	q	95% CI
High school vs. primary		-0.2433	0.1102	.028	.035	[-0.4599, -0.0268]
Associate degree vs. primary		-0.1644	0.1176	.163	.163	[-0.3954, 0.0667]
Bachelor's degree vs. primary		-0.5385	0.1082	< .001	< .001	[-0.7510, -0.3259]
Master's degree vs. primary		-0.4179	0.1650	.012	.029	[-0.7421, -0.0938]
Doctorate vs. primary		-0.3962	0.1661	.017	.029	[-0.7226, -0.0698]

Note: PSS = perceived supervisor support; EB = entrepreneurial behavior; b = unstandardized coefficient; SE = standard error; CI = confidence interval. The primary education category served as the reference group. Benjamini-Hochberg FDR adjustments were applied separately across the six simple slopes in Panel A and the five interaction contrasts in Panel B. Although all conditional associations remained positive and statistically significant after FDR adjustment, estimates for the master's and doctoral groups should be interpreted cautiously because of their small sample sizes and comparatively wide confidence intervals.

After Benjamini-Hochberg adjustment across the six supplementary omnibus moderation tests, education level remained the only statistically significant moderator of the PSS-entrepreneurial behavior association ($\Delta R^2 = .0509$, $F(5, 482) = 7.116$, $p < .001$, $q < .001$). Work category ($p = .128$, $q = .255$), organization type ($p = .106$, $q = .255$), age ($p = .317$, $q = .437$), marital status ($p = .784$, $q = .784$), and work experience ($p = .365$, $q = .437$) did not significantly moderate the focal association. Although one organization-type contrast had an unadjusted p value of .047, neither the overall moderation test nor its FDR-adjusted result was significant; therefore, this isolated contrast was not interpreted as evidence of organization-type moderation.

As shown in Table 9, the association between perceived supervisor support and entrepreneurial behavior was positive at every education level and remained statistically significant after FDR adjustment: primary education ($b = .7057$, $SE = .0939$, $q < .001$), high school ($b = .4624$, $SE = .0576$, $q < .001$), associate degree ($b = .5414$, $SE = .0707$, $q < .001$), bachelor's degree ($b = .1673$, $SE = .0537$, $q = .003$), master's degree ($b = .2878$, $SE = .1356$, $q = .034$), and doctorate ($b = .3095$, $SE = .1370$, $q = .029$). Relative to the primary education group, the association was significantly weaker among employees with high school ($b = -.2433$, $q = .035$), bachelor's ($b = -.5385$, $q < .001$), master's ($b = -.4179$, $q = .029$), and doctoral education ($b = -.3962$, $q = .029$), whereas the associate-degree contrast was not significant ($b = -.1644$, $q = .163$). Nevertheless, the wider confidence intervals for the master's and doctoral groups, together with their small sample sizes, indicate that the education-specific estimates should be regarded as exploratory and interpreted cautiously.

Discussion and conclusion

The primary objective of this study was to examine the association between perceived supervisor support and entrepreneurial behavior and determine whether the strength of this association differed by gender. The findings indicated that perceived supervisor support was positively and significantly associated with entrepreneurial behavior. The simple linear regression model accounted for approximately one-fourth of the variance in entrepreneurial behavior ($B = 0.397$, $\beta = .496$, $p < .001$, $R^2 = .246$). This finding is consistent with Organizational Support Theory, which suggests that employees develop general beliefs about the extent to which organizational representatives value their contributions and care about their well-being (Rhoades & Eisenberger, 2002). Employees may interpret support received from their supervisors as a signal that they are valued, which may be associated with greater willingness to engage in role-exceeding and organization-benefiting behaviors through reciprocity processes. Meta-analytic evidence has similarly demonstrated that perceived support is associated with positive work attitudes and behavioral outcomes (Kurtessis et al., 2017). From this perspective, the present findings extend the support-behavior relationship documented in the organizational support literature to employee entrepreneurial behavior. Previous studies

conceptualizing entrepreneurial behavior as organizationally situated value-creating action have also emphasized the relevance of the managerial context to employees' entrepreneurial activities (De Jong & Wennekers, 2008; Pearce et al., 1997). Accordingly, the positive association observed between perceived supervisor support and entrepreneurial behavior is consistent with the view that employee entrepreneurship is context-sensitive (De Jong & Wennekers, 2008). Nevertheless, because the present study used cross-sectional self-report data, the direction of this relationship cannot be established.

The finding that perceived supervisor support is positively and significantly associated with entrepreneurial behavior is consistent with the literature highlighting that intrapreneurial behavior is shaped within the context of resources and leadership. Findings showing that intrapreneurial behavior can be supported within a framework where employee resources and empowering leadership practices work together (Kim & Beehr, 2023) suggest that supervisor support may constitute a relevant contextual resource for employees engaging in behaviors that involve uncertainty and risk. The present finding also complements Revuelto-Taboada et al. (2023), who identified supervisor support as a contextual factor in intrapreneurial behavior; whereas their study positioned supervisor support as a moderator of organizational practices, the current findings indicate that employees' perceptions of direct supervisor support are themselves positively associated with entrepreneurial behavior. Similarly, studies pointing to the role of employee well-being in the relationship between work conditions and employee entrepreneurial behavior highlight that entrepreneurial behavior must be understood not only through individual tendencies but also through the resources provided by the job and the psychological context (Escrig-Tena et al., 2025). In the Turkish context, findings showing the relationship between perceived supervisor support and psychological resources such as work engagement and career-related self-efficacy support the notion that such support can provide a motivational and psychological foundation for entrepreneurial behavior (Ekmekçioğlu, 2020). Furthermore, findings indicating that motivation is associated with intrapreneurship among healthcare workers underscore the importance of considering entrepreneurial action in conjunction with motivational and organizational conditions, particularly in service-intensive sectors (Terzibaş & Öcel, 2025). It should be emphasized, however, that psychological resources, employee well-being, and motivational mechanisms were not directly measured in the present study. Therefore, these mechanisms are discussed as theoretically plausible explanations derived from previous research rather than as processes empirically demonstrated by the current findings.

A key finding of this study is that the strength of the association between perceived supervisor support and entrepreneurial behavior differed significantly by gender. The PROCESS Model 1 results indicated a statistically significant PSS $\times$ gender interaction ($b = -0.1816$, $p = .004$), although the incremental variance accounted for by the interaction was modest ($\Delta R^2 = .0128$). Simple slope analysis showed that perceived supervisor support was positively associated with entrepreneurial behavior among both men ($b = 0.4822$, $p < .001$) and women ($b = 0.3006$, $p < .001$), with a stronger association observed among men in the present sample. This pattern is consistent with Social Role Theory, which suggests that the relationship between an organizational resource and employee behavior may vary across gender groups because of gender-related social expectations (Eagly, 1987; Eagly et al., 2000). Role Congruity Theory further proposes that gender norms may shape how behaviors involving agency, initiative, and assertiveness are evaluated and experienced within organizational settings (Eagly & Karau, 2002). Because entrepreneurial behavior involves initiative and visibility, its expression and evaluation may be associated with gender-related expectations. The present finding should not be interpreted as evidence that men are inherently more entrepreneurial than women. Rather, it indicates that the statistical association between perceived supervisor support and entrepreneurial behavior was stronger among men in this sample. This interpretation is broadly consistent with evidence that gender may condition the relationship between perceived organizational support and innovative work behavior (Al-Taie & Khattak, 2024) and that gender-related organizational conditions may be associated differently with the emergence of intrapreneurial behavior among women and men (Blomkvist et al., 2025).

This distinction is particularly important because the entrepreneurship literature has frequently examined gender differences at the level of attitudes and entrepreneurial intentions rather than enacted entrepreneurial behavior. Gender-based differences are frequently reported in the entrepreneurship literature, particularly regarding attitudes and intentions; women and men may exhibit different patterns in their attitudes toward entrepreneurship and their entrepreneurial intentions (Sánchez Cañizares & Fuentes García, 2010; Yordanova & Tarrazon, 2010). Furthermore, conditional process approaches, which demonstrate that the relationship between motivation and entrepreneurial intention may operate conditionally depending on gender, support the idea that gender can play a moderating role in certain relationships (Kong & Choo, 2022). Similarly, findings concerning stereotypes, social

support, and self-efficacy in women's entrepreneurial intentions suggest that support-related resources may acquire different meanings within gendered contexts (Hamdani et al., 2023). Studies examining gender differences in the relationships among attitudes, perceived control, and entrepreneurial intention also reinforce the importance of considering gender as more than a simple demographic control variable (Contreras-Barraza et al., 2021; Vamvaka et al., 2020). The present study extends this discussion from entrepreneurial intention to entrepreneurial behavior displayed by employees within existing organizations. At the same time, because the interaction explained a relatively small additional proportion of variance ($\Delta R^2 = .0128$), gender should be regarded as a meaningful but limited boundary condition rather than as a dominant explanation of entrepreneurial behavior.

Supplementary group-difference analyses contributed to the contextual interpretation of the findings. In two-group comparisons involving gender, marital status, and work category, no significant mean differences were observed in either perceived supervisor support or entrepreneurial behavior, and the effect sizes remained very small. This result does not weaken the gender moderation finding. Average levels may be similar across groups while the slope of the support-behavior relationship differs. In other words, mean differences and moderation effects address different statistical questions (Hayes, 2022). Thus, the present findings suggest that gender is more relevant to how perceived supervisor support relates to entrepreneurial behavior than to differences in the average levels of the two constructs.

In the multigroup analyses, age differences remained statistically significant after FDR adjustment for both perceived supervisor support ($p = .005$, $q = .024$) and entrepreneurial behavior ($p = .004$, $q = .024$). Employees aged 56 years and older reported lower perceived supervisor support than those aged 18–25 and 26–35 years, whereas employees aged 18–25 and 26–35 years reported higher entrepreneurial behavior than those aged 36–45 years. Organization type also remained significant for perceived supervisor support ($p < .001$, $q = .009$), with employees in private and public-private partnership organizations reporting higher support than those in public organizations. By contrast, the nominal differences observed in entrepreneurial behavior across education groups ($p = .016$, $q = .056$) and in perceived supervisor support across work-experience groups ($p = .030$, $q = .083$) did not remain statistically significant after FDR adjustment. No other multigroup difference remained significant after adjustment. Moreover, the corresponding effect sizes were small, indicating that the practical magnitude of these demographic and occupational differences was limited.

The supplementary analyses further clarify the distinction between differences in mean levels and differences in relationships. After FDR adjustment, age, marital status, work experience, organization type, and work category did not significantly moderate the association between perceived supervisor support and entrepreneurial behavior. Education level, however, remained a significant moderator ($\Delta R^2 = .0509$, $p < .001$, $q < .001$). Perceived supervisor support was positively associated with entrepreneurial behavior at every education level after FDR adjustment, although the strength of the association differed across educational groups. Notably, the mean difference in entrepreneurial behavior across education groups did not remain significant after FDR adjustment ($q = .056$), whereas the education moderation result remained significant. These findings are not contradictory because mean comparisons and moderation analyses address different statistical questions. Nevertheless, the master's and doctoral groups contained relatively few participants and produced wider confidence intervals. The education moderation should therefore be regarded as exploratory evidence requiring replication in larger samples with more balanced educational distributions.

The supplementary findings also help clarify the specificity of the focal gender result. The PSS-entrepreneurial behavior relationship did not significantly vary across work category, organization type, age, marital status, or work-experience groups, whereas significant variation was observed for gender and education. Thus, the results do not support a general assumption that the support-behavior relationship differs across all demographic or occupational categories. Rather, they suggest that only particular employee characteristics may condition the behavioral implications of perceived supervisor support.

This study offers three theoretical contributions. First, it documents a significant positive association between perceived supervisor support and entrepreneurial behavior, thereby connecting support-based explanations with the employee entrepreneurship literature (Kurtessis et al., 2017; Rhoades & Eisenberger, 2002). The findings suggest that support-based explanations may be relevant not only to conventional employee attitudes and discretionary outcomes but also to entrepreneurial behavior enacted within existing organizations. Second, the moderation results indicate that the strength of the support-behavior association may differ by gender, extending a discussion that has often focused on entrepreneurial intentions to employee behavior (Contreras-Barraza et al., 2021; Vamvaka et al., 2020). This contribution does not rest on a difference in women's and men's average entrepreneurial behavior;

rather, it identifies gender as a potential boundary condition of the association between an organizational resource and employee behavior. Third, the supplementary analyses indicate that the PSS–entrepreneurial behavior association was relatively stable across several demographic and occupational characteristics, whereas education emerged as a potentially relevant additional moderator. Because the education finding resulted from supplementary analysis, it should be treated as exploratory evidence requiring future confirmatory research.

From an applied perspective, the findings offer several cautiously framed considerations for managers interested in employee entrepreneurial behavior. The positive association between perceived supervisor support and entrepreneurial behavior suggests that supportive practices such as constructive feedback, recognition, guidance, resource provision, and reasonable tolerance of mistakes may be relevant to organizational efforts to encourage employee initiative. Research on employee voice and suggestion-making similarly indicates that perceived support may be associated with role-exceeding contributions (Andiyasari et al., 2017). Organizations could therefore consider practices such as regular supervisor–employee feedback meetings, structured channels for proposing and developing ideas, transparent criteria for evaluating employee proposals, and limited time or resources for exploring promising initiatives. However, the present cross-sectional findings do not establish that implementing these practices will necessarily increase entrepreneurial behavior.

The gender moderation finding also suggests that organizations may benefit from examining whether support is experienced similarly across employee groups. Although perceived supervisor support was positively associated with entrepreneurial behavior among both women and men, the association was weaker among women in the present sample. This pattern should not be interpreted as a deficiency in women's entrepreneurial capacity. Managers may instead wish to assess whether employees have comparable access to visibility, sponsorship, decision-making channels, resources, and opportunities to develop their ideas. Transparent evaluation criteria, monitoring the consideration given to proposals from different employee groups, and mentoring or sponsorship opportunities may contribute to more equitable organizational conditions. The supplementary moderation by education similarly suggests that managers should not automatically assume an identical PSS–entrepreneurial behavior association across educational groups. Because this finding is exploratory, however, it should inform managerial awareness rather than justify different treatment based on education level.

This study has several limitations. First, its cross-sectional design does not permit conclusions about temporal ordering or causality. Although perceived supervisor support was positively associated with entrepreneurial behavior, reverse causality cannot be ruled out; employees who report greater entrepreneurial behavior may also perceive or elicit greater support from their supervisors. Second, both constructs were measured through self-reports obtained from the same respondents at a single point in time. Consequently, common method bias may have inflated the magnitude of the observed association, even though the two-factor measurement model supported the empirical distinctiveness of perceived supervisor support and entrepreneurial behavior. Convergent validity was also comparatively weaker for the entrepreneurial behavior scale ($CR = .652$; $AVE = .284$), largely because the reverse-worded items exhibited relatively low factor loadings and shared wording-related residual variance. The findings concerning entrepreneurial behavior should therefore be interpreted with this measurement limitation in mind, and future studies should further evaluate the scale's wording structure and construct validity in independent samples. Although the sensitivity analysis indicated that the sample could detect an interaction effect of approximately $f^2 = .016$ with 80% power, the observed interaction was small and its HC3 confidence interval approached zero. The moderation finding should therefore be replicated in larger and independently drawn samples. Furthermore, the use of nonprobability convenience sampling limits the representativeness of the sample and precludes generalizing the findings to all employees in Türkiye. Finally, some categories in the supplementary analyses, particularly the higher education groups, contained relatively small numbers of participants, limiting strong conclusions from individual group contrasts.

Future research can address these limitations and extend the present findings in several directions. Longitudinal designs could be used to examine whether perceived supervisor support precedes changes in entrepreneurial behavior over time and whether reciprocal relationships emerge. Multi-source studies could incorporate supervisor evaluations or objective indicators of employee initiatives to reduce reliance on self-reported entrepreneurial behavior. Future studies could also directly measure potential explanatory mechanisms such as psychological safety, self-efficacy, perceived interpersonal risk, or motivational processes rather than inferring these mechanisms from previous research. Given the conceptual distinction emphasized in this study, future models could also examine how entrepreneurial motivation and entrepreneurial intention interact with organizational support in the

transition from entrepreneurial inclination to enacted employee behavior (Kirkwood, 2009; Shane et al., 2003; Thompson, 2009). Finally, the exploratory education moderation should be replicated using larger and more balanced educational groups, while sector-specific, cross-cultural, and longitudinal studies could determine whether the gender and education boundary conditions observed here remain stable across different organizational contexts.

In conclusion, perceived supervisor support was positively associated with employees' entrepreneurial behavior, and the strength of this association differed by gender. The association was positive among both women and men, although it was stronger among men in the present sample. Supplementary analyses further indicated that the focal association was relatively stable across several demographic and occupational characteristics, whereas education emerged as a potential additional boundary condition warranting further investigation. Overall, the findings highlight the relevance of supervisor support to employee entrepreneurial behavior while indicating that the strength of this relationship may not be uniform across all employees. These conclusions should be interpreted as evidence of statistical associations rather than causal effects because of the study's cross-sectional and self-report design.

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The de-identified dataset and available supporting analysis materials, including the SPSS dataset and AMOS model files, are available from the corresponding author upon reasonable request, subject to applicable ethical and confidentiality requirements. The data are not publicly deposited.

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