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Article

Women as Self Leader – Relationship Between Leadership, Self-Efficacy and Organizational Behavior

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Abstract: This study examines the relationship between a leader's self-efficacy, innovative work behavior, striving/commitment/goal generation, and resilience traits in organizational behavior. The results suggest that self-efficacy has a positive impact on organizational behavior, including employees' vocal behavior, and that leader-member exchange (LMX) is essential in promoting a positive relationship between leaders and team members. The study's hypotheses highlight the importance of self-efficacy, LMX, and organizational behavior in achieving positive organizational outcomes. The results may have positive implications at the organizational level in understanding the role of self-efficacy in leadership and its impact on organizational performance.

Keywords: leadership; self-efficiency; organizational culture; agile management; women manager

1. Introduction

The relationship between a leader's self-efficacy, innovative work behavior, goal striving/commitment/generation, and trait resilience results in agile management with multifaceted, with each element influencing and reinforcing the others.

1.1. Self-Efficacy of the Leader

Self-efficacy is a leader's self-assurance, fortitude, and drive: High self-efficacy leaders are more inclined to take chances and take on obstacles head-on. They are more capable of overcoming obstacles and overcoming failures. These leaders are usually more driven and are able to motivate their team members to the same degree.

1.1.1. Leader-Member Exchange (LMX) and Innovative Behavior

Self-efficacy is a leader's self-assurance, fortitude, and drive: High self-efficacy leaders are more inclined to take chances and take on obstacles head-on. They are more capable of overcoming challenges and overcoming failures. These leaders are usually more driven and can motivate their team members to the same degree.

Leader-member exchange (LMX) and employee voice behavior were found to be positively correlated in a Chinese firm study, with LMX acting as a partial mediating factor for self-efficacy. According to the research, companies should concentrate on building strong LMX relationships to improve employee voice behavior and self-efficacy (Liu, 2021). According to the study, self-efficacy, organizational identity, and leader-member exchange (LMX) all operate as mediators between ethical leadership and employee performance in China. This relationship is fully mediated, controlling for procedural fairness (Walumbwa, 2011).

The quality of the exchange connection between an organization's members and its leader is referred to as LMX. It is a complicated idea that has to do with creating in-groups and out-groups, and it is founded on the social exchange theory. Respect, trust, and reciprocal duty are traits of high LMX relationships that result in affective attachment. This relationship transcends transactional economic exchange and is socio-emotional. Through role construction, a leader's relationship with their followers develops over time into a social exchange relationship that is not contractual. Establishing a high-quality LMX allows both sides to share more information, support one another financially and nonfinancially, and aid in each other's advancement within the company. Mutual trust, respect, duty, and accomplishing shared objectives define this connection as it grows into a partnership (McLarty, 2021).

Promotions, organizational commitment, low turnover, favorable performance appraisal, interest and consideration from superiors, attractive work experience, job attitude, and involvement are all positively impacted by high LMX. Additionally, it has been shown to positively correlate with organizational citizenship behavior (OCB). By lowering employee stress, LMX serves as a representative job resource, improving job performance. Additionally, it encourages creative behavior because creative actions that improve organizational performance are encouraged by high member perceptions of LMX (McLarty, 2021).

1.1.2. Self-Efficacy of Leadership

Self-efficacy is a person's confidence in their capacity to carry out actions or accomplish goals. It encompasses the elements required for effective task execution as well as beliefs, motivation, and cognitive resources. People with strong self-efficacy are more motivated to overcome obstacles and develop their skills, which improves their effectiveness at work. Members of high-quality Leadership Models (LMX) receive social, nonfinancial, and financial support, which increases their confidence in their capacity to handle challenging situations. (Nilawati, 2021).

Successful performance requires innovative behavior, which entails complexity and ambiguity. Members with high self-efficacy aim for patience, set more difficult goals, and work harder to accomplish them. Innovative behavior is boosted by self-efficacy, which is elevated by LMX. The association between LMX and creativity, which is intimately linked to inventive behavior, is mediated by self-efficacy, an important antecedent variable for self-efficacy. Research has indicated that self-efficacy serves as a mediator between employee-dependent characteristics and leadership variables (Sohn, 2020).

1.1.3. Perceived Organizational Support

Successful performance requires innovative behavior, which entails complexity and ambiguity. Members with high self-efficacy aim for patience, set more difficult goals, and work harder to accomplish them. Innovative behavior is boosted by self-efficacy, which is elevated by LMX. The association between LMX and creativity, which is intimately linked to inventive behavior, is mediated by self-efficacy, an important antecedent variable for self-efficacy. Research has indicated that self-efficacy serves as a mediator between employee-dependent characteristics and leadership variables. Perceived organizational support can be a moderating variable in the relationship between LMX and self-efficacy (Sher, 2019, Choi, 2021).

A key component of self-regulation and decision-making is self-efficacy. It shows how motivated and confident a person is in their ability to use cognitive resources to complete a task. Performance can be impacted by high self-efficacy since it can result in more ambitious objectives and proactive activities. Group and individual self-efficacy are also influenced by the leadership climate. People with high self-efficacy can learn how to overcome obstacles and accomplish their objectives. High efficacy is linked to team decision-making because it makes team members feel capable and important. Follower self-efficacy can be raised by humble leaders who let followers make decisions. The humility of a leader, who respects others and promotes open learning, can boost followers' self-efficacy. (Asghar, 2022).

One important component of a person's capacity to do tasks successfully is their level of self-efficacy. It can affect performance and cognitive abilities, and it can be impacted by ambiguity or outside coaching. Self-efficacy is a psychological asset that supports organizational commitment and aids in task performance. Employee performance, especially at work, has been demonstrated to be positively correlated with self-efficacy. Increased creativity and invention result from high levels of self-efficacy, which in turn encourages the creative process. Employee creativity is strongly correlated with creative self-efficacy, which can potentially act as a buffer during a pandemic. Creative self-efficacy can act as a constructive mediator to enhance the impact of leadership styles on followers. A modest leader can boost followers' self-efficacy and inspire greater creativity. Therefore, follower self-efficacy can mediate a positive relationship between leader humility and follower creativity (Asghar, 2022).

Securing psychological resources requires a proactive mentality. It entails influencing the surroundings and attaining great achievement. By witnessing both positive and bad results, proactive people develop their ability to adjust to changing circumstances. Proactive leaders can forecast mental health, job performance, and work engagement. Additionally, they inspire employees to take initiative, creating an environment that encourages creativity and individual inventiveness. The relationship between team creativity and educational specialized heterogeneity, as well as between teams' self-efficacy or individual creative role identification and leaders' positive conduct, can be moderated by proactive leadership. Despite the difficulties, performance and creativity are linked to proactive behavior. (Asghar, 2022).

By demonstrating self-awareness and valuing the accomplishments, strength, and teaching potential of others, leaders can better navigate social situations. This interpersonal trait is known as leader humility. A modest leader affects team performance by fostering positive interpersonal interactions and an emphasis on group regulation. Depending on the situation, creativity can be both original and fruitful. Various leadership philosophies, including shared, transformational, and humble leadership, can foster innovation in businesses. However, the positive impact of creativity may be limited by dependent characteristics such as organizational size, realized absorptive capacity, and riskiness orientation. According to the social information processing theory, followers' drive for creativity may be influenced by the social cues of their leaders. The teachable model of a modest leader inspires creativity in followers, resulting in original and creative ideas. In the pandemic, a humble leader can enhance follower creativity through teachability and encourage valuable and new ideas (Song, 2020; Gu, 2020).

Studies have created a new tool to gauge the self-efficacy of school administrators because the ones that were previously used to gauge teachers' self-efficacy had serious flaws. By offering solid proof of its validity, the study suggested the School Leadership Self-Efficacy Scale (SLSES) as a solution to these issues. The eight components that make up the SLSES are all important to the effectiveness or efficacy of leadership. Establishing a suitable organizational structure is the first factor, and it is essential to guarantee a favorable learning environment. Factor 2 highlights how crucial a school leader is to guarantee high standards in instruction and learning. School Self-Evaluation for School Improvement, which is the subject of Factor 3, ought to be directed toward the advancement and enhancement of schools. Building a positive environment and handling conflict are the main goals of factor 4, which is essential for student learning and results. Monitoring practice and achievement against predetermined goals and objectives is directly tied to the evaluation of classroom procedures in Factor 5. The political side of school leadership is covered in Factor 6, which is something that professional development programs frequently overlook. The importance of leadership in students' learning is linked in Factor 7, with indirect impacts being greater due to learning regulation and influence on intervening variables. One of the primary leadership behaviors that school leaders possess is the leadership of continual professional development, which is the subject of Factor 8 (Petridou, 2014).

The SLSES scale provides a thorough understanding of a school leader's responsibilities and evaluates how well they are carried out. However, because of their small number and variety of elements, the instruments currently used in the literature are constrictive in offering a limited

perspective of leadership. As a result, the SLSES scale has a good correlation with the efficacy of leaders in day-to-day operations within schools, enabling school administrators to conduct a thorough assessment of their leadership skills (Petridou, 2014).

Emotional intelligence (EI), compassion and mirror neurons, making choices, stress and adaptability, rewards and motivation, and social cognition are also important components of leadership.

Perceiving, comprehending, and controlling emotions are all components of emotional intelligence, and the prefrontal cortex (PFC) is essential for social interactions, emotion regulation, and decision-making. High EI leaders are better able to recognize and address the emotional needs of their team, creating a supportive and effective work atmosphere. Stronger bonds between team members and empathetic leaders can foster trust and improve cooperation (Edison, 2019; Le, 2019).

The prefrontal cortex has a role in decision-making, especially the ventromedial PFC, which integrates social and emotional information, and the dorsolateral PFC, which is linked to rational thought. To make well-rounded decisions, effective leaders can strike a balance between social and emotional factors and logical analysis (Edison, 2019; Le, 2019).

Another important component of the neuroscience of leadership is motivation and reward. By creating incentives that optimize engagement and productivity, leaders who can successfully activate these neurological pathways may inspire and motivate their staff. Leaders may negotiate complicated social dynamics and cultivate an inclusive and collaborative team culture by using social cognition, which entails comprehending others' viewpoints and social norms (Li, 2020).

By setting up coaching training and development programs, businesses may encourage creative behavior. Leaders' empathy, emotional control, and self-awareness can all be improved by incorporating neuroscience concepts into leadership training. Leaders can increase their effectiveness by understanding and changing their thought and behavior patterns with the aid of neuroscience-informed coaching. Knowing the neuroscience underlying leadership can assist companies in developing work settings that encourage favorable brain reactions, such as lower stress levels and higher staff motivation, thus fostering a healthy corporate culture. Organizations can improve their capacity to cultivate and assist successful leaders, which will ultimately result in more resilient and productive teams, by incorporating neuroscience insights into leadership practices (Hansen, 2019).

2. Creativity and Innovation

The long-term success of companies depends on both creativity (the capacity to come up with fresh and original ideas) and innovation (the application of creative ideas into workable and beneficial goods, services, or processes), especially in quickly evolving environments. By encouraging an innovative culture, supporting creative processes, and facilitating innovation, leaders who possess high levels of self-efficacy can have a substantial impact on their teams' creative and inventive capabilities.

2.1. *Developing a Culture of Innovation*

A culture where new ideas can flourish is fostered by confident leaders who encourage experimentation and are less fearful of failure. The innovation or imitation orientation of a company is largely determined by its organizational culture. Hierarchy cultures are linked to copying, whereas adhocracy societies encourage creativity. These results lend credence to both empirical research and theoretical literature. The study also found that certain characteristics of hierarchy culture, such as formal structures and policies, are positively related to imitative orientation (Naranjo-Valencia, 2011).

Culture and innovation strategy have a complicated link that needs more study. While the second dimension, staff management, has varied results, the first dimension of both cultures, organization dominant traits, encourages an innovation orientation. Innovation is negatively impacted by hierarchical cultures, but positively by adhocracy cultures. This might be because adhocracy cultures don't value teamwork, which is seen to be essential for fostering creativity (Naranjo-Valencia, 2011).

Thus, when pursuing innovation/imitation tactics, managers ought to focus more on the culture of their firm. Businesses can better coordinate their innovation strategy by fostering distinct norms and values within their organizations.

The study looks at how a company's innovation strategy and organizational culture interact. It concludes that while hierarchy and adherence to formal norms and procedures have a detrimental impact on innovation, dedication to innovation and change has a favorable impact on invention when compared to imitation. According to the study, formal rules and processes shouldn't become the primary shared values of employees, but they could encourage innovation when balanced with other prominent traits. According to the results, hierarchical cultures are more suited for an imitation orientation, whereas adhocracy cultures are better suited for an invention orientation. The literature understates the complexity of the relationship between culture and innovation/imitation, with certain facets of these cultures having the opposite consequences. To successfully execute their innovation plan, practitioners need to be aware of organizational cultures. Adopting an innovation strategy should foster adhocracy values, commitment to innovation, and a dynamic, entrepreneurial environment. Hierarchy culture is preferable for imitation orientation, emphasizing efficiency, dependable delivery, low-cost production, formal rules, and control (Naranjo-Valencia, 2011).

A key component of corporate performance is organizational culture (OC), which includes members' common norms, values, and beliefs. Research has combined OC and innovation, concentrating on staff habits and values. One important management strategy is open innovation (OI), a distributed innovation process that uses both pecuniary and non-pecuniary processes following each organization's economic model and is based on purposefully controlled knowledge flows across organizational boundaries (Scaliza, 2022).

Knowledge-intensive business services (KIBS) are very innovative, and organizational structures and administrative procedures are impacted by innovation. Important sources of information, technology, and resources are network connections with investors, suppliers, consumers, and a few chosen rivals. OI is also influenced by a company's resources for innovation (RI) and culture for innovation (CI). A cross-sectional survey of middle- to senior-level executives in KIBS firms in India found that CI and NI positively affect OI, while NC has a moderately positive effect. Strategic investors and client relationships can also foster OI, as administrative processes and organizational structures need to align with client needs (Sareen, A., 2022).

This study explores the connection between 360-degree feedback appraisals, creativity, and organizational fairness. A poll of 200 participants from different nations showed a positive correlation between innovation, including the creation and application of ideas, and the use of 360-degree feedback ratings. The study also found a correlation between employees' sense of fairness and the use of such feedback. Additionally, the study discovered that creativity and fairness are positively correlated, with organizational fairness acting as a significant mediating factor between 360-degree feedback and innovation. The study's cross-sectional methodology and emphasis on a single aspect of performance evaluation—360-degree feedback—are among its drawbacks. Future studies ought to take a longitudinal approach, covering more aspects of performance evaluation and investigating the mediating role of additional variables in the connection between 360-degree feedback and innovative behavior (Souki, 2024).

Transformational leaders support creative processes by giving people the tools and encouragement they need to think creatively and solve problems. Such leaders can successfully support creative ideas and efforts, fostering innovation, by having faith in their own and their team's talents (Hansen, 2019).

2.2. Agile Management

Agile management is an approach that emphasizes adaptability, teamwork, and quick iterations. Although it started in the software development business, it is being used extensively in many different industries. Agile management is founded on the following principles: iterative processes, which involve creating products in gradual stages with frequent reconsideration and change, team

autonomy to make choices and self-organize, and collaboration with clients based on close communication with clients to ensure the goods meet their needs.

To achieve big changes in today's environment without waiting for a crisis, individuals and creative leaders must learn the necessary techniques and expertise. By encouraging "Fail Fast-Learn Fast" through iterative testing and preventive quality techniques, sustainable quality leadership fosters a culture of error. Flexible and adaptive, innovative leaders swiftly accomplish organizational objectives (Tonis, 2021).

Relationships Among Agile Management, Creativity, Innovation, and Self-Efficacy

Encouraging the Agile Principles: High self-efficacy leaders are more likely to accept and successfully apply agile concepts because they have faith in their capacity to handle the complexities and uncertainties that come with it.

Agile Management emphasizes personal commitment to quality, early process testing, real-time information and openness, systematic prevention, risk management, and improvement, and quality competence for all staff members. This approach prioritizes quality and fosters trust, open communication, collaboration, and continuous learning. Technology, such as online video classes and VR/AR sports games, facilitates early process testing, fostering a culture of learning by doing and problem-solving. Real-time information and openness are crucial for managing complex problems in sports clubs, schools, universities, and leagues. Managers use Business Intelligence solutions to provide interactive dashboards and a comprehensive view of the situation. Trust and ownership are key to active risk management, and employees should be involved in the planning process. Quality competence is ensured by employees and management teams, focusing on transversal skills, competencies, individual performances, cooperation, and teamwork (Cojocaru, 2022).

Promoting Team Creativity: Agile management depends on team members' innovative thinking and problem-solving skills. Leaders who have faith in their own and their team's abilities are better able to foster an atmosphere that values and promotes creativity.

Using the theories of social exchange and perceived organizational support, Sürücü (2022).

Investigates the connection between transformational leadership and job performance. It concludes that self-efficacy serves as a mediator between transformative leadership and improved job performance. This effect is moderated by leader support through self-efficacy. Although no empirical support has been found, the research suggests an alternate paradigm for comprehending the effect of transformative leadership on job performance (Sürücü, 2022).

Attracting the best and most competent people requires an understanding of the processes that contribute to leadership emergence. The majority of the research concentrates on personal traits, but a thorough grasp of how social context might support people in becoming leaders is lacking. Leader self-awareness has a beneficial impact on follower leadership emergence and promotion nomination, according to this study's testing of a mediation chain between the two (Bracht, 2021).

Kim (2022) investigates how a leader's need for status, creative self-efficacy, and boundary-spanning behavior all positively affect the creative behavior of their team members. In South Korea, 260 supervisor-subordinate dyads participated in a cross-sectional survey. According to the study, creative conduct was positively impacted by boundary-spanning behavior, and this effect was most pronounced in situations involving high status and creative self-efficacy. The findings suggest organizations should promote boundary-spanning behavior to enhance employee creative behavior. The research integrates the componential model of creativity and the interactionist perspective of creativity (Kim, 2022).

Encouraging Innovation Through Agility: Agile leaders are able to quickly change course and adjust to new knowledge, which promotes an ongoing innovation flow. They can support their teams through the iterative process and make quick judgments because of their self-efficacy.

Sawitri (2021) investigates the relationship between ethical leadership, political acumen, and employee attitudes and behavior. Through leader-member exchange and self-efficacy, it was discovered that ethical leadership had a favorable impact on employees' attitudes and organizational citizenship behavior. This suggests that high-quality exchange can improve managerial effectiveness.

Agile innovation has real-world applications for managers, employees, and legislators, as demonstrated by Souki (2024). A comprehensive assessment system that acknowledges and rewards both tangible and intangible forms of innovation should be developed by managers. Employees' innovative behavior can be fostered by empowering the workforce and improving their opinions of the caliber of performance reviews. Organizations should strive to create an environment that encourages creativity while guaranteeing equitable treatment and acknowledgment for participants, as demonstrated by the correlation between inventive conduct and perceptions of organizational justice (Souki, 2024).

Empowering Teams: Leaders who practice agile management must empower their teams and have faith in their ability to accept responsibility for their job. Leaders need to have strong self-efficacy because they are more likely to trust their staff and delegate well.

The relationship between participant behaviors, leader views of adaptive interpersonal group processes during transitional periods, and leader virtual self-efficacy is examined by Icekson (2024). Professional group facilitators making the switch to virtual synchronous video groups made up the sample. The findings indicated that adaptive group processes are positively correlated with leader self-efficacy, whereas leader views of group processes are adversely correlated with participants' undermining of boundaries. While compromising boundaries has a negative impact on leader views, emotional expressiveness has a beneficial impact on group processes. The study emphasizes how crucial leaders' self-efficacy is when it comes to facilitating virtual groups during times of transformation (Icekson, 2024).

A study conducted in Pakistan's IT industry discovered a favorable correlation between project employees' innovative work practices and leader-member interaction. This link is mediated by employee engagement and modified by self-efficacy. The findings suggest that positive exchange between leaders and members can enhance outcomes, particularly in project-based organizations where knowledge and ideas exchange is crucial (Mustafa, 2023).

3. Methodology

Data are collected from EUROSTAT Data Browser and refer to education levels (tertiary education), part-time work, female and male managers, and the lifeline of women and men in RO_PL_HU_BG_EU. The data present the differences between women's and men's lives in Europe, specifically for the four countries analyzed, with a focus on women's professional life and managerial status.

The location of the Eurostat data navigation tree for *Population by educational attainment level, sex, and age (%) / Tertiary education (levels 5-8)* is: Population and social conditions > Education and training > Education and training outcomes > Educational attainment level > Population by educational attainment level, geopolitical entity (EU -27 countries, Romania, Poland, Hungary, Bulgaria), ISCE classification, sex (males, females), Time frequency: Annual, Unit of measure: Percentage, Age class: From 25 to 64 years.

The location of the Eurostat data navigation tree for the *Employment rate of adults by sex, age groups, educational attainment level, number of children, and age of the youngest child (%)* is: Population and social conditions > Labour market > Employment and unemployment (Labour force survey) > LFS series - Specific topics > Households statistics - LFS series > Employment by number of children and age of the youngest child, and includes geopolitical entity (EU -27 countries, Romania, Poland, Hungary, Bulgaria), sex (males, females), Number of children (5 values displayed), Time-frequency: Annual, Unit of measure: Rate, Time: 2023, Age class: From 18 to 64 years, Age of the child: Total [1/5], All ISCED 2011 levels.

The location of the Eurostat data navigation tree for the *Percentage of part-time employment of adults by sex, age groups, number of children, and age of the youngest child*, is: Population and social conditions > Labour market > Employment and unemployment (Labour force survey) > LFS series - Specific topics > Households statistics - LFS series > Employment by number of children and age of the youngest child, and includes: (EU -27 countries, Romania, Poland, Hungary, Bulgaria), Time (2021,2022, 2023), Sex (males, females), Age class: From 18 to 64 years.

The literature has provided a solid foundation for understanding the relationship between leadership, self-efficacy, and organizational behavior. The following 3 aspects are highlighted:

1. Leadership and self-efficacy - leaders with self-confidence (self-efficacy) are better able to achieve their goals and motivate their team. This self-confidence is essential to face obstacles and overcome failures.

2. Leader-member exchange (LMX) – expresses the quality of the relationship between the leader and the team members. Scientists have shown that LMX has a positive impact on organizational behavior, including employee voice behavior.

3. Organizational behavior - refers to how employees behave within the organization, including how they engage in the organization's activities and how they fulfill their responsibilities.

In the study carried out, hypotheses H1 and H2 can be related to the three ideas stated above in the following way:

Hypothesis H1. *Self-leadership women indexes decreased in the last 4-5 years*

Link to aspect 1- Leaders with self-efficacy have a positive impact on organizational behavior. If the female leadership indices (self-leadership women) have decreased in the last 4-5 years, this may indicate a reduction in the self-confidence (self-efficacy) of female leaders, which could have a negative impact on the behavior organization.

Link with aspect 2 - LMX has a positive impact on organizational behavior. If the indices of female leadership (self-leadership women) decreased, this may indicate a reduction in the quality of the relationship between the leader and his team members (LMX), which could have a negative impact on organizational behavior.

Link to aspect 3 - Organizational behavior has a positive impact on organizational performance. If the female leadership indices (self-leadership women) decreased, this may indicate a reduction in organizational performance, which could be caused by negative organizational behavior.

Hypothesis H2. *There are no significant differences between the four countries (Romania, Poland, Hungary, and Bulgaria) regarding women as managers.*

Link to aspect 1 - Leaders with self-efficacy have a positive impact on organizational behavior. If there are no significant differences between countries regarding women as managers, this may indicate that leaders with self-efficacy are equally present in all countries, which could have a positive impact on organizational behavior.

Link to aspect 2 - LMX has a positive impact on organizational behavior. If there are no significant differences between countries regarding women as managers, this may indicate that the quality of the relationship between the leader and his team members (LMX) is equal in all countries, which could have a positive impact on organizational behavior.

Link to aspect 3 - Organizational behavior has a positive impact on organizational performance. If there are no significant differences between countries regarding women as managers, this may indicate that the performance of organizations is equal in all countries, which could be caused by positive organizational behavior.

4. Results

- a. The highest-ranking manager or CEO of the company is referred to as the top manager. If this individual manages the company, they might be the owner. The findings are derived from surveys of over 100,000 private companies.

A comparison between Romania, Poland, Hungary, and Bulgaria on firms with female top managers refers to the percentage of firms in the private sector that have females as top managers emphasize that Bulgaria and Poland have as many women as then Romania and Hungary. Women's top leader in 2019 was higher, reaching a maximum of 28.80 than in 2023, reaching a maximum of 24.65. One exception might be seen in this regard: Romania's top leader index increased from 17 in

2019 to 19 in 2023. This positive evolution is explained by the EU SDGs Gender equity that was implemented in Romania through different European projects and activities (Figure 1).

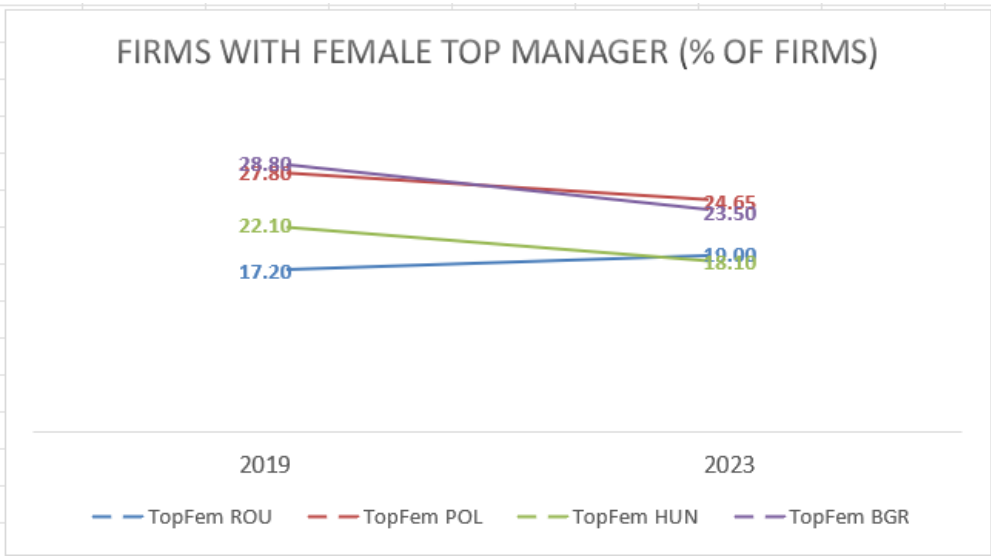


Figure 1. Women Leadership in 2019 and 2013.

If we look at the population by level of education, gender, and age (%), according to EUROSTAT data, a higher proportion of women than men have a high level of education. Thus, in tertiary education, the share of women with tertiary education was higher than the corresponding share of men, i.e. 36.2% of women in the EU graduated from this level, compared to 31.0% of men, in 2021 (EU1, 2024). The same higher proportions of women than men with a high level of education are maintained in the case of the 4 countries analyzed. Poland ranks first, with the highest percentages of women with a high level of education (44.6%) compared to men (31.3%) in 2023, followed by Bulgaria, Hungary and Romania (Figure 2).

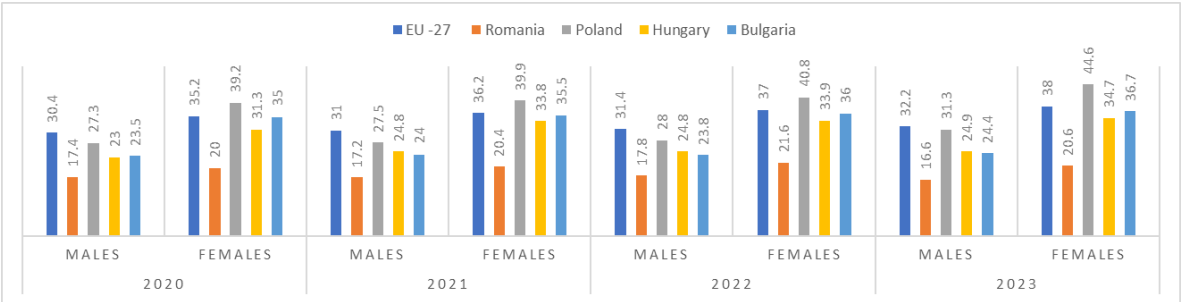


Figure 2. Population by educational attainment level, sex, and age (%) / Tertiary education (levels 5-8). Figure designed by the author. Data source: EU2, 2024.

b. The percentage of women in government who hold ministerial or comparable roles, including deputy prime ministers, is known as the "women in ministerial level positions" ratio. Those with ministerial ministries, such as prime ministers or heads of state, are included. Heads of public or governmental agencies and vice presidents are not included.

One may observe that this proportion decreased in all countries in the last 4-5 years. The highest gap was encountered in Bulgaria, where this index decreased from 38.89 to 15.78, more than a half. We may observe a small increase in Poland from 17.39 in 2019 to 17.65 in 2022, after a very high fluctuation in 2020. Hungary had a positive fluctuation reaching 21.43%. Overall, the percentage of women in ministerial positions is very low, less than 20. Men seem to inspire more confidence and women might be discriminated against or uninterested in this function. (Figure 3)

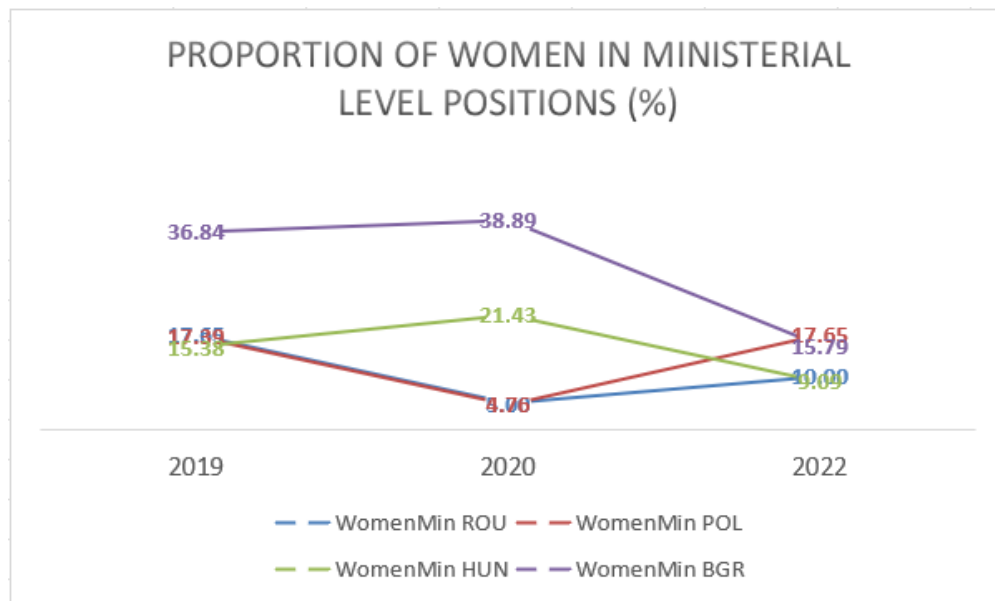


Figure 3. Women in ministerial positions in 2019-2022.

The more children, the greater the employment gap between women and men (employment patterns) 2023 - On average, in the EU, the employment rate of people aged 18-64 was higher for men (78.7%) than for women (68.7%) in 2023. However, the difference between the employment rate of men and women increases with the number of children. Indeed, the employment rate for childless men was 75.1%, while for childless women it was 67.8%, resulting in a difference of 7.3 pp. For people with one child, the difference between the employment rate of men (82.8%) and women (71.3%) amounts to 11.5 pp. For people with two children, the gender employment gap increased to 16.2 pp. (89.5% for men vs. 73.3% for women), while for people with three or more children, the difference reached 27.3 pp., with a male employment rate of 84.1 % and a female employment rate of only 56.8%. This trend is observed in the vast majority of Member States. For Romania, the employment gap between the sexes remains at a level of 18.6 pp, and in the number of children, the largest difference is 38.4 pp for people with three or more children. Poland and Hungary are above the EU average in terms of employment rate on all elements analyzed.

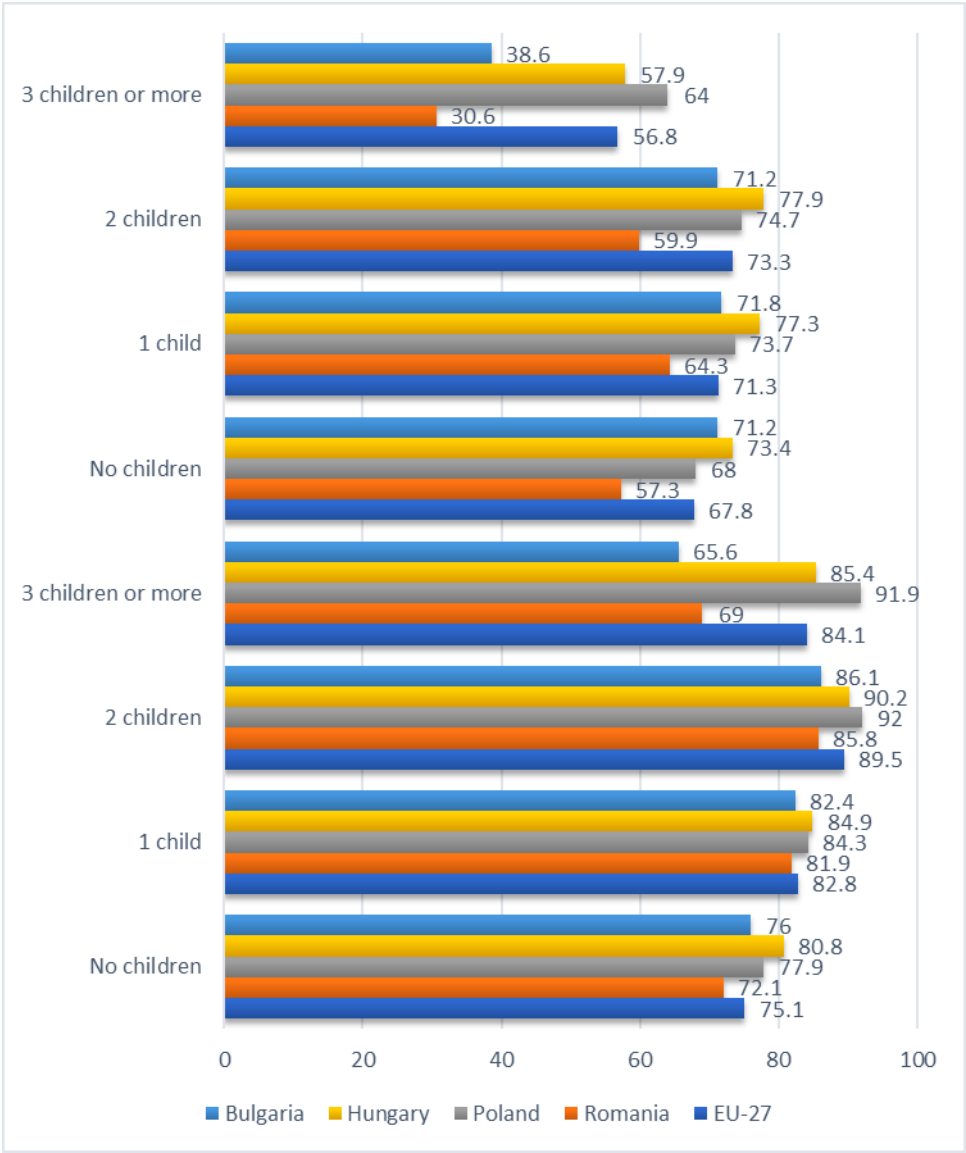


Figure 4. Employment rate of adults by sex, age groups, educational attainment level, number of children, and age of the youngest child (%) - Figure designed by the author. Data source: EU3, 2024.

c. The percentage of women working in middle and senior management overall. Since these primarily consist of managers of small businesses, it equates to major group 1 in both ISCO-08 and ISCO-88 minus category 14 in ISCO-08 (managers of hotel, retail, and other services) and minus category 13 in ISCO-88 (general managers).

The percentage of women employed in senior and middle management is rather high, almost 40% in Poland and Bulgaria in the period 2019-2023. They are preferred due to their higher emotional intelligence and ability to meet objectives. In third place is Hungary, with a smaller percentage, almost 37% and Romania is the last with a small percentage, almost 34%. Men still lead in the middle and senior management overall (Figure 5).

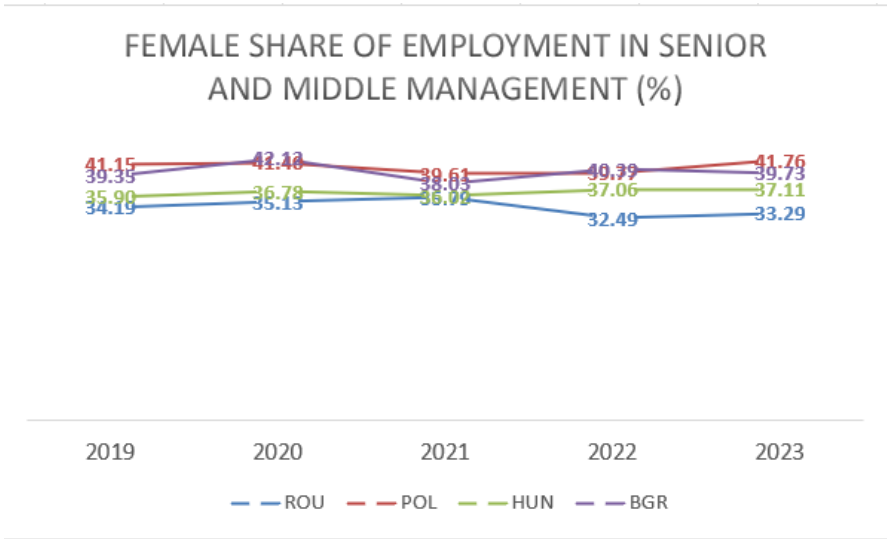


Figure 5. Women employed in senior and middle management in 2019-2023.

More than a quarter of employed women work part-time - An important aspect of work-life balance is part-time work. However, it is not equally distributed between women and men: in the EU, in 2023, 28.4% of employed women worked part-time, compared to 8.1% of men. This results in an important difference of 20.3 pp. Compared to the EU average, the countries analyzed have among the lowest percentages of part-time employees. The lowest proportion of women and men working part-time is observed in Bulgaria (1.5 % for women and 1.4 % for men). In Poland, there is a larger difference in percentage points between women (8.0%) and men (3.2%), namely 4.8 pp.

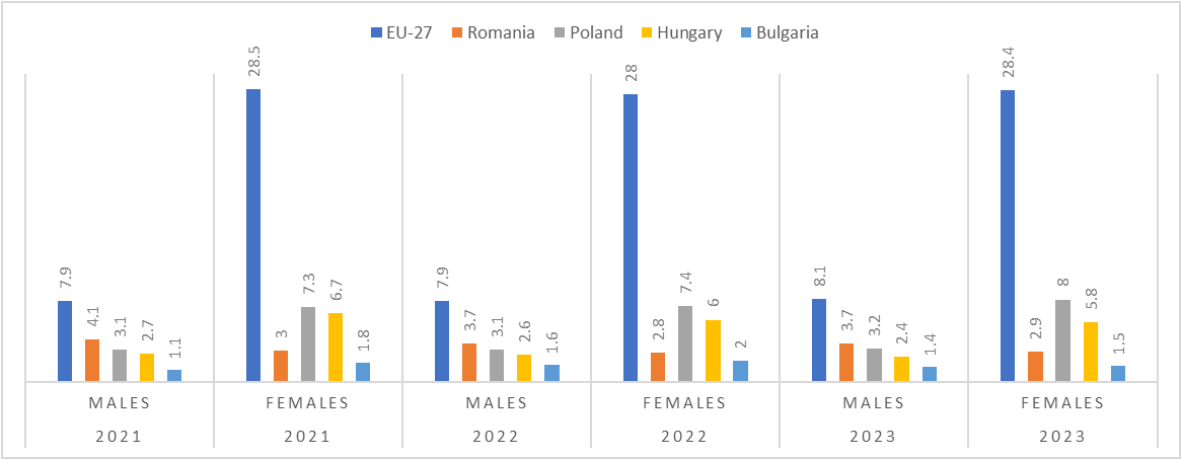


Figure 6. Percentage of part-time employment of adults by sex, age groups, number of children, and age of the youngest child - Figure designed by the author. Data source: EU4, 2024.

Other causes can be associated with important moments in life for women/men such as: starting primary education, first job, leaving the parental home, birth of the first child, first marriage, life expectancy

In Figure 7, it can be seen that both the EU average and the situation of the countries analyzed indicate that women leave the parental home and marry earlier than men.

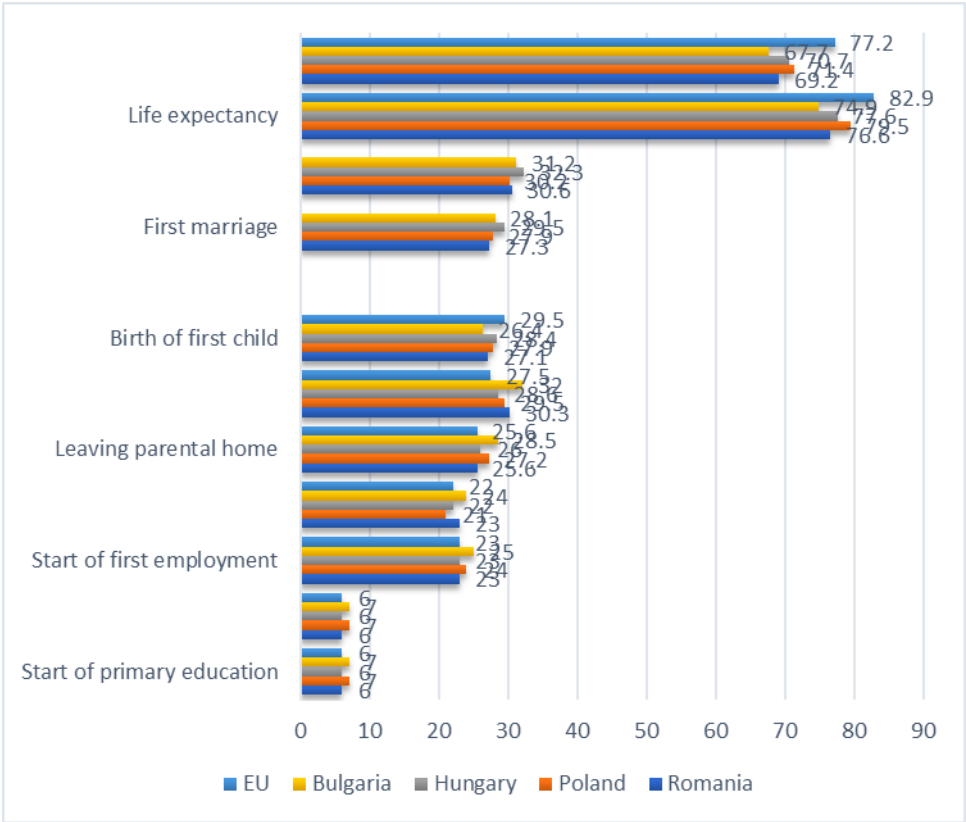


Figure 7. Lifeline of women and men in RO_PL_HU_BG - Figure designed by the author. Data source: EU5, 2024.

Analyses of these important life milestones show, for example, that on average in the EU in 2021, women left their parental home almost two years earlier than men (at the age of 25.6 years for women and 27.5 years for men). Women also married earlier in all Member States, with an age difference at first marriage of 3 years and more in Romania, and Bulgaria. In terms of children, in 2020, women in the EU were almost 30 years old when they gave birth to their first child, ranging in age from around 26 years old in Bulgaria to 28.4 years old in Hungary. In 2021, women lived longer than men in 2021. The EU average was 82.9 years for women and 77.2 years for men, a difference of 5.6 years. Among the countries analyzed, the lowest life expectancy for both women and men is in Bulgaria, and the highest in Poland.

d. Women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women.

The percentage of women in parliaments was rather constant in the period 2019 to 2023. Polonia leads this ranking with almost 30%. It is followed by Bulgaria with almost 24%, Romania with almost 20%, and Hungary with almost 13% (Figure 8). Overall, the percentage of women in parliaments is still very low in comparison with men.

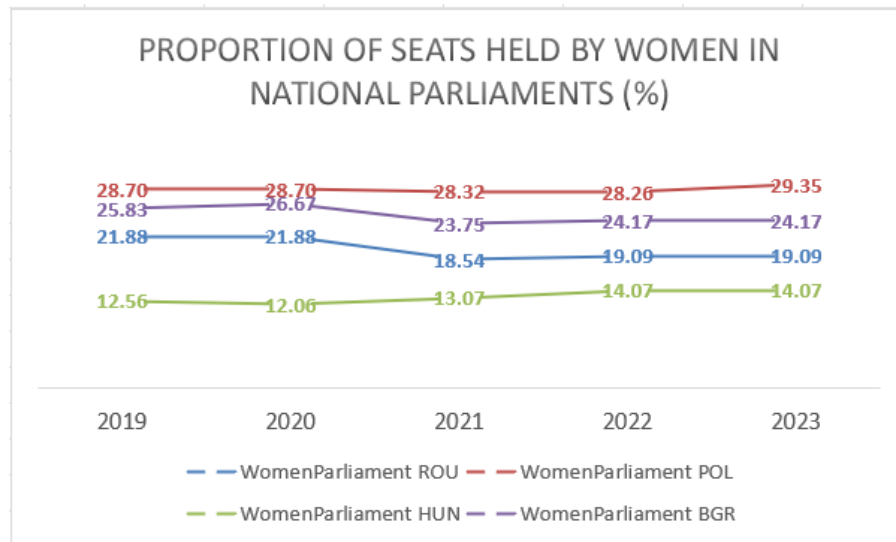


Figure 8. Women in national parliaments in 2019-2023.

About a third of managers in the EU are women. It can be seen that women accounted for just over a third (35%) of managers in the EU in 2021, 2022, and 34.8% in 2023. The share of women in this position did not exceed 50% in any of the EU Member States. And among the 4 countries analyzed, the highest proportions were observed in Poland (42.8%) in 2021 and 42.3% in 2023, respectively. On the other hand, among the 4 countries, the lowest percentages were recorded in Romania, where women managers represent only 33.3% of the total managers in 2023, 37.2% in Hungary, and Bulgaria with 42% (Figure 9).

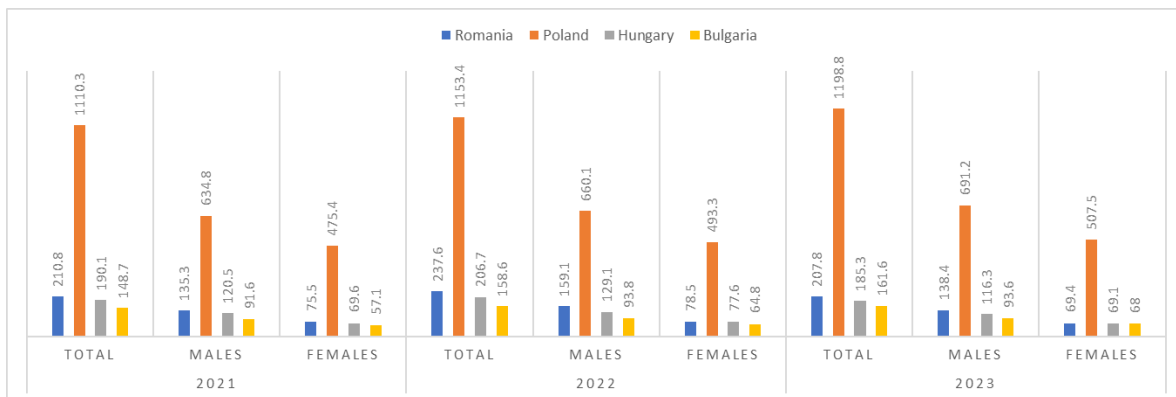


Figure 9. Managers - Employment by sex, age, professional status, and occupation (1 000) - Figure designed by the author. Data source: EU6, 2024.

In conclusion, there are structural differences between women's and men's lives in Europe, influencing women's working lives and their access to managerial positions in EU firms and in the four countries analyzed.

In the second step of our research, we test if there are significant differences between the 4 countries regarding women at the managerial level. We apply the One-way ANOVA analysis, and Welch's test assuming unequal variances. In our analysis, we included 5 years period. The F small values (smaller than 1.96) prove that there is NO statistically significant difference between 4 countries during 5 years, Y2019 ($p=0.29$), Y2020 ($p=0.49$), Y2021 ($p=0.91$), Y2022 ($p=0.83$) and Y2023 ($p=0.71$), with a very low significant level (p -value is greater than the threshold 0.05), as might be observed in Table 1 and

Table 1. One-Way ANOVA (Welch's).

Year	F	df1	df2	p
2019	1.516	3	6.55	0.297
2020	0.953	3	4.24	0.492
2021	0.163	3	2.16	0.913
2022	0.291	3	4.42	0.831
2023	0.47	3	4.41	0.718

The Shapiro-Wilk Normality Test shows that all the data present a normal distribution as p is higher than 0.05 for each year and W is very close to the threshold value=1 (Table 2).

Table 2. Normality Test (Shapiro-Wilk).

Year	W	p
2019	0.935	0.292
2020	0.951	0.649
2021	0.875	0.167
2022	0.859	0.047
2023	0.8	0.009

Note. A low p-value suggests a violation of the assumption of normality.

The Levene test assures us of the homogeneity of variances as p-values are higher than 0.05. Some variances between countries appear in the year 2021, but they are not relevant because there were some missing values for this year in our data source (Table 3).

Table 3. Homogeneity of Variances Test (Levene's).

Table 3: Homogeneity of Variances Test (Levene's)				
	F	df1	df2	p
2019	0.142	3	12	0.933
2020	0.604	3	8	0.631
2021	2.09E+30	3	4	< .001
2022	0.261	3	8	0.851
2023	0.448	3	8	0.725

Thus, we may affirm that the differences between 4 countries are not significant in the period 2019-2023.

5. Discussions

Self-efficacy is a leader's self-assurance, fortitude, and drive, which is crucial for overcoming obstacles and failures. A Chinese firm study found that leader-member exchange (LMX) and employee voice behavior were positively correlated, with LMX acting as a partial mediator for self-efficacy. Companies should focus on building strong LMX relationships to improve employee voice behavior and self-efficacy.

High LMX leads to promotions, organizational commitment, low turnover, favorable performance appraisal, interest from superiors, attractive work experience, job attitude, and involvement. It also positively correlates with organizational citizenship behavior (OCB). High LMX serves as a representative job resource, improving job performance and encouraging creative behavior.

Self-efficacy is a person's confidence in their capacity to carry out actions or accomplish goals, encompassing beliefs, motivation, and cognitive resources. Members of high-quality Leadership Models (LMX) receive social, nonfinancial, and financial support, which increases their confidence in

handling challenging situations. Successful performance requires innovative behavior, which is boosted by self-efficacy, which is elevated by LMX.

Perceived organizational support can be a moderating variable in the relationship between LMX and self-efficacy. High self-efficacy can affect performance and cognitive abilities, and it can be impacted by ambiguity or outside coaching. Proactive leaders can forecast mental health, job performance, and work engagement, inspiring employees to take initiative and creating an environment that encourages creativity and individual inventiveness.

Leader humility involves demonstrating self-awareness and valuing the accomplishments, strength, and teaching potential of others. A modest leader affects team performance by fostering positive interpersonal interactions and an emphasis on group regulation.

The School Leadership Self-Efficacy Scale (SLSES) was developed as a new tool to gauge the self-efficacy of school administrators. The eight components of the SLSES are all important to the effectiveness or efficacy of leadership.

Agile management is a flexible and adaptable approach that emphasizes iterative processes, teamwork, and quick iterations. It originated in the software development industry but has since been applied across various industries. Agile management promotes quality competence, trust, open communication, collaboration, and continuous learning. High self-efficacy leaders are more likely to accept and successfully apply agile concepts due to their faith in their ability to handle complexities and uncertainties.

Agile management also promotes team creativity by fostering an atmosphere that values and promotes innovative thinking and problem-solving skills. Research has shown that self-efficacy serves as a mediator between transformative leadership and improved job performance, with leader support through self-efficacy playing a crucial role. Leader self-awareness has a beneficial impact on follower leadership emergence and promotion nomination.

Ethical leadership, political acumen, and employee attitudes and behavior have been found to positively impact employees' attitudes and organizational citizenship behavior. Organizations should strive to create an environment that encourages creativity while guaranteeing equitable treatment and acknowledgment for participants.

Leaders practicing agile management must empower their teams and have faith in their ability to accept responsibility for their job. Strong self-efficacy is essential for leaders to trust their staff and delegate well.

The relationship between participant behaviors, leader views of adaptive interpersonal group processes during transitional periods, and leader virtual self-efficacy has been examined by Icekson (2024). A study in Pakistan's IT industry found a favorable correlation between project employees' innovative work practices and leader-member interaction, mediated by employee engagement and modified by self-efficacy.

The literature highlights the relationship between leadership, self-efficacy, and organizational behavior. Leaders with self-confidence are better able to achieve goals and motivate their teams, which is essential for overcoming obstacles. Leader-member exchange (LMX) is a key factor in organizational behavior, which includes employee voice behavior. Organizational behavior refers to how employees behave within the organization, including their engagement and responsibilities. A study found that if self-leader women's indexes decreased in the last 4-5 years, it could indicate a reduction in self-efficacy, a negative impact on organizational behavior, and a negative impact on organizational performance. Conversely, if there are no significant differences between countries regarding women as managers, it could indicate that leaders with self-efficacy are equally present, a positive impact on organizational behavior, and a positive impact on organizational performance.

Our 2 hypotheses are confirmed.

6. Conclusion

Self-efficacy is crucial for leaders to overcome obstacles and promotes confidence. High self-efficacy leads to promotions, commitment, low turnover, and positive performance appraisal. Perceived organizational support can moderate this relationship. High self-efficacy leaders are more

likely to accept agile concepts due to their faith in their ability to handle complexities. Organizations should create an environment that encourages creativity while ensuring equitable treatment.

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