

# The Impact of Gender Differences between Leaders and Team Members on Leadership Styles in Group Collaboration

Shuyang Bai \*

College of Human and Health Sciences, Swansea University, Swansea, UK

\* Corresponding author: 2347031@swansea.ac.uk

**Abstract.** The influence of gender difference on leadership style is one of the key topics in today's research. Although research has explored the relationship between leadership style and organizational performance, there is still a lack of in-depth understanding of how gender differences affect the interactions between leaders and team members. To fill this research gap, this paper examines the influence of gender differences on leadership style choice and effectiveness in teamwork. Using quantitative research methods, we analyzed data from 258 participants from different work environments. The results show that gender differences significantly affect the choice and effect of leadership style, and leaders of different genders tend to adopt different leadership styles, which have different effects on team cohesion and motivation. Specifically, female leaders are more likely to adopt a transformational leadership style, while male leaders are more likely to adopt a transactional leadership style. The findings highlight that to improve team effectiveness and promote a more inclusive and equitable work environment, organizations should consider adopting gender-sensitive leadership strategies. This study provides a new perspective for understanding the role of gender dynamics in organizational leadership and provides a theoretical basis for optimizing leadership practice.

**Keywords:** Gender differences, leadership style, team cohesion, organizational dynamics, gender-sensitive leadership.

## 1. Introduction

Leadership in the modern, fast-paced, and diversified work setting requires to be effective for the attainment of the organizational objective alongside team success. Understanding leadership styles refers to the approaches and behavioral patterns used by a leader in the direction of the team members. These styles have been studied and recognized as the most significant determinants of the effectiveness and cohesion of the team, along with satisfaction [1]. The importance of considering the effects of leadership styles on the dynamics of the workgroup is crucial for the creation of a positive working environment, as well as reaching the best possible performance of the team.

Various leadership styles exist, and different leadership styles result in various ways of team management and motivation. Some leaders apply the autocratic style; that is, they make decisions and give directions on their own, while the democratic style requires the involvement of team members in making decisions and promoting teamwork. The choice of leadership style may thus significantly impact team dynamics, including the communication and decision-making behavior of the members and generally how they feel in the work environment [2].

The gendered aspect of the team structure in terms of members and leaders significantly impacts one's leadership styles and behavior. The research has proven that male and female leaders display different leadership styles, whereas male leaders showcase different leadership behaviors and communicate differently from female leaders [3]. Such a need for understanding the impact of gender on leadership styles and team dynamics arises so that diversity and inclusivity can be championed and team members' diverse perspectives and skills can be capitalized on.

This paper explores the gender gap between leaders and team members about the type of leadership applied in group activities. Through our client's previous research studies, this study will examine the impacts of gender on leadership styles, team cohesion, and team members' perceptions. The purpose of the study is to highlight the interaction among gender roles and leadership styles to give useful

guides for those companies that are interested in improving team effectiveness and adopting gender-sensitive leadership.

## 2. Literature Review

A recent research comprehensively examines the intersection between cooperative principles, gender equality policies, and leadership dynamics within cooperative firms. Through an analysis of 114 cooperative firms, the study reveals the widespread utilization of transformational and transactional leadership styles, with no discernible differences between men and women. However, it underscores the influence of management team composition on leadership behavior, particularly noting the diminished prevalence of transformational leadership in mixed-gender teams with a male majority and a female president. Furthermore, the study highlights the greater adoption of transactional leadership in teams comprised solely of women [4].

Many studies have investigated the influence of various leadership styles on employee performance, examining transformational, Laissez-Faire, democratic, and autocratic leadership within Malaysian multinational corporations. Recent research findings reveal significant positive relationships between transformational, Laissez-Faire, and democratic leadership styles and employee performance. Gender moderates these relationships, with transformational and Laissez-Faire leadership styles showing stronger effects on males and females, respectively. Autocratic leadership's impact on performance is insignificant. Managerial implications and research avenues are discussed, enriching the understanding of organizational leadership dynamics [5].

Gender differences have a significant impact on organizations. A current study explored the impact of gender on the effectiveness of transformational and transactional leadership. Analyzing the data of 267 research respondents suggests a positive correlation between gender and leadership effectiveness. The research underscores the importance of understanding gender dynamics in leadership within these industries. It offers insights into how leadership styles may vary based on gender and their implications for organizational performance in the real estate and construction sectors [6].

There is a growing interest in the differing leadership styles between men and women in similar roles. Research confirms that male and female leaders demonstrate distinct behaviors and communication patterns [7]. Expanding on this knowledge, a study investigated the suitable leadership approaches for women in senior positions, particularly within the corporate landscape of South Africa. Through qualitative analysis of semi-structured interviews with 17 senior female leaders, this research highlighted a strong desire for transformational leadership. However, the participants also gave the indication that the leadership style should have an adaptive flow with the context. This finding shows that women's leadership is complex and that this knowledge is useful for managing senior leadership roles [8].

Comprehension of leadership styles with regard to the efficiency of a team is important. The present study contributes to previous studies that explore the relationship between leadership styles, mediating variables like media richness, and performance in organizational settings. The previous studies are the underlying knowledge of an in-depth examination of the complex relationships between leadership styles, mediating factors, and team performance. A study highlights that relational factors are crucial in forming teams because trust and operational cohesion mediate between leadership styles and team performance. This means that leaders should be given a flexible mind regarding the strategies they employ, the communication environment they operate in, and the need for leaders to build trust and cohesion in their teams [9].

This literature review synthesizes recent investigations into leadership styles, gender relations, and their influence on the performance of different companies in different settings. Studies find that leadership styles such as transformational and transactional are common among cooperative businesses. More importantly, it focuses on the fact that different gender composition of leadership is likely to influence behavioral contingencies and how specific leadership styles impact the

employees' performance in multinational companies. The review, therefore, highlights the significance of recognizing gender dynamics as a key to leadership success.

### 3. Research Methodology

This study conducted an experiment intended to find a complex connection between gender gaps and the variety of organizational imperatives such as organizational management, mediation, empathy, motivation, and future leadership potential. An experimental approach helped in the controlled manipulation of variables and being precise regarding measurement, making the findings accurate and reliable [10].

The study participants were comprised of 258 individuals. The inclusion criteria involved participants from different working environments and backgrounds to make an inclusive generalizability of the studied results, and they were all guaranteed confidentiality and voluntary participation.

#### 3.1. Variable Settings

This experiment's independent variable is gender differences, and the dependent variable is team cohesion, which is measured through five indicators: differences in organizational management, organizational moderation, organizational empathy, organizational motivation, and future leadership potential.

**Independent Variable:** Gender differences (Gend Diff) will be explored to determine how they can affect organizational processes and future leadership levels.

**Dependent Variable:**

- Organizational Management Differences (O\_Management Diff) reflected variations in management styles and practices within organizational settings.

- Organizational Moderation Differences (O\_Moderation Diff) captured differences in how organizations maintain balance and stability in their operations.

- Organizational Empathy Differences (O\_Empathy Diff) measured disparities in the level of empathy demonstrated by individuals within organizations.

- Organizational Motivation Differences (O\_Motivation Diff) assessed variations in motivational factors influencing individuals' behaviors and performance within organizational contexts.

- Future Leadership Potential (Future L2) examines individuals perceived or assessed potential for assuming leadership roles in the future.

#### 3.2. Data Collection

Quantitative data regarding the variables of interest was collected from the respondents through the use of structured questionnaires.

### 4. Analysis

#### 4.1. Pearson Correlation Analysis

Pearson correlation coefficients calculated the strength and direction of the relationships between Gender Diff and the three dependent variables. Validation and pilot-tested instruments have been used to ensure reliability and validity.

#### 4.2. ANOVA Analysis of Variance

ANOVA tests determined if some significant differences existed between genders regarding all the measured variables. This statistical technique allowed the researcher to compare group mean scores and to establish which potential discrepancies may have occurred between the male and female

participants in all the measured variables concerning organizational behaviors and future leadership potential.

## 5. Ethical Considerations

This study strictly followed ethical considerations to protect and ensure the safety of the respondents. All respondents provided informed consent, which clearly stated the study's purpose, procedures, and potential risks and benefits. Both confidentiality and anonymity have been ensured throughout the data collection and analysis process.

## 6. Result

### 6.1. Results-Exploring Leadership Dynamics and Organizational Effectiveness

This study analyzed to find out various factors regarding the effectiveness of leadership within organizational contexts. The following four dimensions have been considered: personality traits, management skills, team cohesion, and gender dynamics.

The measure of team cohesion is the number in Future L2. If it is 1, the cohesion is good, and if it is 0, the cohesion is poor. Gender differences are reflected in gender M and gender L in the other evaluation table. If the numbers are different, there are gender differences, in Table 1.

**Table 1.** Cronbach trust level analysis

Name	Correction term total correlation (CITC)	Item deleted alpha coefficient	Cronbach alpha coefficient
GenderM	0.095	0.85	0.845
GenderL	0.004	0.85	
O_Management1	0.511	0.833	
O_Moderation1	0.511	0.833	
O_Empathy1	0.512	0.833	
O_Motivation1	0.51	0.833	
FutureL1	0.497	0.834	
Gender M	0.092	0.85	
Gender L	0.024	0.85	
O_Attendance2	0.668	0.821	
O_Management2	0.668	0.821	
O_Moderation2	0.666	0.821	
O_Empathy2	0.663	0.821	
O_Motivation2	0.667	0.821	

Standardization Cronbach alpha coefficient: 0.813

### 6.2. Personality Traits Analysis

The findings reveal significant shifts in leadership personality traits over the evaluation period. Notably, the researcher observed marked improvements in specific traits, particularly management skills. For example, leaders demonstrated that they had improved their management process, as can be seen by the difference in their score at the beginning, which was 1, and at the end, which was 10. This stresses that leadership development is a dynamic course that ultimately underpins the significance of constant development and changes in leadership. These findings are consistent with Newstead et al highlighting that leadership is a dynamic process and good leadership can be developed through training and virtue-based leadership practices [11].

### 6.3. Management Skills Enhancement

The observed growth in management skills denotes a growth trend in leadership efficacy within the examined system. Loyalty depends on tactical expertise, strategic planning, problem-solving, and decision-making qualities. Moreover, establishing the reasons behind such improvement is paramount for leaders and organizations as they can rely on these findings in their leadership improvement practices.

### 6.4. Team Cohesion Assessment

The outcome of the team cohesion study demonstrated different degrees of team members' dynamics in different teams. Some teams demonstrated to be highly cohesive, but others revealed low transactional levels, possibly hinting at difficulties in communication or alignment. A precise understanding of team cohesion factors, such as leadership behavior and organizational culture, is extremely important in achieving effective teamwork.

### 6.5. Gender Dynamics Exploration

Gender differences are demarcated as one of the significant factors impacting leadership evaluations. The study revealed gender-based disparities in skills and efficacy of leadership, which necessitated looking into the issues of women's underrepresentation and gender discrimination within the organizations. Gender disparities hinder the organizations' success and the overall effectiveness of leadership. These findings are in line with Halliday et al. [12], which highlights that gender diversity and gender equality are significantly important for organizational success. Therefore, they need to be acknowledged and addressed to give way to a more equitable and inclusive working environment, promoting organizational success.

### 6.6. Reliability of the Result

The reliability coefficient in this study, 0.845, shows the strength of the item's reliability or reliability of the research instrument. A coefficient value greater than 0.8 generally indicates high reliability, suggesting that the research items tend to measure the same underlying construct or concept consistently [13].

The result indicates that after removing any single item from the scale, the reliability coefficient does not notably increase. This suggests that all the items are contributing meaningfully to the reliability of the scale [14]. If deleting an item resulted in a significant increase in reliability, it would imply that the item is inconsistent with the rest of the scale or might be measuring a different concept altogether. However, since removing any item does not substantially improve reliability, it is inferred that all items contribute adequately to the scale's internal consistency.

**Table 2.** Pearson

	Average value	Standard deviation	Gender Diff	O_Management Diff	O_Moderation Diff	O_Empathy Diff	O_Motivation Diff	Future L2
Gender Diff	-0.054	0.675	1					
O_Management Diff	2.93	33.78	0.172**	1				
O_Moderation Diff	2.919	33.815	0.170**	0.999**	1			
O_Empathy Diff	2.787	33.821	0.171**	0.999**	0.999**	1		
O_Motivation Diff	3.054	33.969	0.171**	0.999**	0.999**	0.999**	1	
Future L2	9.248	27.458	0.147*	0.792**	0.791**	0.789**	0.791**	1

\*  $p < 0.05$  \*\*  $p < 0.01$

As shown in table 2, several variables were analyzed, including Gender Diff (presumably a measure of gender differences), O\_Management Diff (Organizational Management Differences), O\_Moderation Diff (Organizational Moderation Differences), O\_Empathy Diff (Organizational Empathy Differences), O\_Motivation Diff (Organizational Motivation Differences), and Future L2 (Future Leadership Potential or some other measure related to leadership).

The significant correlation coefficients indicate the strength and direction of the relationships between Gender Diff and each of the other variables. A correlation coefficient value greater than 0 suggests a positive correlation, meaning that as Gender Diff increases, the other variables also tend to increase [15].

The values of the correlation coefficients are as follows:

Gender Diff and O\_Management Diff: 0.172

Gender Diff and O\_Moderation Diff: 0.170

Gender Diff and O\_Empathy Diff: 0.171

Gender Diff and O\_Motivation Diff: 0.171

Gender Diff and Future L2: 0.147

These results indicate a positive relationship between gender differences and the other variables mentioned. As the differences between genders increase, so do the levels of Organizational Management, Moderation, Empathy, Motivation, and Future Leadership Potential.

**Table 3.** ANOVA results

	Gender Diff (Mean $\pm$ standard deviation)			<i>F</i>	<i>p</i>
	-1.0 ( <i>n</i> =66)	0.0 ( <i>n</i> =140)	1.0 ( <i>n</i> =52)		
O_Management Diff	-6.62 $\pm$ 29.16	4.74 $\pm$ 34.87	10.17 $\pm$ 34.24	4.134	0.017*
O_Moderation Diff	-6.67 $\pm$ 29.09	4.82 $\pm$ 34.96	9.96 $\pm$ 34.25	4.098	0.018*
O_Empathy Diff	-6.67 $\pm$ 29.14	4.54 $\pm$ 35.02	10.06 $\pm$ 34.08	4.063	0.018*
O_Motivation Diff	-6.56 $\pm$ 29.13	4.94 $\pm$ 35.10	10.19 $\pm$ 34.55	4.103	0.018*
Future L2	2.36 $\pm$ 12.08	10.72 $\pm$ 29.53	14.02 $\pm$ 33.85	3.111	0.046*

In the current study, gender differences were assessed across various factors. The statistical analysis revealed significant differences between genders in several areas (Table 3):

The study found significant gender differences in organizational management, moderation, empathy, motivation, and future leadership potential, with marked discrepancies in group average scores across these metrics.

This results collectively indicate that there are notable disparities between genders across the measured factors, including organizational management, moderation, empathy, motivation, and future learning ability.

## 7. Discussion

The study contributes to a deeper understanding of how gender impacts leadership effectiveness within organizations. By identifying specific areas where gender differences are pronounced, organizations can tailor their development programs to better support all leaders, irrespective of gender, thus optimizing team performance and satisfaction [16].

The persistent gender differences in key organizational outcomes challenge the effectiveness of current gender equality measures. These disparities may impede the progress toward truly inclusive workplaces, suggesting that more targeted and innovative strategies might be necessary.

The study contributes to a deeper understanding of how gender impacts leadership effectiveness within organizations. By identifying specific areas where gender differences are pronounced, organizations can tailor their development programs to better support all leaders, irrespective of gender, thus optimizing team performance and satisfaction.

Academically, this research adds to the body of knowledge in gender studies and leadership by quantifying the impact of gender on various facets of organizational behavior. It provides empirical evidence that can be used to refine theories regarding gender dynamics in leadership.

## 8. Conclusion

This study particularly points out that gender differences significantly impact leadership styles and organizational dynamics. It indicated that diverse styles impact team cohesion, motivation, and future leadership potential in varied ways. Most importantly, it reveals gender-based disparities in leadership effectiveness and calls for solutions to gender biases to foster inclusive leadership. These insights bring out a deeper understanding of the gender dynamics in organizational settings and offer implications for fostering equitable and effective practices of leadership. Further research and initiatives focused on promoting gender diversity and inclusion will be warranted for organizational effectiveness and success.

## 9. Data Sources

Article Source: Leader evaluation and team cohesiveness in the process of team development: A matter of gender Rovira-Asenjo N, Pietraszkiewicz A, Sczesny S, Gumí T, Guimerà R, et al. (2017) Leader evaluation and team cohesiveness in the process of team development: A matter of gender. PLOS ONE 12 (10): e0186045.

## References

- [1] Ben Sedrine S., Bouderbala A., Nasraoui H. Leadership style effect on virtual team efficiency: trust, operational cohesion and media richness roles. *Journal of Management Development*, 2021, 40 (5), 365 - 388.
- [2] Chester D. S., Lasko E. N. Construct validation of experimental manipulations in social psychology: Current practices and recommendations for the future. *Perspectives on Psychological Science*, 2021 16 (2), 377 - 395.
- [3] Clifton J. D. Managing validity versus reliability trade-offs in scale-building decisions. *Psychological Methods*, 2020, 25 (3), 259.
- [4] Dastane D. O. Impact of leadership styles on employee performance: A moderating role of gender. *Australian Journal of Business and Management Research*, 2020, 5 (12), 27 - 52.
- [5] Dwiri B., Okatan K. The impact of gender on leadership styles and leadership effectiveness. *International Journal of Science and Research (IJSR)*, 2021, 10 (1), 1419 - 1434.
- [6] Halliday C. S., Paustian-Underdahl S. C., Fainshmidt S. Women on boards of directors: A meta-analytic examination of the roles of organizational leadership and national context for gender equality. *Journal of Business and Psychology*, 2021, 36 (2), 173 - 191.
- [7] Jaafar S. B., Zambani N. M., Fathil N. F. Leadership style: Is it autocratic, democratic or laissez-faire. *ASEAN Journal of Management and Business Studies*, 2021, 3 (1), 1 - 7.
- [8] Janse R. J., Hoekstra, T., Jager, K. J., Zoccali, C., Tripepi, G., Dekker, F. W., & van Diepen, M. (2021). Conducting correlation analysis: important limitations and pitfalls. *Clinical Kidney Journal*, 14 (11), 2332 - 2337.
- [9] Larsson G., Alvinus A. Comparison within gender and between female and male leaders in female-dominated, male-dominated, and mixed-gender work environments. *Journal of Gender Studies*, 2020, 29 (7), 739 - 750.
- [10] Martínez-Leon I. M., Olmedo-Cifuentes I., Martínez-Victoria, M., & Arcas-Lario, N. Leadership style and gender: A study of Spanish cooperatives. *Sustainability*, 2020, 12 (12), 5107.
- [11] Mashele W., Alagidede I. P. The appropriate leadership styles in times of crisis: a study of women in senior leadership positions in corporate South Africa. *Gender in Management: An International Journal*, 2022, 37 (4), 494 - 508.

- [12] Mcilongo M., Strydom K. The significance of mentorship in supporting the career advancement of women in the public sector. *Heliyon*, 2021, 7 (6).
- [13] Newstead T., Dawkins S., Macklin R. Martin A. We don't need more leaders–We need more good leaders. Advancing a virtues-based approach to leader (ship) development. *The Leadership Quarterly*, 2021, 32 (5), 101312.
- [14] Ntalakos A., Belia D. Koustelios, A. The Relationship Between Leadership Styles and Communication—Effect on Team Efficiency on the Tourism Industry. In *International Conference of the International Association of Cultural and Digital Tourism*, 143 - 159. Cham: Springer Nature Switzerland, 2022.
- [15] Schober P., Boer C., Schwarte L. A. Correlation coefficients: appropriate use and interpretation. *Anesthesia & Analgesia*, 2018, 126 (5), 1763 - 1768.
- [16] Shrestha N. Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 2021, 9 (1), 4 - 11.