



## IMPACT OF GENDER DIFFERENCES ON LEADERSHIP: AN INVESTIGATION OF MODERATING IMPACT OF GENDER-BASED BIASNESS

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### ABSTRACT

The inequality of gender is a severe problem that exists in our professionalism and also has a negative impact in leadership. Gender-based biasness also has negative outcomes from both genders. The present study investigates gender differences' impact on leadership and evaluate outcomes while using gender-based biasness as moderator. Because according to previous studies bias level of leadership keeps changing with the passage of time. Another motive of present research is to enhance knowledge about gender-based biasness according to both genders. While using survey research method we gather data from 370 employees of different sectors. The unit of analysis of this study is individual and data was collected only for once and probability sampling technique was used in the present study. In present research we have used non-contrived setting and likert scale is used to measure to variables. The gender difference does not affect the leadership behavior without moderation, but when we used gender-based biasness then it changes. Same as gender differences also does not affect leadership outcomes without moderation. Leadership behavior and outcome both were insignificant without moderation but after using gender-based biasness they are significant. The present study has limitation to do not collect data from students, all the data will be gather from the employees of different sectors. The conclusion contains that gender difference does not affect the leadership but gender-based biasness moderates their relationship. The current study suggests to investigate impact of transgender on leadership for future study. Another suggestion is that this study is conducted in Pakistan, the researchers can do this in other country or region.

**Keywords:** Gender, Leadership,

**JEL Codes:** J16

### I. INTRODUCTION

There are different studies and a lot of articles are published about the impact of gender on leadership. As a matter of fact, scholars who belongs to different school of thoughts, like economics, sociology, leadership, political science, and psychology but not limited, have seek to know about the dares or threats that female can face while achieving, supervising, or making good in leadership part (Shen, Joseph, 2020). So, when I read the conclusion of this article then I found the following required study for future research. We call for future study which sought to mark spiky methodological affairs, cover possible description for vary relationships alongside bias as a variable and new techniques and tools to impartially or innovatively evaluate the attitude of leaders that keep away from people raters which can be decumbent of bias on gender base (Shen, Joseph, 2020). So, that's why I selected this topic because it is recommended by the Shen and Joseph in their article. The relationship of gender and leadership is very complicated stated by article of "criterion-focused" (Shen, Joseph, 2020). Leader gender arises to access leadership actions directly or not and by aspect how the action expands through moderating variables (Frearetal, 2019). When we talk about leadership attitudes then present research states that female as leader has a positive edge on the male leader, which attracting better and capable leadership attitudes rather than ineffective, admitting that this is not enough to differ between effectiveness of both male and female but this pushes us one step close to our findings. There are different results and many situations in which both genders can find the as leader, or cognitively biases against women, especially the people who perform on the high ranks in company (Shen and Joseph, 2020). Even after all this there

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are some following results of researches which are representing that female leadership is less than the male leadership. 37% of all leadership posts (US Bureau of Labor Statistics, 2005), in which women have only 7.9% of leadership posts only 5.2% of females which are included in top gaining in 500 firms (Catalyst, 2002). Gender-based bias in workplace or management normally leads female to disadvantages compared to male (Eagly and Carli, 2007; Hogue and Lord, 2007). That's why male gender has more leadership positions than female in the world in the both public and private sector (Hausman, Tyson, and Zahidi, 2012). According to Eagly and Karau, (2002) RCT forecasts that this type of bias disturbs due to point out gender, beholder gender, and sexist mood of beholder. Gender-based biasness is varying continuously with the passage of time, 1<sup>st</sup> generation to 2<sup>nd</sup> generation (means that buried bias to clear and open bias) (Ely et al., 2011). So, there is a need to explore the data and describe how gender-based bias effects on leadership.

Previously research states the effect of gender on leadership while using interpersonal and intrapersonal skills as moderating variables, and used bias effect on leadership as a small part and call for explore the research of this topic. According to a prime observation, all the attributes between both sex (man and women) leaders are equal, but gender-based bias effect on the affairs between attitude of leaders and results, while we using it as a moderator variable (Shen, Joseph, 2020). According to (Ely et al., 2011), bias level in leadership keeps changing with the passage of time. There are very little studies and researches on impact of gender-based biasness on leadership so there is a need to explore or enhance the knowledge about this. And because the effect of bias is varying time to time, therefore, my results will be differing than the previous research. The motive of present study is to explore knowledge about gender's impact on leadership, and check the level of strength or weakness of gender-based bias on the relationship of gender and leadership. And also to know the difference of previous effect level of bias with current and add new results in the school of study, because it changes with the passage of time. Another objective of present study is to know that how much gender-based bias effect the outcomes of leadership for both sex (male and female).

Is gender-based bias become strength or weakness for the leadership for both gender (male and female)?

What is the difference between outcomes of current study than previous research?

What is the effect of bias on the outcome of leaders of both genders?

## **II. LITERATURE REVIEW**

### **II.I. GENDER DIFFERENCES**

Most of the previous studies on the gender variations was done in psychological field. Fairly, the main purpose of psychological study has been on women's attributes of personality and behavioral traits as descriptions of their poor work status (Riger & Galligan, 1980). For example, Harragan (1977) and Hennig and Jardim (1977) have mainly focused on the attributes of female and also the attitudes of job. If women desired to excel, they had to take in to behave much like men and also to learn different games played by men "their mothers never taught them" (Hennig and Jardim and Harragan, 1977). Oppositely, the scientist of social sciences declared that leadership styles have no differences for both (male & female) genders (Eagly and Johnson, 1990). The prevalence of social sciences study has elaborate that leadership roles of firm lived-in by the male and female both, have no credible differences (p. 234). But according to Eagly and Johnson There are some differences exist in the organization and they provide the two explanations for the differences (women would in general receive a fairer or participative style, and men would in general embrace a more despotic or mandate style). Firstly, ladies who have figured out how to prevail as leaders would have all the more exceptionally created relational abilities. The other clarification is that ladies are not acknowledged as promptly as men as leaders and, thus, need to permit contribution to their dynamic. A potential clarification of why these two unique methodologies have created is provided by Tannen (1990). Tannen (1990) brings up that both genders have various encounters while growing up, and, therefore, have figured out how to esteem various things. The various qualities of men like freedom lead them to carry on in an unexpected way. The subsequent contrasts in the correspondence styles of male and female can likewise cause misconception in the working environment.

### **II.II. GENDER-BASED BIASNESS**

The issues of stereotypes and gender roles in working environment were inspected during 1970s (Diehl, Stephenson, Dzubinski, and Wang, 2020). The word "glass ceiling" which depict the undetectable hindrance that halt females from top positions, was invented by Hymovitz and Schellhardt in 1986. Be that as it may, as there was not only one boundary hindering ladies' headway, research during the 1980s and 1990s distinguished different types of check, particularly those which concerned how ladies were seen, assessed, and remunerated in contrast with men (Joshi, Neely, Emrich, Griffiths, & George, 2015). Many scholars have based on Schein's exploration to develop hypothesis in the creation of job congruity, from the 1980s to the 2000s, which clarified that the social jobs of men line up with pioneer generalizations, rather ladies' social jobs don't (Joshi, Neely, Emrich, et al., 2015). Through most recent twenty years,

research on boundaries has zeroed in on the expenses of segregation, for example, misfortunes in hierarchical execution (Michel, 2018), negative effects on ladies' wellbeing (Pascoe and Smart Richman, 2009), and revenues (Joshi, Neely, et al., 2015). According to Diehl, Stephenson, et al., (2020) research has exhibited effect of sexual orientation generalizations as a hindrance to females' progression. Examines have discovered that females will be in general despised if they have been seen as fruitful (Heilman et al., 2004). Men's abilities enhance when organizations allow a little authority to them and they are highly appraised by the employees (Castilla and Benard, 2010), but females get minimum appraisal rather than male (Koch, D'Mello, and Sackett, 2015).

Numerous researchers have proposed that unpretentious, understood sexual orientation predispositions may impact guidelines for ladies' exhibition and advancement (Diehl, Stephenson, et al., 2020). Maybe the most nonsensical obstruction is sovereign honey bee condition, which recommends that a few ladies in administrative roles may create space from their junior female employees (Faniko et al., 2017). In any case, females keep on seeing that abuse from different females is extreme and startling rather than abuse from men (Mavin, Grandy, and Williams, 2014). In the conclusion it has stated that exploration has zeroed in on the obstacles come from disputes of peers and females' desires (Diehl, Stephenson, et al., 2020). Women supervision needs more struggle with peers and employees than men supervision, this is the reason it has adversely affected the leadership impression of ladies' presentation and fit inside the association founded by Hoobler, Wayne, and Lemmon (2009). More researchers have researched females' restricted desires, demonstrating how disguised generalizations and separation may keep ladies from seeking to influential positions (Haveman and Beresford, 2012). Another explanation behind females' hesitance for additional headway might be that their work fulfillment falls after administrative advancements, likely on the grounds that they have experienced more biasness difficulties while they have promoted to the upper ranks (Lup, 2018).

Despite the fact that numerous examinations give comprehension of different hindrances to ladies' authority, to our mindfulness there have been restricted endeavors to arrange a far reaching stock of difficulties looked by ladies leaders. In any case, there is one prominent exemption that offered a comprehensive assemblage of obstructions and which gave the theoretical system to the current examination (Diehl, Stephenson, et al., 2020).

### **III. EFFECT OF GENDER DIFFERENCE ON LEADERSHIP**

#### **III.I. GENDER AND LEADERSHIP BEHAVIOR**

Previous researches recommended that in leadership behavior gender contrasts are very low (Hyde 2014), and they have also highlighted "female leadership advantage" as an edge (Eagly and Carli 2003), so the females appear to show a greater amount of the practices that are especially esteemed in authoritative settings (Eagly et al. 2003). Previous researches examine the flexibility of differences of genders during interpersonal directions and task orientation just as in participative (majority rule) and order (totalitarian) authority practices. Proof from field examines, instead of evaluation studies and research facility tests, didn't propose that female supervisors show more relational direction and less assignment direction than supervision of male (Eagly and Johnson, 1990). Male and female both supervisors have different abilities and attitudes to perform and the both have their different benefits (Eagly and Johnson 1990, p. 247). The last distinction wasn't enormous, but rather has discovered regardless of the setting of study (i.e., field versus evaluation versus research facility), showing that setting factors might be applicable, contingent upon the authority conduct viable (Wolfram, Alfermann, and Athenstaedt, 2020). An examination utilizing tests across different industry areas and direct reports' evaluations indicated that female chiefs were viewed as showing marginally more individualized thought and charm/motivation than male leaders (Bass, Aolio, et al. 1996). Researchers have contributed a lot to recognizing general factors that may block ladies from accepting initiative, for example, lower business related fearlessness than their male partners (Martin and Phillips, 2017), an absence of manly attributes (Anderson and Klofstad, 2012) or sex generalizations that characterize women as high on collective qualities (for example warm, delicate), yet low on agentic attributes (for example serious, predominant; Badura et al., 2018).

Standard way of thinking proposes that men may approach significant interpersonal organizations (i.e., "old young men" organizations) that ladies don't (Campbell, 1988), which may bear the cost of them more prominent admittance to institutional information and leaders. Despite the fact that there are generally couple of studies looking at the informal communities of female chiefs, there is some proof supporting that the organizations of male and female supervisors do contrast (e.g., Ibarra, 1997). Male administrators may likewise have more prominent specialized information on associations contrasted with ladies as they are bound to be found in line (i.e., business the executives, activities the board, deals) versus staff (i.e., HR, organization, outer undertakings) the executives jobs (e.g., Lyness and Heilman, 2006), and line experience is regularly seen as a fundamental essential for section into the Csuite (Beeson and Valerio, 2012). By and large, there is some proof that female chiefs may have a bit of leeway over male leaders

on some administration important social aptitudes, while male leaders may have a favorable position over female leaders in a portion of the psychological determinants of authority, however for the most part more exploration is important to explain the nature and extent of these distinctions (Shen, Joseph, 2020). Because females are too sensitive and emotional that's why we think that this factors leads them to biasness and maybe it is the reason that females have very few positions on the top management. Although there relationship orientation skill is a little bit more than men but they have less cognitive skill than men which is necessary while we perform our duties as leaders.

### **III.II. GENDER AND LEADERSHIP OUTCOMES**

Prior, a few past examinations found a gigantic fluctuation among male leaders and female administrators' authority styles, which were basically due to amazingly covering dispersions of labor, (Eagly, 2013). Concerning initiative results, meta-insightful proof recommends that there are no gender contrasts in apparent authority viability in general (Hyde, 2014), yet that contrasts among females and men may exist contingent upon rating source and setting (Paustian, Underdahl, Walker et al. 2014). All the more explicitly, when utilizing self-appraisals, male leaders evaluated themselves as more powerful than female leaders in lower administrator and senior pioneer positions, independent of the hierarchical setting (Paustian-Underdahl et al. 2014, p. 1138). Oppositely, when utilizing different evaluations, female leaders were appraised as more compelling than male leaders, particularly in schooling and business settings, and in center administration just as senior administration positions (Paustian-Underdahl et al. 2014, p. 1138). All the more explicitly, Eagly, Karau SJ, et al. 1995, detailed that women leaders were viewed as more successful than male leaders when positions of authority were characterized in less manly terms, though male leaders were viewed as more viable than female leaders when positions of authority were characterized in more manly terms. Paustian-Underdahl et al. (2014, p. 1139), discoveries show that male chiefs may to be sure get less good viability appraisals than female leaders (e.g., in center administration positions in instructive associations), potentially because of associations' "shift toward a more feminine and transformational outlook."

The transformational attributes maybe shown by women leaders more than the male managers (Eagly et al. 2003), and the transformational administration has reliably been demonstrated to be related with positive results (Judge and Piccolo 2004), it is fascinating that females don't profit by transformational practices similarly as men (Douglas 2012). It has been recommended that female managers need to exhibit stereotypically manly practices notwithstanding feminine practices (see segment "Social Role Theory and Role Congruity Theory"), on the grounds that, else, they would be seen as "Just doing what women do" (Fletcher 2004). In amalgamation, the examination proof talked about above focuses to the possible significance of meet, not just between sexual orientation cliché authority practices and certain sex, yet between these practices and leaders' gendered individual behaviors (Appelbaum et al. 2002). Women are better in the relationship skills than men but they have only few positions in top management because they are very emotional and also feminine believers and it could cause of biasness, so that's why females have only few administrative posts.

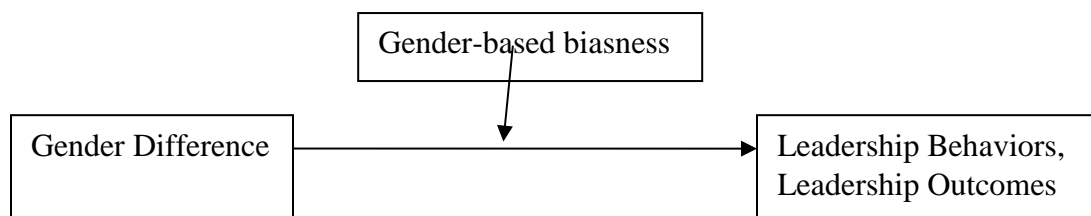
### **III.III. EFFECT OF GENDER-BASED BIASNESS ON LEADERSHIP**

There are broadly explored sexual stereotypes that connect females with different qualities than men (more mutual versus more agentic qualities, individually). There are additionally generalizations of authority that connect administrators more with characteristically manly attributes (agentic qualities) than characteristically feminine attributes (public characteristics). The consequence of this type of stereotype is that gender-based discernments relate men more with the attributes needed for administration than females (Ridgeway, 1991, 2001; Roth, Purvis, and Bobko, 2012). At the point when these insights are the reason for authority determination and advancement choices, men have a preferred position over females, not in light of their target capabilities but due to biasness which based on stereotype (Eagly and Carli, 2007; Heilman, 2001; Holt and Lewis, 2011; McDonald, 2011; McGuire, 2000; Oakley, 2000; Phelan, Moss-Racusin, and Rudman, 2008; Schein, 1978). Ambition is one of the significant indicators of vocation fulfillment, word related status, and progressive headway (Schoon and Polek, 2011; Schoon et al., 2007; Tharenou, 2001). When females' administrative ambitions discouraged by gender-based obstacles to management progress, this accordingly is hazardous from the point of view of the under-portrayal of females in administrative roles (Claudia, Knippenberg, 2020). Male culture comprises of things identified with the authoritative culture being constrained by men and containing strain to adjust to sex generalizations. Men, particularly those in customary relationships, may look adversely on females in the work environment and be "more likely to deny qualified female employee's opportunities for promotions" (Desai, Chugh, and Brief, 2014, p. 351).

As clarified by job congruity study, socially acknowledged parts for females are to help but not provoke men's position, subsequently restricting ladies' occasions to progress and make change. With restricted capacity to progress or

succeed, females may turn out to be less fulfilled and rather decide to abandon the position (Eagly and Karau, 2002). At the point when we're settling on employing choices for places that are characteristically or customarily male, generalizations can lead us to rethink what capabilities are important to prevail such that favors male over female candidates. One investigation requested that members assess either a male or female candidate for the part of police boss, a work that is characteristically held by men. The candidate was portrayed as either "street smart" or "book smart." Regardless of the candidate's capabilities, when the members assessed a lady, they set more accentuation on the rules that the female candidate needed. Conversely, when members assessed a man, they put more accentuation on the models that the male candidate had and minimized the measures he needed (Chang, Milkman, 2019). Stereotypes additionally influence how we apportion credit for a gathering's prosperity. In particular, we give more credit to men than to females for positive gathering execution, since stereotypes propose that men are more skilled, more compelling, and preferable leaders over ladies. At the point when it's equivocal which individuals in a gathering contributed what segments to a gathering's prosperity, ladies are evaluated as being less skillful, less persuasive, and less inclined to have assumed an influential position on the assignment than men in a similar gathering. Vagueness empowers sexual orientation generalizations to bias how individuals assess people (Chang, Milkman, 2019). Previous studies shows that there is difference between the attributes of both gender (male and female) and also somewhere females have more skills than men like in relationship-orientation skill, but it is not enough for leadership. That's why females have only few top level positions in the organizations. And because they are emotional and somehow think like philosophy of feminism this could become cause of biasness during their leadership process, this is also another reason to less quantity of female leaders. According to previous literature leadership behavior and leadership outcomes show different results due to the difference in genders. Gender-based biasness also effect on the leadership skills and decrease the efficiency of leadership. And because there is only few data on gender biasness while it effects on leadership, and also Winny Shen and Dana L. Joseph's article recommends this topic for future research, this is the reason that I chose this topic for research.

#### IV. THEORETICAL FRAMEWORK



#### VI. HYPOTHESIS

**H1:** Gender difference has direct impact on the leadership behaviours.

**H2:** Gender-based biasness moderates the relationship between gender difference and leadership behaviours.

**H3:** Gender difference has direct impact on the leadership outcomes.

**H4:** Gender-based biasness moderates the relationship between gender difference and leadership outcomes.

#### VII. RESEARCH METHODOLOGY

In this study, using survey research we collected data from the employees belonging to different industrial sectors like banking, corporate, educational, medical and multiple other sectors. As we have applied survey research strategy because the similar type of previous studies also use this strategy for data collection (Özgenel, Aksu, 2020, Schlamp, Gerpott, Voelpel, 2020). And because there was limited amount of research conducted about gender-based biasness so our topic leads us to collect data from overall general population that's why we choose multiple sectors to collect data. The unit of analysis used for this survey was individual working in the above mention industrial sectors. The sample size chose for this research is 370 as the maximum number of sample size was required to establish the reliability of results and divided it into every sector and collected from both gender (male and female). The questionnaire of this research contains six items of demographical portion, eleven items of gender difference, ten items of gender-based biasness, twelve items of leadership behavior and the eight items of leadership outcomes. In this study gender-based biasness is used as moderating variable, and the nature of present study is exploratory research. And the setting of this study is Non-contrived because we had not change anything to collect data for our research, everything was real and natural. And in this study probability sampling design is used because according to topic there was need to give chance everyone.

## VIII. MEASUREMENT

Gender difference is used in this study as Independent variable and to evaluate its effect on Dependent variable (Leadership) we used questionnaire of Rudman and Kilianski 2000, which gave us data about desires of participants about male and female leaders and 5 point Likert scale is used for rating (1=strongly disagree and 5=strongly agree). There are two elements included in the Leadership (dependent variable), one is Leadership Behavior and the other one is Leadership Outcomes. To calculate leadership behavior we used Leadership Behavior Inventory which is created by Kent et al (2001) and Kent (2004) and to rate Leadership Behavior we used 5 point Likert scale (1=Completely disagree and 4=Completely agree). And we used Multifactor Leadership Questionnaire (MLQ 5X) of Bruce Avolio and Bernard Bass (1995) to evaluate Leadership outcomes and to rate Leadership Outcomes we used 5 point Likert scale (1=Always and 5=Never). Gender-based biasness is playing role of moderating variable in this research. And to examine this variable we used the questionnaire, named “Gender bias quiz” of Commonwealth of Learning and we used 4 point Likert scale to rate Gender-Based Biasness (0=Not at all and 4=Frequently, if not always).

## IX. DATA ANALYSIS AND RESULTS

Items	Code	Frequency	Percentage
<b>Gender</b>	Male	250	67.8
	Female	119	32.2
<b>Age</b>	<25	112	30.3
	26-35	168	45.4
	36-45	76	20.5
	46-55	12	3.2
	56<	2	.5
<b>Education</b>	Matric	15	4.1
	Intermediate	36	9.8
	Graduate	159	43.1
	Masters	116	31.4
	M.Phil/PhD	43	11.7
<b>Profession</b>	Education	78	21.1
	Corporate	51	13.8
	Banking	101	27.3
	Medical	67	18.1
	Others	73	19.7
<b>Work Experience</b>	<5	182	49.2
	5-15	151	40.8
	16-25	30	8.1
	25-35	4	1.1
	35<	3	.8

The total number of respondents who filled the questionnaire were 370. The male respondents were 250 which contains 67.6% and female respondents were 119 which contains 32.2% of the whole data collected (100%). 30.3% respondents have their age less than 25 years i.e. 112 out of 370. The age group of 26-35 years fill 45.4% questionnaire (168 out of 370). The age group of 36-45 covers the 20.5% of the whole respondents (76 out of 370). 12 questionnaires (3.2%) were filled by the respondents who have 46-55 age group. And the 0.5% (2 out of 370) data was collected from the respondents who were more than 56 years. The maximum respondents who have filled the questionnaire falls in the age group of 26-35 (45.4%). The education level of respondents covers 4.1% (15 out of 370) of Matric, 9.7% (36 out of 370) of intermediate, 43% (159 out of 370) of Graduation, 31.4% (116 out of 370) of Masters, and 11.6% (43 out of 370) of M.Phil/PhD. The maximum respondents have their education level of Graduation (43%). The profession of 21.1% (78 out of 370) respondents is education. 13.8% respondents are working in corporate sector. 27.3% questionnaire were filled by the respondent have banking as profession. 18.1% of the respondents were from the medical sector. 19.7% questionnaire were filled by the respondent having other professions. The respondents who have less than 5 years working experience are 49.2% (182 out of 370). 5-15 years working experience covers the 40.8% (151 out of 370) of respondents. 8.1% (30 out of 370) of respondents have 16-25 years working experience. 1.1% (4 out of 370) of respondents have 25-35 years working experience. And the respondents who have more than 35 years working experience are 0.8% (3 out of 370).

## X. RELIABILITY STATISTICS

Variables	Valid N	Valid %	Cronbach's Alpha	No. of Items
GD	369	99.7	0.955	11
GBB	370	100	0.866	10
LB	370	100	0.953	12
LO	370	100	0.925	8

The value of Cronbach's alpha of Gender difference is 0.955, which is greater than the standard value i.e. 0.7. So, the results from the above table shows that the scale used in this study was reliable. The value of Cronbach's alpha of Gender-based biasness is 0.866, since this is greater than the standard value i.e. 0.7. So, we can conclude that the results from the above table shows that the scale we used in this research was reliable. The value of Cronbach's alpha of Leadership behavior is 0.953, which is greater than the standard value i.e. 0.7. So, the results from the above table shows that the scale used in this research was reliable. The value of Cronbach's alpha of Leadership outcomes is 0.925, which is greater than the standard value i.e. 0.7. So, the results from the above table shows that the scale we used in this research was reliable.

## XI. DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
GD	369	1.00	5.00	3.4977	1.10620
GBB	370	1.00	4.00	2.5870	.70795
LB	370	1.00	5.00	2.8119	1.13144
LO	370	.25	4.00	2.8223	.85049
Valid N (list wise)	369				

Descriptive statistics covers the description of data i.e. mean, deviation from the mean, minimum and maximum. In the above table the results are showing the descriptive statistics of Gender Difference and also its dependent variables Leadership Behavior and Leadership Outcomes and also the moderating variable Gender-Based Biasness. The extremities of respondents of Gender Differences are shown by the minimum and maximum which are 1.00 & 5.00 respectively. And the minimum and maximum of Gender-Based Biasness, Leadership Behavior and Leadership Outcomes are 1.00 & 4.00, 1.00 & 5.00, .25 & 4.00 respectively.

## XII. LEADERSHIP BEHAVIOR

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.045 <sup>a</sup>	.002	-.001	1.13264
2	.211 <sup>b</sup>	.045	.039	1.10979

The quantity of change in dependent variable due to independent variable is shown by the results of R square. Before moderation the value of adjusted R square was -.001 which shows that -.01% variation was predicted in the model by the independent variable. But when we add moderating variable then the aggregate variation was .039 in the model

which describes that 3.9% variation was predicted by the interaction of independent and moderating variable. The adjusted R square was low before the moderation but after moderation it is increase. And the difference (-.001-.039=-.04) of adjusted R square show that moderator has predict more variation in the dependent variable. Hence, we proves that moderating effect contains more variation which is predicted for study.

### XIII. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.969	1	.969	.755	.385 <sup>b</sup>
	Residual	470.814	367	1.283		
	Total	471.783	368			
2	Regression	21.002	2	10.501	8.526	.000 <sup>c</sup>
	Residual	450.781	366	1.232		
	Total	471.783	368			

The ANOVA model is showing that before using moderation the total units were 471.783 which were consist on 470.814 residual units and .969 units were associated with the regression and the p-value was .385. In the 2<sup>nd</sup> model when we used moderation the total units remains same which are 471.783 but the contribution of residual units are 450.781 and regression units are 21.002. We can conclude that before moderation the p-value was greater than the standard value so the results were insignificant but after the application of moderation the results become significant. As the p-value after moderation is less than the 0.05.

### XIV. COEFFICIENTS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.972	.196		15.181	.000
	GD	-.046	.053	-.045	-.869	.385
2	(Constant)	3.114	.195		15.967	.000
	GD	-.327	.087	-.319	-3.757	.000
	Moderation	.090	.022	.343	4.033	.000

Coefficients' results show that our result of Beta of Gender Differences is -.045 and their relationship is negative and p-value is also insignificant. The Gender Differences value is negative and the p-value is more than .05 which means it's insignificant. But after the application of moderation test the Beta value of Gender Differences is -.319 and their relationship is still negative but the p-value is become significant. The beta value of Gender Difference is negative but the p-value is significant which means that these results are not occurred by chance, and the results are statistically significant. Moderator's beta value is .343 which is positive and also significant because the p-value is less than .05. The results describes that the moderator does not change the impact of Gender Difference.

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
					Tolerance	
1	Moderation	.343 <sup>b</sup>	4.033	.000	.206	.361

The t value of moderation (4.033) is above than 1.96 and the p-value (.000) is less than .05 which is significant, so we can say that the results of moderation are significant.



### XV. LEADERSHIP OUTCOMES

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.090 <sup>a</sup>	.008	.005	.84703
2	.189 <sup>b</sup>	.036	.031	.83624

The results of R square show the quantity of change in dependent variable due to independent variable. The value of adjusted R square before moderation was .005 which shows that .05% variation was predicted in the model by the independent variable. But after the addition of moderating variable the aggregate variation was .031 in the model which describes that 3.1% variation was predicted by the interaction of independent and moderating variable. The adjusted R square was low before the moderation but after moderation it is increase. And the difference (.005-.031=-.026) of adjusted R square show that moderator has predict more variation in the dependent variable. Hence, we proves that moderating effect contains more variation which is predicted for study.

### XVI. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.164	1	2.164	3.017	.083 <sup>b</sup>
	Residual	263.308	367	.717		
	Total	265.472	368			
2	Regression	9.527	2	4.763	6.812	.001 <sup>c</sup>
	Residual	255.946	366	.699		
	Total	265.472	368			

The ANOVA model is showing that before using moderation the total units were 265.472 which were consist on 263.308 residual units and 2.164 units were associated with the regression and the p-value was .083. In the 2<sup>nd</sup> model when we used moderation the total units remains same which are 265.472 but the contribution of residual units are 255.946 and regression units are 21.002. We can conclude that before moderation the p-value was greater than the standard value so the results were insignificant but after the application of moderation the results become significant. As the p-value after moderation is less than the 0.05.

### XVII. COEFFICIENTS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.583	.146		17.643	.000
	GD	.069	.040	.090	1.737	.083
2	(Constant)	2.669	.147		18.163	.000
	GD	-.101	.066	-.131	-1.536	.125
	Moderation	.055	.017	.277	3.245	.001

Coefficients' results show that our result of Beta of Gender Differences is .090 and their relationship is positive and the p-value (.083) is insignificant. In the 1<sup>st</sup> model the Gender Differences value is positive and the p-value (.083) is more than .05 which means it's insignificant. But in the 2<sup>nd</sup> model after the application of moderation test the Beta value of Gender Differences is -.131 and their relationship is negative but the p-value (.125) is still insignificant. The beta value of Gender Difference is negative but the p-value is significant which means that these results are not occurred by chance, and the results are statistically significant. Moderator's beta value is .017 which is positive and also significant because the p-value (.001) is less than .05. The results describes that the moderator does not change the impact of Gender Difference.

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
1 Moderation	.277 <sup>b</sup>	3.245	.001	.167	.361

The t value of moderation (3.245) is above than 1.96 and the p-value (.001) is less than .05 which is significant, so we can say that the results of moderation are significant.

### XVIII. HYPOTHESIS TESTING

H1: Gender difference has direct impact on the leadership behaviours

H<sub>0</sub>: Gender difference has no impact on the leadership behaviours

This study reveals that without moderation (gender-based biasness) the gender difference has no impact on the leadership behavior and no one has leadership edge on anyone. We conclude this because our results without moderation analysis are insignificant. So our alternative hypothesis is rejected and null hypothesis is accepted because our study shows that there is no impact of gender differences on leadership behavior.

H2: Gender-based biasness moderates the relationship between gender difference and leadership behaviours

H<sub>0</sub>: Gender-based biasness does not moderate the relationship between gender difference and leadership behaviours

The results of first hypothesis showed no impact of gender difference on leadership behavior but when we used gender-based biasness as moderator then our result become significant. This concludes that gender-based biasness moderates the relationship between gender difference and leadership behavior which means our alternative hypothesis is accepted. In simple words when any gender male or female use gender-based biasness then their characteristic of gender changes their leadership behaviors.

H3: Gender difference has direct impact on the leadership outcomes

H<sub>0</sub>: Gender difference has no impact on the leadership outcomes

The results of our study about leadership outcomes shows that without moderation (gender-based biasness) the gender difference has no impact on leadership outcomes. This statement leads that both gender male or female have no impact on leadership outcomes, which means our alternative hypothesis is rejected and null hypothesis is accepted because this study does not support to the alternative hypothesis.

H4: Gender-based biasness moderates the relationship between gender difference and leadership outcomes.

H<sub>0</sub>: Gender-based biasness does not moderate the relationship between gender difference and leadership outcomes.

Gender difference does not show any impact on leadership outcomes behavior without moderation analysis according to our study. But when we apply moderation analysis, the results become significant which means that gender-based biasness moderates the relationship between gender difference and leadership outcomes. In simple words when any gender male or female has biasness then the leadership outcomes vary according to the gender.

### XIX. DISCUSSION

The reason of this study is to investigate the impact of gender difference on leadership while we use gender-based biasness as moderating variable. In this study leadership contains two elements or thoughts, leadership behavior and leadership outcomes. The previous studies about leadership behavior show that the difference of gender has no impact on leadership behavior (M. Özgenel, T. Aksu, 2020). The M. Özgenel, T. Aksu (2020) choose perception of ethical leadership as the element of leadership behavior and proves that gender has no impact on the leadership behavior. Another study used task and interpersonal skills as the elements in the leadership behavior and declared that both male and female have no impacts on leadership behavior (Eagly and Johnson, 1990). The study of Van Engen and Willemsen (2004) also concluded their study on the findings that the difference of male and female does not impact on leadership behavior, and they also used task and interpersonal skills as leadership behavior. But when moderator or mediator used by any researcher then it changed their results. Because when they used moderator or mediator it showed different result that in some elements males were dominant on females but in some elements females had edge on males (M. Özgenel, T. Aksu, 2020, Van Engen and Willemsen, 2004). The results of our study also reveals that leadership behavior does not effected by the difference of gender. But when we used gender-based biasness as moderator it changed the results and showed that gender-based biasness moderates the relationship of gender difference and leadership behavior. The moderator analysis of this study shows significantly results, which means that our study leads the following previous studies of different scholars.

Leadership outcomes concludes the study of Paustian-Underdahl, Slattery Walker, and Woehr (2014) which showed that the difference of male and female gender does not impact on the leadership outcomes. This study used leadership effectiveness as the element of leadership outcomes. Another study used leadership effectiveness as the element of leadership outcomes, and also showed the results that leadership outcomes does not effected by the gender difference male or female without any moderator or mediator (Eagly, Karau, and Makhijani, 1995). But both studies also proved that when they used moderation the results were varied than the results without moderation. The moderator or mediator trigger the gender which cause to change the results of impact of gender on leadership outcomes. According to them in that situation males have an edge on females this is the reason that males have more executive authorities than females (Paustian-Underdahl, Slattery Walker, and Woehr, 2014, Eagly, Karau, and Makhijani, 1995). Our study contains the results about null impact of gender on leadership outcomes without moderation. But when the gender-based biasness comes between the relationship of gender and leadership outcomes, then it changes the results of the impact of gender. So it means that our study is concludes the results according to above researches.

The Behavioral Theory states that leadership is not only birth, whereas it can be copied, teach skills of leaders, adopt the styles of leadership behavior of anyone. This theory says that behavior of leadership is learnable and anyone can adopt it by practice and skills. When we perform activities day by day regularly, these actions become our behavior so we can adopt leadership skills. This concludes that our study falls on behavioral theory because our study does not differ in the impact of any gender (male or female) on leadership (The behavioral theory).

## **XX. LIMITATIONS**

The present study also has some limitations which help this study to direct future research for other researchers. The present study was cross-sectional study so the researchers can add some causal variables for further study. Gender-based biasness had very little data in literature. Present research has done in Pakistan and the data was collected from the province Punjab. There was not much access to the managers or top level of the organizations. The study was in broad way so the sample size covered very sectors of Pakistan like corporation, banking, health and education etc.

## **XXI. CONCLUSION**

This study shows the impact of gender difference on leadership while gender-based biasness is moderating variable. The topic of gender difference on leadership is very difficult and complex because its components continuously changed with the passage of time and era. So our study describes the impact of gender on leadership. There are two elements discussed in this study of leadership, leadership behavior and leadership outcomes. And we chose gender-based biasness as moderating because it was suggested and also there was no research on this topic while using gender-based biasness as moderator and also there was minimum data on the gender-based biasness. So we chose this to enhance and invent new data and information about this topic. The results of this study explore that gender does not impact in the leadership behavior if there is no moderating o mediating variable. But when we use moderation or mediation then it may be favor one of them (male or female). And because the result of our moderation is significant so we can say that gender-based biasness moderates the relationship of gender difference and leadership behavior. In other words due to gender-based biasness there are chances that both gender may have edge on some elements than other, and also impact on the leadership behavior. In the discussion of leadership outcomes this study describes it results about the analysis with leadership outcomes. This study shows the null impact of gender on leadership outcomes without moderation. But when we used moderation the result become significant which means that gender-based biasness moderates the relationship of gender differences and leadership outcomes. Simply when gender-based biasness occurs between the both gender, it effects their leadership outcomes and give different result from both gender (male and female). For future research this study suggest researchers to include transgender into the category of genders. Another suggestion for future study is to use COVID impact as moderator on the relationship between gender and leadership behavior. We have done this research in Pakistan so the researchers can choose another area to do this. We collected information from subordinates so there is another suggestion for researcher that they can get there data from leaders or bosses about gender-based biasness.

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<https://www.wgu.edu/blog/leadership-theories-styles2004.html#close>

**APPENDIX**  
**Demographical Information**

<b>Name</b>					
<b>Gender</b>	Male			Female	
<b>Age</b>	<25	26-35	36-45	46-55	56<
<b>Education</b>	Matric	Intermediate	Graduate	Masters	M.Phil./PhD
<b>Profession</b>	Education	Corporate	Banking	Medical	Others
<b>Work experience</b>	<5	5-15	16-25	25-35	35<

**Gender Differences**

<b>1=Strongly disagree</b>		<b>2=Disagree</b>		<b>3=Neutral</b>		<b>4=Agree</b>		<b>5=Strongly agree</b>				
<b>GD1</b>	If I were in serious legal trouble, I would prefer a male to a female lawyer.							1	2	3	4	5
<b>GD2</b>	I would feel more comfortable if the pilot of an airplane I was traveling on were male.							1	2	3	4	5
<b>GD3</b>	In general, I would rather work for a man than for a woman.							1	2	3	4	5
<b>GD4</b>	If I were having a serious operation, I would have more confidence in a male surgeon.							1	2	3	4	5
<b>GD5</b>	When it comes to politics, I would rather vote for women than for men.							1	2	3	4	5
<b>GD6</b>	For most college courses, I prefer a male professor to a female professor.							1	2	3	4	5
<b>GD7</b>	Personally, I would rather go to a male doctor than a female doctor.							1	2	3	4	5
<b>GD8</b>	In general, women make better leaders than men do.							1	2	3	4	5
<b>GD9</b>	In most areas, I would rather take advice from a man than from a woman.							1	2	3	4	5
<b>GD10</b>	In general, I would rather take orders from a man than from a woman.							1	2	3	4	5
<b>GD11</b>	In general, I feel more comfortable when a man (vs a woman) is in charge.							1	2	3	4	5

**Gender-Based Biasness**

<b>1=Completely disagree</b>		<b>2=Somewhat disagree</b>		<b>3=Somewhat agree</b>		<b>4=Completely agree</b>				
<b>GB1</b>	The birth of a boy is more important than that of a girl.						1	2	3	4
<b>GB2</b>	A girl's appearance matters more than a boy's appearance.						1	2	3	4
<b>GB3</b>	It is women's responsibility to care for children.						1	2	3	4
<b>GB4</b>	Men are more competent owners of property and land than women.						1	2	3	4
<b>GB5</b>	If women take maternity leave, they should not complain if their careers stall.						1	2	3	4
<b>GB6</b>	These days, women and men with similar qualifications earn equal pay.						1	2	3	4
<b>GB7</b>	Women cannot work and take care of their families at the same time.						1	2	3	4
<b>GB8</b>	Women cannot succeed in male-dominated professions such as engineering.						1	2	3	4
<b>GB9</b>	Women are too emotional to be effective leaders.						1	2	3	4
<b>GB10</b>	Women and men running executive boards together causes problems.						1	2	3	4

**Leadership Behavior**

<b>1=Always</b>		<b>2=Very often</b>		<b>3=Sometimes</b>		<b>4=Rarely</b>		<b>5=Never</b>				
<b>LB1</b>	My supervisor/boss has a clear image of the future.							1	2	3	4	5
<b>LB2</b>	My supervisor/boss expresses enthusiasm for his/her vision.							1	2	3	4	5

<b>LB3</b>	My supervisor/boss experiments, innovates, and takes risks to find new or better ways.	1	2	3	4	5
<b>LB4</b>	My supervisor/boss has a sense of self-determination and self-confidence.	1	2	3	4	5
<b>LB5</b>	My supervisor/boss keeps his/her own level of energy up high.	1	2	3	4	5
<b>LB6</b>	My supervisor/boss believes anything can be done; has a “can do” attitude.	1	2	3	4	5
<b>LB7</b>	My supervisor/boss is a model of persistence and perseverance.	1	2	3	4	5
<b>LB8</b>	My supervisor/boss explains why she/he is doing what she/he is doing.	1	2	3	4	5
<b>LB9</b>	My supervisor/boss talks about the principles or values behind decisions that are made.	1	2	3	4	5
<b>LB10</b>	My supervisor/boss communicates in ways that inspire and motivate others.	1	2	3	4	5
<b>LB11</b>	My supervisor/boss publicizes peoples' successes to all employees.	1	2	3	4	5
<b>LB12</b>	My supervisor/boss genuinely cares about others.	1	2	3	4	5

**Leadership Outcomes**

		<b>0=Not at all</b>	<b>1=Once in a while</b>	<b>2=Sometimes</b>	<b>3=Fairly often</b>	<b>4=Frequently, if not always</b>				
<b>LO1</b>	I am effective in meeting others' job-related needs.	0	1	2	3	4				
<b>LO2</b>	I use methods of leadership that are satisfying.	0	1	2	3	4				
<b>LO3</b>	I get others to do more than they expected to do.	0	1	2	3	4				
<b>LO4</b>	I heighten others' desire to succeed.	0	1	2	3	4				
<b>LO5</b>	I am effective in representing others to higher authority.	0	1	2	3	4				
<b>LO6</b>	I work with others in a satisfactory way.	0	1	2	3	4				
<b>LO7</b>	I am effective in meeting organizational requirements.	0	1	2	3	4				
<b>LO8</b>	I lead a group that is effective.	0	1	2	3	4				