

Al-Serhan, Amani; Saada, Raeda; AlSayed, Niveen M.

Article

Women and leadership in the Jordanian armed forces

Administrative Sciences

Provided in Cooperation with:

MDPI – Multidisciplinary Digital Publishing Institute, Basel

Suggested Citation: Al-Serhan, Amani; Saada, Raeda; AlSayed, Niveen M. (2023) : Women and leadership in the Jordanian armed forces, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 13, Iss. 2, pp. 1-14,
<https://doi.org/10.3390/admsci13020045>

This Version is available at:

<https://hdl.handle.net/10419/275510>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Article

Women and Leadership in the Jordanian Armed Forces

Amani Al-Serhan ^{1,*}, Raeda Saada ² and Niveen Alsayyed ³

¹ Centre for Women's Studies, University of Jordan, Amman 11972, Jordan

² Royal Jordanian National Defense College, Mu'tah University, Jordanian Royal Medical Services, Amman 11855, Jordan

³ Business Administration Department, University of Jordan, Amman 11972, Jordan

* Correspondence: alserhan.amani@ju.edu.jo

Abstract: Ever since gaining approval to be admitted to the Jordanian Armed Forces (JAF), Jordanian women have become more visible in this sector. Women were recruited in various fields across the military, including administrative posts, education, and human resources. There is a noticeable gap in the number of women reaching leadership positions despite the quality of their work and their tremendous contributions in this sector. The present study aims to explore the correlation between military culture and environment and women's perceptions of leadership by drawing on quantitative data from female personnel at Al-Hussein Medical Center (HMC). A five-point Likert scale was adopted in the current questionnaire to test the extent of agreement with question items suggested for each aspect of work culture and environment construct. The results demonstrate that women at HMC perceive their work culture and environment positively, which in turn reflects their positive perceptions about their quality of work and their ability to lead. The female participants at HMC demonstrate positive perceptions of gender that challenge prevailing gender norms through gaining necessary support and opportunities for career advancement. The study results imply that supportive work environments have a greater impact on women's aspirations to become leaders.

Keywords: Jordanian; women; performance; leadership; military; gender; army



Citation: Al-Serhan, Amani, Raeda Saada, and Niveen Alsayyed. 2023.

Women and Leadership in the Jordanian Armed Forces.

Administrative Sciences 13: 45.

<https://doi.org/10.3390/admsci13020045>

Received: 7 December 2022

Revised: 30 January 2023

Accepted: 31 January 2023

Published: 6 February 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Although gender integration within militaries and police forces has been progressing globally, little is known about the progression of women's integration in Middle Eastern nations (Sasson-Levy et al. 2011; Karazi-Presler et al. 2017; Nilsson 2017). The traditional gender ideologies being held by Arab nations emphasize sex-based inequalities, which are coupled with the traditional patriarchal structures of militaries and police forces to challenge intersectionality for women (Maffey and Smith 2020).

Since the 1950s, Jordanian women have been growing in number in the Jordanian Armed Forces (JAF), a field traditionally marked as a domain for men. Although excluded from divisions involving direct combat, they remain readily visible as teachers, doctors, nurses, administrators, and from the year 2019, as fighter pilots. Despite Jordanian women's growing presence in the Armed Forces, there remains a noticeable gap in the number of women in top leadership positions, although they proved to be successful and high-quality performers (Maffey and Smith 2020). While women enjoy similar incentives as men and are promoted to high military ranks, there is an apparent "armored glass ceiling" that poses challenges for women in reaching higher ranks of management (Dunn 2005). This absence is somewhat alarming considering the majority of Jordanian women recruited in the army are concentrated in the Royal Medical Services (RMS).

Much research has been geared to explore the lives, challenges, and struggles of Jordanian women in traditional work environments. However, scant research has been directed at the lives of women in nontraditional sectors, such as military institutions. Although socially and culturally perceived as a male domain, many Jordanian women

are enrolled in the Jordanian Armed Forces (JAF) in various divisions and professions. Yet, despite their growing number in the military, they are somewhat absent in academic research. The contribution of this present research would fill in some of these existing gaps.

There is a need to focus on women's ability to work and succeed considering the cultural context of the Jordanian military and police force. For this purpose, cultural, historical, and recent advancements need to be analyzed to advocate for more female presence in top management despite persistent inequalities. There is a gap in the literature concerning women serving in Arab nations such as Jordan, despite bodies of scholarship on Jordanian military history and Jordanian women. The main research objectives are the following:

1. To examine the relationship between gender and leadership in the Royal Medical Services (RMS).
2. To investigate the correlation between women's perceptions about women's quality of performance and leadership and the prevailing work environment in the Royal Medical Services (RMS).

2. Literature Review

2.1. Gender and Organizations

The impact of gendering diversity on employees' behaviors, the quality of work, high performance, and progressive opportunities in their organizations has become a research interest given increased women's participation in modern societies and contemporary and knowledge economies (Peccei and Lee 2005; Hyder 2009; de Menezes 2012; Burmaoglu et al. 2012). For example, previous studies have emphasized how cultural values in terms of patriarchal behaviors and the role that a female should play as a "caregiver" for her family and children would influence her progressive opportunities at the workplace (Sharma and Kaur 2019; Wentling 2003; Lilly et al. 2006). Others have discussed issues such as long working hours and "glass ceiling" and gender-based behaviors against female managers (Garg 2014). Additionally, female presence in the organization and its impact on the quality of organizational performance have been investigated (Reguera-Alvarado et al. 2017; Willows and van der Linde 2016).

In many Arab countries, academic research explored similar biased practices and behaviors against females in organizations as a result of the prevailing conservative culture and value system (Essers 2009; Kelly and Breslin 2010; Omair 2010). Emphasis was thus given to culture and its impact on female progressive opportunities, given that Arab women can achieve high-quality work and are higher performers in their organizations.

Additionally, previous research in the Arab world explored the relationship between women's contributions in senior management or leadership and the quality of work that eventually will impact the overall organizational performance (Omair 2010; Hutchings et al. 2010). This includes the differences in personality traits between males and females (Madden 2011; Tlaiss and Kauser 2011).

2.2. Gender and the Military

Research about women in a nontraditional setting, such as the Armed Forces, has been gaining prominence in the field of gender and women's studies (Herbert 1998; Snyder 1999; Young 1989; Pateman 1989; Feinman 2000; Peach 1996; Stiehm 1989; Katzenstein 1998). Women's enrollment in the military has been subject to numerous debates where advocates of the move stressed women's right to join forces with men and serve their countries on an equal footing with men. However, those against saw that women's presence in the army undermines combat performance due to perceived incompatible physical strength (Peach 1996; Katzenstein 1998; Mitchell 1989; Carreiras 2006). Within the military establishment, women remain confined to secondary roles and men are granted high status-combat positions (Yuval-Davis 1985). Despite these debates, the number of women in uniform was making a slow but gradual increase (Nielsen 2001). In 2018, the number of women in North Atlantic Treaty Organization (NATO) countries comprised 40 percent of the

total international staff, with 25 percent holding senior positions ([The Secretary General's Annual Report 2018 2019](#)). While these figures are promising, compared to other sectors, the percentage of women's recruitment in the army remains low from a global perspective.

Low numbers of female recruitment in the military is a universal issue, with women comprising no more than 20 percent of total personnel in countries such as the UK, USA, Norway, and Sweden ([The Secretary General's Annual Report 2018 2019](#)). Factors behind these low figures have varied from unfavorable working conditions, with reported cases of sexual harassment, sexism, stereotypical images of women as physically weak and incompetent, and the unequal division of labor that places the burdens of childcare and domestic chores on women ([Herbert 1998](#); [Berggren 2002](#); [Glick and Fiske 2001](#)).

Regionally, the picture is vastly similar with Arab women making slow progress in their country's Armed Forces. As of 2019, women amount to 18 percent of those recruited into the military in Algeria, and 5 percent in Lebanon ([Ghanem and Arakji 2020](#)). Despite Tunisia's reputation as one of the most progressive Arab countries when it comes to women's rights and public participation, a 2018 report found that women in the army constitute less than 7 percent ([Ghanem and Arakji 2020](#)). In Syria, however, women formed an all-female brigade to combat the threat of ISIS in 2015. Between the years 2013–2016, there was an approximate number of 8500 women who volunteered to be in the Syrian Armed Forces ([Ghanem and Arakji 2020](#)).

Compared to neighboring countries, Jordan was making steady progress in the number of female enrollments in the military. The Jordanian Armed Forces are comprised of the Royal Jordanian Land Force, The Royal Jordanian Air Force, The Royal Jordanian Navy, and the Special Operations Command ([The World Factbook 2020](#)). Of all four branches, the Royal Jordanian Land Force is the largest, with 88,000 personnel ([Terrill 2010](#)). In the year 2006, 4883 women out of 100,500 personnel were serving in the Jordanian Armed Forces. They were divided as follows: 1203 officers, 2421 servicewomen, and 1259 civilians. In March 2019, women "constituted approximately 1.5 percent of the total military force, excluding medical services. Women can enroll as civilian employees or as officers, NCOs, or enlisted personnel. Their pay, promotions, and length of military service are equal to those of men" ([Ghanem and Arakji 2020](#)).

In Jordan, women's recruitment in the military began as early as 1950, when they served as teachers and instructors at military schools. Their numbers started expanding with the establishment of Princess Muna College of Nursing in 1962 ([Kawar 2017](#)). In 1973, "several university students were recruited as officers to serve in the general command's directorates in administrative posts, as secretaries, writers, computers software engineers, accountants, and media personnel" ([Ghanem and Arakji 2020](#)). In 1995, the Directorate of Military Women's Affairs (DMWA) was established, which was regarded a "turning point for women's career advancement in JAF. It enhanced their role in training, recruitment, promotion, and participation in the military" ([Ghanem and Arakji 2020](#)).

However, women remain concentrated in the health and educational field, with women in Jordanian Medical Services comprising the highest percentage of total female enrollment. JMS include a total of ten hospitals and eleven medical centers spread across the kingdom. Situated in the heart of Amman, Al-Hussein Medical Center is the largest medical unit. Recent figures point out that 60 percent of women in the military are concentrated in JMS. With the fact that leadership is crucial in performance quality in hospitals and health systems ([Babu and Thomas 2020](#)) and similar to many countries, women remain excluded from ground combat posts, a primary factor in gaining access to top leadership positions.

Enrollment in the military comes with many challenges. Social, cultural, and work environments were among the many factors behind the relatively low number of women in the military. Traditional gender roles are more likely to be held in Arab nations, which in turn reinforces gender-based inequalities ([Lussier and Fish 2016](#); [Rizzo et al. 2007](#)). This is coupled with "the traditionally patriarchal structures of militaries and police forces creates a challenging intersectionality for women who serve" ([Maffey and Smith 2020](#)). Such

factors are primarily responsible for the relatively low numbers of recruitment and the invisibility of women in upper management positions.

2.3. Gender and Leadership

The lack of women in leadership positions has been a subject of various academic research (Paustian-Underdahl et al. 2014; Hoyt 2010; Jogulu and Wood 2006; Appelbaum et al. 2003; Goryunova et al. 2017; Kiamba 2008; Iannello 2014). Theoretical explorations of this absence varied. Human capital theory (Naff and Thomas 1994) attributes the lack of women in top leadership positions to their disinterest in accumulating intellectual capital. Gender role theory (Eagly 1987) interprets the absence of women leaders as the way they were primarily socialized throughout their lives as caregivers. According to gendered organization theory (Acker 1990; Morley 1999; Bain and Cummings 2000; Luke 2001), male leaders are favored because of the organization's typical masculine structure. Performative leadership theory (Acker 1990; Butler 1991) postulates that leadership roles have been constructed based on male norms, making it difficult for women to compete for such positions. Professionalization theory (Blackmore 2014) propounds that top management positions impose a multitude of pressures on individuals wishing to pursue them. Due to the unequal division of labor and women shouldering most household chores and familial and childcare tasks and responsibilities, women are more reluctant to apply for such posts.

Role congruity theory perceives an incompatibility between leadership and gender roles. According to role congruity theory, "and the lack of fit model, bias against female leaders emerges from the conflicting expectations between the female gender role and the leader role" (Eagly and Karau 2002; Goethals and Hoyt 2017). Moreover, "This bias results in less favorable attitudes toward female than male leaders and women experiencing greater difficulty than men in attaining top leadership roles and being viewed as effective in these roles" (Goethals and Hoyt 2017). Furthermore, Koenig et al. (2011) state that "abundant research demonstrates that people's intuitive notions of leaders are culturally masculine" (Goethals and Hoyt 2017). These debates are further exacerbated in the areas of female leadership in military settings, a field traditionally acknowledged as a (closed) masculine domain (Snyder 1999; Enloe 1988; Izraeli 1997). Yet, despite the numerous research in the domain of gender and leadership, it is stated that it has not been demonstrated that either sex is advantaged concerning operating as a leader. Strong claims of masculine or feminine advantage do not have the data to support them.

There is a growing interest in studying the role of quality management in promoting organizational performance (Jahantigh 2019; Kolvereid and Åmo 2021). This study aims to focus on Jordanian women's perceptions of their ability to achieve high-quality performance and particularly in leadership positions.

2.4. Research Hypotheses

H0.1: *Women are not qualified to assume leadership positions in the military sector.*

H0.2: *There is a bias in favor of men in assuming senior leadership positions in the military sector.*

3. Materials and Methods

3.1. Participants and Procedure

A quantitative research approach was adopted in the current study to validate the research hypotheses proposed in the conceptual model (Bhattacharjee 2012). As the current study aims to inspect the reality of women in the military and their perceptions about their ability to succeed in leadership, the requested data were exclusively collected from 300 Jordanian females working at Al-Hussein Medical Center. The online self-administered questionnaire was developed in Google Docs and the link was mailed to the shortlisted participant's email addresses. The scope and aim of the study were explained in the cover letter that was attached to the invitation to the survey. The confidentiality of all the participants was also ensured. A total of 189 questionnaires were returned and were

found to be valid to be subjected to further analyses. The response rate was 63%, which is acceptable for online surveys (Sinclair et al. 2012).

A self-administrative questionnaire was employed as one of the most effective quantitative methods to collect the required data (Saunders et al. 2003). The current questionnaire was designed carefully to measure the main factors (i.e., work environment, culture, leadership, age, nature of work, educational level, marital status, number of children, and number of years in service) proposed in the conceptual model. As for demographic factors, age was tested using four categories: more than 45, 36–45, 26–35, and 18–25. Four groups were also considered for the nature of work: technical, medical, administrative, and other. Educational level was also categorized into four groups: Ph.D., master, bachelor, and high school diploma. Widowed, divorced, married, and single was used to measure marital status. As for family size, options were distributed as follows: more than 4 children, 3–4 children, 1–2 children, and none. The last demographic factor considered in the current study was the number of years in service, which was segmented into four categories: more than 15 years, 11–15 years, 6–10 years, and 0–5 years.

As for the profile characteristics of the 189 participants who completed the questionnaire, the vast majority of them (32%) were noticed to be within the age group of 36–45, while the least (10%) were for those whose age was more than 45 years. In terms of educational level, more than (53%) of the current participants hold a bachelor's degree, followed by those who have a master's degree (30.5%). Regarding the nature of work, (46%) are medical whereas a minimum number of participants (33.5%) are technical staff. About (61%) of the sample participants are married and (22.75%) of the female participants are single. A large number of participants have three to four children, followed by those who have two to three children (31%). Concerning work experience, (36.45%) of the current sample participants have working experience between 11–15 years, whereas quite a few participants (11.2%) have less than 5 years of experience.

To measure work culture and the environment with leadership, a five-point Likert scale ranging from strongly disagree to strongly agree was adopted in the questionnaire to see the extent of agreement with question items of these two constructs. The rationale for using a five-point Likert scale is that, unlike the seven-point Likert scale, it does not require more effort from respondents to complete, as they have to consider five different options rather than seven. This can lead to frustration or fatigue affecting the quality of the responses (Chyung et al. 2020; Baldwin et al. 2019).

A pilot study of 20 women working in the Royal Medical Services was conducted to assure the clarity of the questions and to check that the length of the questionnaire is acceptable. Furthermore, Cronbach's alpha was tested for both work culture and environment and leadership, and the yielded values were found to be higher than 0.70, as suggested by Nunnally (1978). In detail, fifteen items of work culture and environment were able to capture a Cronbach's alpha value of 0.866, while 0.817 was recorded for fifteen items of leadership.

The study explored differences between early and late responses (Armstrong and Overton 1977). The results suggested the absence of any dominant mean differences; therefore, non-response bias is not a possible concern for this study.

3.2. Measures

The present study adopted the procedures recommended by Saunders et al. (2012) to develop and adapt the measurement items for each latent factor. For conceptualization, each latent factor was scanned and existing scale items were collected. The existing items were used to initiate the development and conceptualization of scale items for the Jordanian Armed Forces. The opinion of the expert panel was also taken to develop, conceptualize, and improve the scale items. The study adopted a grounded approach to developing the scale items from previous studies to be used in the armed forces. The increased levels of content validity of scale items were ensured through a step-by-step approach.

Fifteen scale items were constructed to measure work culture and environment, as well as another fifteen scale items that were adopted to test aspects of leadership. To override barriers relating to language issues, the English version of the questionnaire was translated into the Arabic language (the mother language in Jordan) using the back translation method suggested by Brislin (1976). Then, the face validity of the Arabic version was evaluated by three professors who specialized in the field of leadership and who are fluent in English and Arabic to assure that the Arabic version adequately matches the English version (Sekaran 2003; Zikmund 2003).

3.3. Analysis

The analysis of this study was conducted using structural equating modeling (SEM) which is used to analyze relationships between multiple variables, typically used in social sciences. It allows for the estimation of complex relationships between latent variables (unobserved factors) and observed variables (measured factors), and can also be used to test hypotheses about these relationships. It is efficient for analyzing complex models that include multiple structural relationships and a large number of items per latent variable (Elrehail et al. 2018). Based on the results, it was revealed that items were loaded on a single factor. A KMO value of 0.705 was obtained in Barlett's test of sphericity, which is considered significant. This resulted in the rejection of the null hypothesis of the correlation matrix as an identity matrix. Moreover, the presence of correlation and adequate principal component analysis was confirmed by a KMO greater than 0.5. The measurement items in the present study were assessed through confirmatory factor analysis. The internal consistency of items measuring a specific factor is referred to as reliability. Reliability in this study was assessed using Cronbach's alpha, which was calculated to be >0.7 , demonstrating sufficient reliability.

4. Results and Discussion

4.1. Descriptive Analysis of Measurement Items of Culture

A five-point Likert scale was adopted in the current questionnaire to test the extent of agreement with question items suggested for each aspect of work culture and environment construct. As seen in Table 1, all scale items have been positively rated by participants with a value not less than 3.9735 (Q12). Noticeably, the vast majority of scale items were rated with a value higher than 4 and the average mean for all work culture and environment items was 4.2267, with an average standard deviation value of 0.67733 (Table 1). This, in turn, reflects the extent to which female participants positively perceive their work environment.

4.2. Descriptive Analysis of Measurement Items of Leadership

Similar to aspects related to work culture and environment, female participants seem to positively evaluate the dimensions of leadership, as all items were found to have a mean value not less than 3.4921 (Q29), as well as a standard deviation value not higher than 1.03974 for the same item (Q29) as seen in Table 2. Overall, the average mean for all leadership scale items was 3.994 and the average standard deviation was 0.7869. Accordingly, the current study participants have positive attitudes toward leadership scale items for military women.

Table 1. Descriptive analysis of measurement items of work culture and environment.

Q. No.	Item	Mean	Std. Deviation
Q1	The military establishment is obligated to provide transportation for women working in the sector or to give them compensation for transportation.	4.6455	0.60691
Q2	The military institution deals with its affiliates on the principle of justice and equality.	4.6402	0.54350
Q3	The military institution deals with its affiliates on the principle of integrity and transparency.	4.3598	0.61685
Q4	The military environment provides childcare facilities.	4.1005	0.71119
Q5	The military establishment abides by the laws related to maternity leave.	4.0899	0.60789
Q6	The military establishment abides by the laws related to nursing hours.	4.2698	0.69664
Q7	The military institution takes into account the privacy of women concerning pregnancy and other matters.	4.2169	0.67676
Q8	The military is obligated to apply the penal code to anyone who commits a wrongful act against women.	4.0741	0.61438
Q9	The military provides a safe environment for women.	4.3915	0.69583
Q10	The military encourages its female workers to periodically screen for cancer.	3.9788	0.75059
Q11	The military provides opportunities for women to express their views on the institution's performance and development possibilities.	4.0159	0.78195
Q12	The military establishment provides an opportunity for its female workers to file complaints on any matter, with strict confidentiality and professionalism.	3.9735	0.73971
Q13	Military women are subject to a system of incentives, bonuses, and rewards, similar to their male counterparts.	3.9788	0.75764
Q14	The military provides job security for its members through social security and pension.	4.2434	0.73225
Q15	The military establishment allows women to include their children and husband in health insurance.	4.4233	0.62797
Average		4.2267	0.67733

4.3. Construct Reliability and Validity

Table 3 above, shows fit indices and initial and modified measurement models. As recommended by [Anderson and Gerbing \(1988\)](#), three common criteria, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE), were considered and inspected for both leadership and work culture and environment. As seen in Table 4, culture, work environment (0.87), and leadership (0.86) have an acceptable value of a Cronbach's alpha higher than 0.70, as suggested by [Nunnally \(1978\)](#). Likewise, the two constructs, culture and work environment (0.87), and leadership (0.871), match the standards related to CR with values not less than 0.70, as recommended by [Fornell and Larcker \(1981\)](#). The final request was regarding the AVE, which is within the acceptable level with a value not less than 0.50, as recommended by [Hair et al. \(2010\)](#). Moreover, as presented in Table 5, all unremoved scale items for work culture and environment, and leadership have standardized regression weight (factor loading) values not less than 0.50.

Table 2. Descriptive analysis of measurement items of leadership.

Q. No.	Item	Mean	Std. Deviation
Q16	Military women are highly qualified.	4.4656	0.66455
Q17	Military women are fully committed to their duties.	4.4233	0.57491
Q18	Military women abide by laws, regulations, and instructions.	4.1587	0.57073
Q19	Military women have high leadership skills.	4.2910	0.76142
Q20	Military women can lead well regardless of their gender.	3.8677	0.72086
Q21	Women are in multiple leadership positions in the military sector.	4.1376	0.78015
Q22	The percentage of women in senior leadership positions is satisfactory.	4.0582	0.78672
Q23	Military women can make decisions.	3.9788	0.92804
Q24	The military provides all opportunities to develop women's skills and competencies without discrimination.	3.8201	0.81829
Q25	Women are less likely to join military positions compared to men.	3.5661	0.78694
Q26	Appointment to senior leadership positions is based on competencies and experience.	3.5503	0.84668
Q27	Gender plays a major role in the appointment process to senior leadership positions.	3.8783	0.79960
Q28	Women are unable to make difficult decisions.	3.4974	0.95441
Q29	Women in the military sector are not taken seriously.	3.4921	1.03974
Q30	Women in leadership positions have achieved multiple accomplishments and great success.	3.9788	0.77155
Average		3.994	0.7869

Table 3. Fit indices.

Fit Indices	Cut-Off Point	Initial Measurement Model	Modified Measurement Model
CMIN/DF	≤ 3.000	8.091	2.341
GFI	≥ 0.90	0.743	0.923
AGFI	≥ 0.80	0.661	0.871
NFI	≥ 0.90	0.754	0.945
CFI	≥ 0.90	0.854	0.965
RMSEA	≤ 0.08	0.095	0.0654

Table 4. Construct reliability and validity.

Latent Constructs	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Work culture and environment	0.87	0.87	0.517
Leadership	0.86	0.871	0.501

Table 5. Standardized regression weights.

Item		Construct	Estimate
Q6	<—	Work culture and environment	0.856
Q7	<—	Work culture and environment	0.835
Q8	<—	Work culture and environment	0.727
Q11	<—	Work culture and environment	0.596
Q12	<—	Work culture and environment	0.728
Q13	<—	Work culture and environment	0.676
Q15	<—	Work culture and environment	0.521
Q30	<—	Leadership	0.641
Q27	<—	Leadership	0.650
Q25	<—	Leadership	0.642
Q24	<—	Leadership	0.759
Q23	<—	Leadership	0.627
Q22	<—	Leadership	0.810
Q21	<—	Leadership	0.767

4.4. Structural Model

The main research hypotheses were tested in the second step of structural equation modelling as seen in Table 6. The overall model was able to predict about 0.72 variances in the dependent factor (leadership). This largely supports the predictive validity of the current study model. According to path coefficient analyses, as expected, work culture and environment was the most significant factor with an impact on leadership, with a regression weight value of 0.64 and a p -value of 0.001. Four demographic factors, age ($\gamma = -0.255, p < 0.002$), nature of work ($\gamma = 0.165, p < 0.006$), number of children ($\gamma = 0.280, p < 0.001$), and marital status ($\gamma = -0.315, p < 0.001$), have been supported to have a significant relationship with leadership. Yet, two hypothesized paths were not supported: the path between education level ($\gamma = -0.135, p < 0.075$) and leadership, and the number of working years ($\gamma = 0.280, p < 0.001$) and leadership ($\gamma = 0.149, p < 0.078$). Figure 1 below illustrates the testing of the conceptual model.

Table 6. Hypothesis testing.

			Estimate	S.E.	C.R.	p	Sig
LRD	<—	CLR	0.637	0.108	60.443	***	Sig
LRD	<—	Age	-0.255	0.054	-30.070	0.002	Sig
LRD	<—	Nature of Work	0.165	0.059	20.760	0.006	Sig
LRD	<—	Education	-0.135	0.067	-10.780	0.075	Non. Sig
LRD	<—	Status	-0.315	0.087	-30.885	***	Sig
LRD	<—	Number of children	0.280	0.062	30.393	***	Sig
LRD	<—	Number of years at work	0.149	0.060	10.760	0.078	Non. Sig

p -value of *** indicates that the value is less than 0.001.

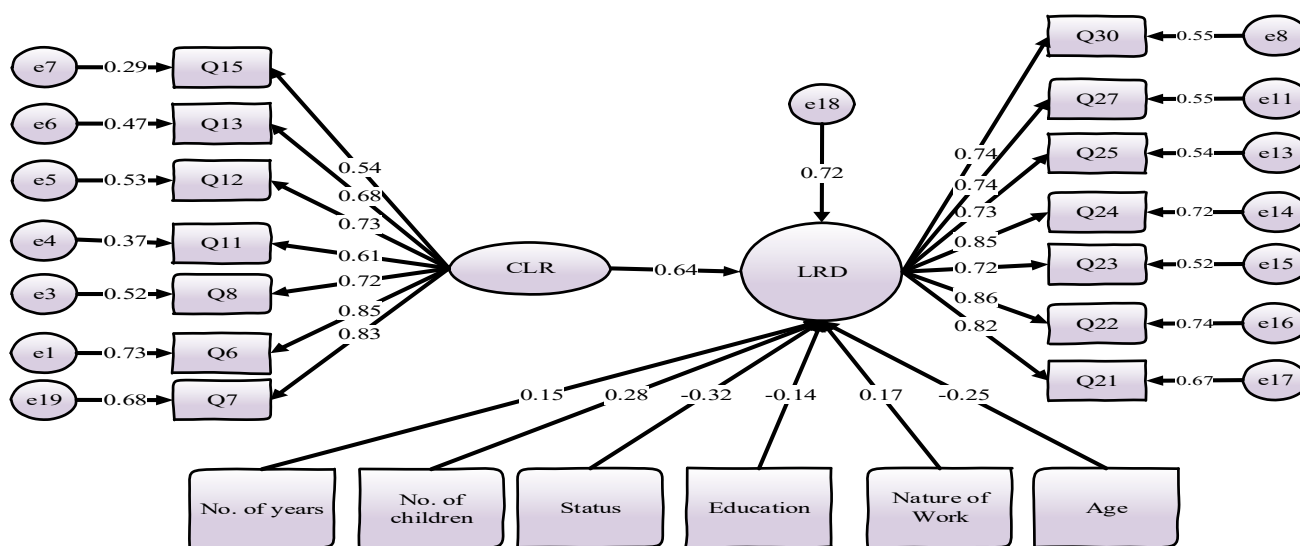


Figure 1. Testing the conceptual model.

4.5. Discussion of Results

This study proposed two hypotheses to test the relationship between workplace culture and environment and women’s perception of leadership in the military, an employment sector that is classed as masculine. Findings indicate that work culture and environment have a significant impact on perceptions of leadership among Jordanian women working in the RMS. Because women at Al-Hussein Medical Center (HMC) perceive their work culture and environment in a positive light, this was reflected in their positive perceptions of leadership positions. This implies that supportive work environments have a large impact on women’s aspirations to become leaders. Through gaining the necessary support and opportunities for career advancement, female participants at HMC demonstrate positive perceptions of gender that challenge prevailing gender norms. Unlike proponents of role congruity theory (2002), which sees a lack of fit between gender roles and leadership, prevailing gender norms do not impede female participants’ perceptions and strive for leadership. They do not see themselves as less worthy of leadership positions.

Moreover, women’s positive perceptions about their abilities to achieve high-quality performance and their qualifications to lead, make decisions, and reach top leadership positions irrespective of their gender are in line with Robert Veccio’s main argument about the lack of research that supports gendered advantage toward leadership; both genders are capable of leading. These results cannot be read using gender role theory (1987) that interprets women’s absence in leadership positions due to way they are socialized as caregivers. They can neither be read using human capital theory (1994) that links the lack of female leadership to women’s disinterest in gaining intellectual capital. The findings do not indicate gendered perceptions about leadership among Jordanian women in HMC. On the contrary, they reveal a shift from traditional perceptions of gender that were prevalent in the early years of female recruitment in the JAF toward a more vibrant role where women were not only able to penetrate a masculine work environment but are also able to see themselves in leading positions within the military establishment.

In the present study, the positive perceptions that women at HMC have of their work environment and their perceptions of leadership do not explain their relative absence in top managerial posts while assuming leadership positions are closely connected with the work environment. Thus, further research is required to determine other possible contributing factors for this absence. These factors could include gender bias and the patriarchal structure of the RMS as a military unit, among others. Within the top management of the RMS, there could be a gendered bias against women reaching top leadership roles, such as heads of departments, divisions, centers, and hospitals, which could be explained using

role congruity theory that purports a lack of fit between perceived gender roles of women as caregivers and that of leaders.

5. Theoretical Implications

The present study, focusing on the experiences and circumstances of Jordanian women in the Armed Forces, significantly contributes to existing cross-national literature on women in militaries and police forces. It has filled the gap in the existing literature on the experiences and circumstances of women who work in the Jordanian Armed Forces. This study presents an understanding of the current situation of Jordanian women, stating that it is not possible without mentioning this particular population, i.e., the women who serve in the military and police. By this approach, the study directs the researchers and decision-makers regarding the experiences and actions of these women concerning national policies, such as the Jordanian National Action Plan for the implementation of UN Security Council Resolution 1325 on Women, Peace, and Security (2018–2021). The information about societal and institutional variables affecting women's participation in security professions across the globe may provide new insights for the theoretical direction of the study.

6. Practical Implications

The present study has provided insights into Jordanian women who have been successfully serving in the military and police despite cultural and societal challenges in one of the most historically masculine institutions. There are differences in the factors challenging and supporting women and it is important to understand them with larger significance since women are serving in militaries and police forces around the world. Considering the broader political and cultural discourse across the Middle East leading to the Arab Spring, women have been observed to play an important role to advance democratic ideals and ideological reforms that have been met with violence and repression. The present study provides directions for policymakers defying the perspective that cultural norms and historic circumstances in Jordan make it untenable for women to gain access to the Armed Forces.

7. Limitations

While this study was conducted on women working in the RMS, many female participants were reluctant to fill out the survey, fearing that taking part in such a study would endanger their career prospects. Although research objectives were communicated to them, they remained uncomfortable answering the survey. Another limitation was having to physically distribute the survey to the participants instead of sending out an electronic form via email. The majority of participants were uneasy about filling information through emails, as they perceive it as written and documented proof that could be potentially leaked and that could have negative repercussions. Having male participants in the study was challenging, as some were suspicious of the overall objectives of the research and perceived this type of research as a form of criticism of the RMS.

8. Recommendations and Future Research

Although female participants were chosen for this research for practical considerations, it would have been more illuminating to explore the results of male participants in the RMS and their responses to the gender gap in leadership. Moreover, future research on gender and leadership in the Jordanian Armed Forces could rely on qualitative research methods where potential participants would be interviewed in-depth and their insights analyzed by engaging with aspects of gender and feminist theories. Future research could also explore this gender gap in other sub-branches of the military, such as the Royal Jordanian Air Force and the Special Operations Command. To situate this topic regionally, a wide scale comparative study could be conducted in many Arab countries to explore cross-national variations relating to gender and leadership in the Armed Forces.

Author Contributions: Conceptualization: A.A.-S.; methodology: A.A.-S.; formal analysis: A.A.-S.; writing—original draft preparation: A.A.-S.; software: A.A.-S.; validation: R.S.; investigation: R.S.; resources: R.S.; data curation: R.S.; writing—review and editing: N.A.; visualization: N.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: The author is thankful to all the associated personnel who contributed to this study by any means.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Acker, Joan. 1990. Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender Society* 4: 139–58. [\[CrossRef\]](#)
- Anderson, James C., and David W. Gerbing. 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103: 411–23. [\[CrossRef\]](#)
- Appelbaum, Steven H., Lynda Audet, and Joanne C. Miller. 2003. Gender and leadership? Leadership and gender? A journey through the landscape of theories. *Leadership & Organization Development Journal* 24: 43–51. [\[CrossRef\]](#)
- Armstrong, J. Scott, and Terry S. Overton. 1977. Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research* 14: 396–402. [\[CrossRef\]](#)
- Babu, Faisal, and Sam Thomas. 2020. The relationship between total quality management practices and organisational image in the hospital industry: An empirical examination. *International Journal of Productivity and Quality Management* 29. [\[CrossRef\]](#)
- Bain, Olga, and William Cummings. 2000. Academe's Glass Ceiling: Societal, Professional-Organizational, and Institutional Barriers to the Career Advancement of Academic Women. *Comparative Education Review* 44: 493–514. [\[CrossRef\]](#)
- Baldwin, Cathy, Ben Cave, and Patrick Rawstorne. 2019. Measuring the Impact of Public Understandings of Risk from Urban and Industrial Development on Community Psychosocial Well-Being: A Mixed Methods Strategy. *International Journal of Community Well-Being* 3: 57–82. [\[CrossRef\]](#)
- Berggren, Anders W. 2002. Undercover Operations in No-women's Land. In *The Swedish Armed Forces through a Gender Lens*. Lund: Lund University.
- Bhattacharjee, Anol. 2012. *Social Science Research: Principles, Methods, and Practices*, 2nd ed. Tampa: AnolBhattacharjee. [\[CrossRef\]](#)
- Blackmore, Jill. 2014. 'Wasting talent'? Gender and the problematics of academic disenchantment and disengagement with leadership. *Higher Education Research & Development* 33: 86–99. [\[CrossRef\]](#)
- Brislin, Richard W. 1976. Comparative Research Methodology: Cross-Cultural Studies. *International Journal of Psychology* 11: 215–29. [\[CrossRef\]](#)
- Burmaoglu, Serhat, Yigit Kazancoglu, and Mehmet Kabak. 2012. Analysing relationship between productivity and knowledge economy data of EU countries (including Turkey) by using canonical correlation analysis. *International Journal of Productivity and Quality Management* 9: 437. [\[CrossRef\]](#)
- Butler, Judith. 1991. Gender Trouble: Feminism and the Subversion of Identity. *Feminist Review* 113. [\[CrossRef\]](#)
- Carreiras, Helena. 2006. *Gender and the Military: Women in the Armed Forces of Western Democracies*. London: Routledge. [\[CrossRef\]](#)
- Chyung, Seung Youn, Douglas Hutchinson, and Jennifer A. Shamsy. 2020. Evidence-Based Survey Design: Ceiling Effects Associated with Response Scales. *Performance Improvement* 59: 6–13. [\[CrossRef\]](#)
- de Menezes, Lilian M. 2012. Job satisfaction and quality management: An empirical analysis. *International Journal of Operations & Production Management* 32: 308–28. [\[CrossRef\]](#)
- Dunn, Michael D. 2005. The armored glass ceiling. Paper presented at the 4th International Annual Conference on Leadership Research, University of Lancaster, Lancaster, UK, December 12–13.
- Eagly, Alice H. 1987. Reporting sex differences. *American Psychologist* 42: 756–57. [\[CrossRef\]](#)
- Eagly, Alice H., and Steven J. Karau. 2002. Role congruity theory of prejudice toward female leaders. *Psychological Review* 109: 573–98. [\[CrossRef\]](#)
- Elrehail, Hamzah, Okechukwu Lawrence Emeagwali, Abdallah Alsaad, and Amro Alzghoul. 2018. The impact of Transformational and Authentic leadership on innovation in higher education: The contingent role of knowledge sharing. *Telematics and Informatics* 35: 55–67. [\[CrossRef\]](#)
- Enloe, Cynthia. 1988. *Does Khaki Become You? The Militarisation of Women's Lives*. London: South End Press.
- Essers, Caroline. 2009. Reflections on the Narrative Approach: Dilemmas of Power, Emotions and Social Location While Constructing Life-Stories. *Organization* 16: 163–81. [\[CrossRef\]](#)
- Feinman, Ilene. 2000. *Citizenship Rites: Feminist Soldiers and Feminist Antimilitarists*. New York: NYU Press.

- Fornell, Claes, and David F. Larcker. 1981. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research* 18: 39–50. [CrossRef]
- Garg, Naval. 2014. Employee Engagement and Individual Differences: A Study in Indian Context. *Management Studies and Economic Systems* 1: 41–50. [CrossRef]
- Ghanem, Dalia, and Dina Arakji. 2020. Women in the Arab Armed Forces, Carnegie Middle East Center and Lebanese American University 2020. Available online: <https://carnegie-mec.org/2020/03/12/women-in-arab-armed-forces-pub-81271> (accessed on 6 December 2022).
- Glick, Peter, and Susan T. Fiske. 2001. An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. *American Psychologist* 56: 109–18. [CrossRef]
- Goethals, George R., and Crystal L. Hoyt. 2017. *Women and Leadership: History, Theories, and Case Studies*. Great Barrington: Berkshire Publishing Group LLC.
- Goryunova, Elizabeth, Robbyn T. Scribner, and Susan R. Madsen. 2017. The current status of women leaders worldwide. In *Handbook of Research on Gender and Leadership*. Cheltenham: Edward Elgar Publishing, pp. 3–23. [CrossRef]
- Hair, Joseph F., William C. Black, and Barry J. Babin. 2010. *Multivariate Data Analysis: A Global Perspective*, 7th ed. London: Pearson Education International.
- Herbert, Melissa S. 1998. *Camouflage Isn't Only for Combat: Gender, Sexuality, and Women in The Military*. New York: NYU Press.
- Hoyt, Crystal L. 2010. Women, Men, and Leadership: Exploring the Gender Gap at the Top. *Social and Personality Psychology Compass* 4: 484–98. [CrossRef]
- Hutchings, Vincent L., Hanes Walton, and Andrea Benjamin. 2010. The Impact of Explicit Racial Cues on Gender Differences in Support for Confederate Symbols and Partisanship. *The Journal of Politics* 72: 1175–88. [CrossRef]
- Hyder, Bushra. 2009. SGGI Working Group on 'Women & Economy' holds its 4th Roundtable. October 6. Available online: <http://www.ips.org.pk> (accessed on 12 May 2012).
- Iannello, Kathleen. 2014. *Women's Leadership and Third-Wave Feminism*. New York: Sage Publishing, pp. 70–77. [CrossRef]
- Izraeli, Dafna N. 1997. Gendering military service in the Israeli defence forces. *Stratification in Israel* 12: 129–66.
- Jahantigh, Farzad Firouzi. 2019. Evaluation of healthcare service quality management in an Iranian hospital by using fuzzy logic. *International Journal of Productivity and Quality Management* 26: 160. [CrossRef]
- Jogulu, Uma D., and Glenice J. Wood. 2006. The role of leadership theory in raising the profile of women in management. *Equal Opportunities International* 25: 236–50. [CrossRef]
- Karazi-Presler, Tair, Orna Sasson-Levy, and Edna Lomsky-Feder. 2017. Gender, Emotions Management, and Power in Organizations: The Case of Israeli Women Junior Military Officers. *Sex Roles* 78: 573–86. [CrossRef]
- Katzenstein, Mary F. 1998. *Faithful and Fearless: Moving Feminist Protest inside the Church and Military*. Princeton: Princeton University Press.
- Kawar, Jumana. 2017. Jordanian women's evolving role in the armed forces. *Women in International Security*. Available online: <https://wiisglobal.org/jordanian-womens-evolving-role-in-the-armed-forces/> (accessed on 6 December 2022).
- Kelly, Sanja, and Julia Breslin, eds. 2010. *Women's Rights in the Middle East and North Africa: Progress Amid Resistance*. Lanham: Rowman & Littlefield Publishers.
- Kiamba, Josephine M. 2008. Women and Leadership Positions: Social and Cultural Barriers to Success. *Wagadu* 6: 7–26.
- Koenig, Anne M., Alice H. Eagly, Abigail A. Mitchell, and Tiina Ristikari. 2011. Are leader stereotypes masculine? A meta-analysis of three research paradigms. *Psychological Bulletin* 137: 616–42. [CrossRef] [PubMed]
- Kolvreid, Lars, and Bjørn Willy Åmo. 2021. Quality and performance in small accounting firms. *International Journal of Productivity and Quality Management* 32: 129. [CrossRef]
- Lilly, Juliana D., Jo Ann Duffy, and Meghna Virick. 2006. A gender-sensitive study of McClelland's needs, stress, and turnover intent with work-family conflict. *Women in Management Review* 21: 662–80. [CrossRef]
- Luke, Carmen. 2001. *Globalization and Women in Academia: North/West-South/East*. London: Routledge. [CrossRef]
- Lussier, Danielle, and Steven Fish. 2016. Men, Muslims, and Attitudes toward Gender Inequality. *Politics and Religion* 9: 29–60. [CrossRef]
- Madden, Margaret. 2011. Gender stereotypes of leaders: Do they influence leadership in higher education? *Wagadu: A Journal of Transnational Women's Gender Studies* 9: 55–88.
- Maffey, Katherine R., and David G. Smith. 2020. Women's Participation in the Jordanian Military and Police: An Exploration of Perceptions and Aspirations. *Armed Forces & Society* 46: 46–67. [CrossRef]
- Mitchell, Brian P. 1989. *Weak Link: The Feminization of the American Military*. New York: Gateway Books. [CrossRef]
- Morley, Louise. 1999. *Organising Feminisms: The Micropolitics of the Academy*. Berlin/Heidelberg: Springer. [CrossRef]
- Naff, Katherine C., and Sue Thomas. 1994. The Glass Ceiling Revisited: Determinants of Federal Job Advancement. *Review of Policy Research* 13: 249–72. [CrossRef]
- Nielsen, Vicki. 2001. "Women in Uniform", NATO Review. Available online: <https://bit.ly/2psNShf> (accessed on 6 December 2022).
- Nilsson, Marco. 2017. Muslim Mothers in Ground Combat Against the Islamic State: Women's, identities and social change in Iraqi Kurdistan. *Armed Forces & Society* 44: 261–79. [CrossRef]
- Nunnally, J. C. 1978. *Psychometric Theory*. New York: McGraw-Hill. [CrossRef]

- Omair, Katlin. 2010. Typology of career development for Arab women managers in the United Arab Emirates. *Career Development International* 15: 121–43. [CrossRef]
- Pateman, Carole. 1989. *The Disorder of Women: Democracy, Feminism, and Political Theory*. Redwood City: Stanford University Press. [CrossRef]
- Paustian-Underdahl, Samantha C., Lisa Slattery Walker, and David J. Woehr. 2014. Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *Journal of Applied Psychology* 99: 1129–45. [CrossRef]
- Peach, Lucinda Joy. 1996. Gender ideology in the ethics of women in combat. In *It's Our Military Too! Women and the U.S. Military*. Edited by Judith Hicks Stiehm. Philadelphia: Temple University Press, pp. 156–94.
- Peccei, Riccardo, and Hyun-Jung Lee. 2005. The Impact of Gender Similarity on Employee Satisfaction at Work: A Review and Re-Evaluation. *Journal of Management Studies* 42: 1571–92. [CrossRef]
- Reguera-Alvarado, Nuria, Pilar De Fuentes, and Joaquina Laffarga. 2017. Does Board Gender Diversity Influence Financial Performance? Evidence from Spain. *Journal of Business Ethics* 141: 337–50. [CrossRef]
- Rizzo, Helen, Abdel-Hamid Abdel-Latif, and Katherine Meyer. 2007. The Relationship Between Gender Equality and Democracy: A Comparison of Arab Versus Non-Arab Muslim Societies. *Sociology* 41: 1151–70. [CrossRef]
- Sasson-Levy, Orna, Yagil Levy, and Edna Lomsky-Feder. 2011. Women breaking the silence: Military service, gender, and antiwar protest. *Gender & Society* 25: 740–63. [CrossRef]
- Saunders, Mark, Philip Lewis, and Adrian Thornhill. 2003. *Research Methods for Business Students*, 3rd ed. Harlow: Prentice Hall.
- Saunders, Mark, Philip Lewis, and Adrian Thornhill. 2012. *Research Methods for Business Students*. London: Pearson Education. [CrossRef]
- Sekaran, Uma. 2003. *Research Methods for Business: A Skill-Building Approach*, 4th ed. Hoboken: John Wiley & Sons.
- Sharma, Sakshi, and Rajvir Kaur. 2019. Glass ceiling for women and its impact on women's career progression in the Indian service sector: The moderating role of family structure. *International Journal of Indian Culture and Business Management* 18: 235. [CrossRef]
- Sinclair, Martha, Joanne O'Toole, Manori Malawaraarachchi, and Karin Leder. 2012. Comparison of response rates and cost-effectiveness for a community-based survey: Postal, internet and telephone modes with generic or personalised recruitment approaches. *BMC Medical Research Methodology* 12: 132–32. [CrossRef]
- Snyder, R. Claire. 1999. *Citizen-Soldiers and Manly Warriors: Military Service and Gender in the Civic Republican Tradition*. Lanham: Rowman & Littlefield.
- Stiehm, Judith. 1989. *Arms and the Enlisted Woman*. Philadelphia: Temple University Press. [CrossRef]
- Terrill, W. Andrew. 2010. *Global Security Watch. Jordan*. Santa Barbara: Praeger.
- The Secretary General's Annual Report 2018. 2019. March 15. NATO. Available online: <https://bit.ly/2MJCm9w> (accessed on 6 December 2022).
- The World Factbook*. 2020. Washington, DC: Central Intelligence Agency.
- Tlairs, Hayfaa, and Saleema Kauser. 2011. The importance of wasta in the career success of Middle Eastern managers. *Journal of European Industrial Training* 35: 467–86. [CrossRef]
- Wentling, Rose Mary. 2003. The career development and aspirations of women in middle management—Revisited. *Women in Management Review* 18: 311–24. [CrossRef]
- Willows, Gizelle, and Megan van der Linde. 2016. Women representation on boards: A South African perspective. *Meditari Accountancy Research* 24: 211–25. [CrossRef]
- Young, Iris Marion. 1989. Polity and Group Difference: A Critique of the Ideal of Universal Citizenship. *Ethics* 99: 250–74. [CrossRef]
- Yuval-Davis, Nira. 1985. Front and Rear: The Sexual Division of Labor in the Israeli Army. *Feminist Studies* 11: 649. [CrossRef]
- Zikmund, William G. 2003. *Exploring Marketing Research*. Cincinnati: Thomson/South-Western.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.