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# Empowerment through technology: domestic violence acceptance among Iraqi women in an intersectional context

Ruaa Al Juboori<sup>1,2\*</sup>

## Abstract

**Background** Acceptance of domestic violence against women refers to the belief that violence can be justified. Women's attitudes towards domestic violence shape societal acceptance, victimization, disclosure, and help-seeking behaviors. This study explored the role of gender, socio-economic status, regional disparities, and empowerment in domestic violence acceptance among Iraqi women.

**Methods** Using data from the 2018 Iraq Multiple Indicator Cluster Survey (MICS 6) with 19,443 married Iraqi women, this cross-sectional study employed logistic regression analyses to investigate individual, interpersonal, community, and societal determinants of domestic violence acceptance.

**Results** 48.4% of married Iraqi women accepted domestic violence, with higher acceptance in South/Central regions (62–73%). Factors associated with higher acceptance included lower education (aOR=0.39, 95% CI: 0.35–0.45 for upper secondary education compared to preprimary or non), functional difficulties (aOR=1.60, 95% CI: 1.40–1.83), marriage to blood-related spouses (aOR=1.45, 95% CI: 1.36–1.54), and rural residence (aOR=1.20, 95% CI: 1.15–1.33). Conversely, owning a mobile phone (aOR=0.47, 95% CI: 0.44–0.50) and using a computer/tablet (aOR=0.34, 95% CI: 0.30–0.38) were associated with lower acceptance.

**Conclusion** These findings, given the lack of research on domestic violence among Iraqi women, highlight the urgent need for policy discussions supporting Sustainable Development Goals on gender equity and well-being. Enhanced access to technology could help women have better access to resources, support systems, and information, which would lower acceptance for domestic violence.

**Keywords** Domestic violence acceptance, Technological empowerment, Iraqi women, Socio-economic factors, SDG 5, Gender equality

The University of Mississippi faculty website: <https://hesrm.olemiss.edu/people/ruaa-al-juboori> List of Published Work in My Bibliography  
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\*Correspondence:  
Ruaa Al Juboori  
ruaa@olemiss.edu

<sup>1</sup>Assistant Professor of Public Health, Department of Public Health, School of Applied Sciences, University of Mississippi, 642 All-American Drive (Suite- 221 Turner Center), University, MS 38677, USA

<sup>2</sup>Data Analytics Statistician, The Institute of Child Nutrition, School of Applied Sciences, University of Mississippi, Oxford, MS, USA



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## Background

Acceptance of domestic violence against women refers to the belief that violence can be justified [1]. This belief often stems from embedded patriarchal norms, masculinity ideologies, and traditional gender roles that influence women's subservience to men [2–4]. Women's attitudes towards domestic violence influence societal acceptance, the patterns of disclosure, and help-seeking behavior. It is crucial to understand the drivers of domestic violence acceptance among women to design effective interventional programs to mitigate this devastating social and behavioral problem. Studies have shown that domestic violence survivors suffer from numerous negative health consequences, including negative mental health outcomes such as anxiety, depression, and post-traumatic stress disorder (PTSD) [5, 6].

Various factors, including sociodemographic variables have been investigated in predicting domestic violence acceptance [7]. For example, a study in Sub-Saharan Africa highlighted the role of sociodemographic factors such as age, education, and wealth in forming women decision-making capacity that influence the prevalence of Intimate partner violence (IPV) [8]. Also, social and individual beliefs along with cultural norms have important role in forming the beliefs about domestic violence acceptance [9]. In Bangladesh one quarter of Bengali women accepted domestic violence, and the prevalence varied geographically from 2 to 57% in Pirojpur vs. Kuri-gram districts, respectively [10]. Similarly, in Nigeria IPV acceptance was significantly higher in the northern side of the country (39.4%) compared to the southern region (14.7%), though the actual experience of IPV was higher in the south [10]. This research study highlighted how regional and cultural differences shape women attitudes toward domestic violence.

Research around women acceptance of domestic violence in the Middle East have highlighted the role of gender norms, cultural beliefs, and political instability that contribute to the normalization of domestic violence. For example, a systematic review of IPV in Arab countries found that there was significant variation in acceptance and prevalence rates of domestic violence across different regions [12]. More specifically, research has shown that patriarchal social structures and absence of legal protections for women in many Middle Eastern countries can support the acceptance of violence as a means of controlling women's behavior [13, 14]. Such societies can normalize violence and hinder women's ability to resist or seek support, thereby continuing the cycle of violence [15]. Therefore, understanding domestic violence acceptance requires an approach that considers these dynamics, which highlights the need for comprehensive interventions that address the multilevel factors associated with violence against women [16, 17].

Despite extensive research on domestic violence, there is a notable lack of studies exploring the role of societal crime and violence in predicting women's acceptance of domestic violence. In Iraq, which is located in the Middle East, societal factors, including prolonged conflict, weak legal protections, and patriarchal norms, contribute to women's exposure to violence and harassment both in public spaces and within their homes [18]. This is exacerbated by the country's long history of social, economic, and political instability [19]. This has intensified existing socioeconomic challenges, including high poverty rates, unemployment, and limited access to essential healthcare services, leading to neglect and abuse of human rights. One significant example of human rights abuse in Iraq is domestic violence against women [20, 21]. In particular, refugees and displaced women are the most vulnerable, facing increased risks due to disrupted social networks and lack of access to support services [22, 23]. There are more than one million Iraqi women who are at risk of being exposed to domestic violence [24].

Despite Iraq's commitment to the United Nations Sustainable Development Goals, including Target 5.2 to eliminate all forms of violence against women and girls, the country continues to struggle with high rates of domestic violence [25]. The absence of national statistics on domestic violence against women in Iraq has been highlighted on the United Nations Women website [26]. Data from the United Nations Population Fund (UNFPA) revealed that approximately half of Iraqi women have experienced domestic violence, and 80% face some form of sexual harassment [27]. A 2021 study by the Iraqi Ministry of Planning showed that 29% of Iraqi women experienced domestic violence [28], with other studies reporting prevalence rates ranging from 32 to 59%, mainly in Kurdistan or among Iraqi refugees in Syria [12, 29–31]. This considerable variation in the prevalence of domestic violence reflects the lack of a reliable national database capable of effectively capturing and monitoring domestic violence incidents.

Moreover, Iraqi laws often fail to provide adequate protection for domestic violence survivors, with certain legal provisions, such as Article 41 of the Iraqi Penal Code, implicitly allowing domestic violence stating that “the punishment of a wife by her husband ... within certain limits prescribed by law or by custom” is a “legal right”. The weak enforcement of existing laws, combined with societal stigma, results in many incidents going unreported and unpunished [32–35]. The absence of specific laws to protect the rights of domestic violence survivors exacerbates their vulnerability. Survivors of domestic violence often find themselves unable to report incidents or expose perpetrators due to fear of revenge and cultural norms that normalize violence within the family. Furthermore, the lack of proper shelters forces many of these

women into temporary housing in female prisons, further stigmatizing and traumatizing them [32–35].

A recent tragic example of how women's rights are further abused is the proposed amendment of personal Law 57 that is being pushed heavily by Iraqi Parliament. This amendment would severely limit women's rights in matters of marriage, divorce, and custody. If passed, Law 57 amendment would enforce discriminatory actions against women, potentially making it more difficult for women to seek divorce or gain custody of their children [36–39]. This legislative move is another example of how the Iraqi legal systems are used to control and oppress women. It further reinforces the masculine norms and strengthens the gender-based violence [40].

Research has shown that empowerment through technology, such as owning a mobile phone and using a computer or tablet, is a possible factor in reducing the acceptance of domestic violence. Access to technology can provide women with crucial information, support networks, and resources that enhance their ability to seek help and assert their rights. Furthermore, technology can facilitate education and employment opportunities, thereby promoting financial independence and reducing tolerance for domestic violence [41, 42]. Yet, there are inconsistencies regarding the role of technology as a protective factor in domestic violence. For example, a scoping review highlighted that technology enabled and facilitated IPV through social media, and the usage of tracking mobile applications or devices [43]. Other studies highlighted the term Technology-Facilitated Abuse (TFA) as an emerging trend that influences domestic violence. TFA was more likely to occur in cases where male partners dominated and controlled their female partners, as women are typically less confident in their use of technology compared to men [44, 45].

Therefore, this study aimed to conduct a nationwide analysis to explore the factors associated with the acceptance of domestic violence among Iraqi women, focusing on the role of socio-economic status, regional disparities, and empowerment through technology. Additionally, the study sought to identify the most vulnerable women based on the spatial distribution across Iraqi governorates.

## Methods

### Survey and sample

This study utilized data from the 2018 Iraq Multiple Indicator Cluster Survey (MICS 6), developed by UNICEF to collect internationally comparable data about children and women. The survey employed a two-stage sampling strategy to generate representative estimates at the national, regional, and governorate levels. A total of 1710 sampled Enumeration Areas (EAs) were selected, with 12 households randomly chosen within each EA,

culminating in a sample size of 20,520 households. For this study, data from 19,443 married women aged 15–49 years were analyzed. The age range of 15–49 years was selected based on the standard eligibility criteria used in the UNICEF Multiple Indicator Cluster Surveys (MICS). This range is considered the reproductive age span for women, making it particularly relevant for studies focused on maternal and child health, fertility, and related outcomes. In cases where the mother or primary caretaker was younger than 15 years old, the interview was not conducted, and the response was recorded as 'Other' in accordance with the survey guidelines [46, 47].

In the MICS surveys, each household is assigned a unique identifier, which is also used to link individual-level data from women, men, and children within the same household. Therefore, for this study, the household data file and the women's data file were merged using unique identifiers so that the sociodemographic characteristics of the household can be included in the analyses [48]. It is important to note that the study utilized secondary data from the MICS survey, and all data were de-identified. The MICS survey protocols adhere to ethical guidelines, ensuring that all collected data are de-identified [46, 47].

### Study variables

This study is guided by the Social Ecological Model (SEM), which offers a comprehensive framework for understanding how multiple factors are associated with health-related behaviors, including domestic violence acceptance among women. SEM, first developed by Urie Bronfenbrenner posits that human behavior is shaped by factors that belong to different social-ecological levels spanning from individual characteristics, interpersonal relationships, community contexts, and broader societal factors [49]. This framework has been greatly applied in public health research, particularly in studies examining complicated social behaviors such as domestic violence [50–52]. Accordingly, the selection of study variables was guided by literature and their relevance to domestic violence acceptance. At the individual level, variables such as age, education, ownership of communication devices, functional difficulties, and media exposure were included, as these characteristics have been shown to be associated with attitudes toward domestic violence in previous studies [53–55]. Interpersonal level variables, such as marital relationships, were selected due to their association with intimate partner violence [56]. Community-level variables, including area of residence and perceived home safety, were chosen based on their known association with domestic violence and perceptions of safety [57, 58]. Finally, societal-level variables, such as neighborhood safety, were included because they reflect broader societal role in shaping attitudes toward

violence [59]. Variables were selected to align with the SEM framework and to provide a comprehensive understanding of the factors associated with domestic violence acceptance.

Accordingly, the study variables were categorized into four levels based on the SEM including individual, interpersonal, community, and societal. For more detailed information about the study variables, a detailed index of all study variables, including the exact questions and response options, is provided in Supplementary Table 1.

#### **Individual level variables**

Variables at the individual level included personal characteristics including age, education, ownership of communication devices, functional difficulties, and media exposure. Age is a categorical variable comprised of seven age groups: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49. Education is categorical variable that has five levels: preprimary or none, primary, lower secondary, upper secondary, and higher education. Ownership of communication devices was measured by whether the woman owned a mobile phone (yes/no) and whether she owned a computer or tablet (yes/no). Functional difficulty was assessed using a set of questions focused on six domains: seeing, hearing, walking, self-care, communication, and remembering. If a woman experienced any functional difficulty in these areas, she was classified as having a functional difficulty (yes/no). This binary categorization was validated and utilized by other researchers [60]. Media exposure was determined based on whether the woman engaged in reading a newspaper, listening to the radio, or watching television at least once a week. Women who engaged in any of these activities at least once a week were categorized as exposed to mass media (yes/no). This binary categorization was validated and utilized by other researchers [10].

#### **Interpersonal level variables**

Interpersonal level variables included marital relationships that were assessed by whether the first husband was a blood relative (yes/no) and whether the husband had multiple wives/partners (yes/no).

#### **Community level variables**

Community level variables included area of residence, and it was categorized as urban or rural. Region was divided into Kurdistan and South/Central Iraq. The wealth index was measured by categorizing households into five quantiles: poorest, second, middle, fourth, and richest. Perceived home safety was assessed by asking women how safe they felt they felt while being at home alone, with response options including “very safe,” “safe,” “unsafe,” “very unsafe,” and “never do this.” These responses were recoded into a binary variable: “very

safe” and “safe” were coded as “safe,” and “unsafe,” “very unsafe,” and “never do this” were coded as “unsafe.” This binary categorization was validated and utilized by other researchers [61].

#### **Societal level variables**

At the societal level neighborhood safety was considered. This variable was measured similarly to perceived home safety, using the same binary categorization.

#### **Outcome variable**

The outcome variable, domestic violence acceptance, was measured as a binary variable with two responses: (yes) indicating acceptance and (no) indicating opposition. This was assessed using a set of fixed response yes/no questions about whether a husband might be justified in hitting or beating his wife under certain circumstances, such as: The wife going out without informing the husband, neglecting the children, engaging in arguments with the husband, refusing to have sex with the husband, burning the food, the husband feeling that she is wasteful, and exposing household secrets.

These survey questions were part of the MICS 2018 questionnaire under the section ‘Attitude Toward Domestic Violence.’ Women’s responses were categorized as (yes) if at least one of these situations was endorsed with an affirmative answer and as (no) if none of the situations were endorsed. This method of categorization has been validated and used in other researchers [62, 63]. In this study, the decision was made to collapse several variables, including domestic violence acceptance and neighborhood safety, into binary categories for all analyses. This approach simplifies the analysis and interpretation of the data, making it easier to identify clear associations. Moreover, using binary variables can help counteract potential underreporting, particularly in sensitive topics like domestic violence, where respondents may be reluctant to fully disclose their attitudes or experiences. The use of binary categorization in analyzing MICS data has been validated and applied in other studies [10, 61–63].

#### **Statistical analysis**

The analysis accounted for the complex survey design by incorporating sample weights and clustering adjustments. The study implied weighted analyses using MICS data using IBM® SPSS® Statistics version 27. The study applied the survey weights provided in the dataset to ensure that the results are representative of the population. The weights compensate for the sampling design, non-response, and post-stratification adjustments. Therefore, the statistical outputs reflected the population structure [64].

Descriptive statistics were initially computed to estimate the prevalence of domestic violence acceptance and



to describe the characteristics of the study sample. Associations between domestic violence acceptance and independent variables were examined using bivariate analysis, with weighted Chi-square tests to assess significance. Multivariate logistic regression models were constructed to identify factors independently associated with domestic violence acceptance. Variables that showed significant associations in the bivariate analysis were included in the multivariate models. The adjusted odds ratios (aOR) and 95% confidence intervals (95% CI) were reported for each variable. The significance level was set at  $P < 0.05$ .

More specifically, four progressively adjusted logistic regression models were developed, each focusing on different levels of the SEM. The first model adjusted for individual level variables, such as age, education, ownership of communication devices, functional difficulties, and media exposure. The second model adjusted for the variables in model one plus the interpersonal level variables including the variables related to marital relationships. The third model adjusted for the variables in models one and two, adding to that the community level variables including area of residence, region, wealth index, and perceived home safety. Finally, the fourth model adjusted for the variables in all the models above adding to that the societal level, that included neighborhood safety. These models were constructed to explore the association of each level of the ecological model and domestic violence acceptance.

To investigate the spatial distribution of the important study variables R software was used to create maps showing the 18 Iraqi governorates. The mapped variables including domestic violence acceptance, neighborhood safety, ownership of a phone, ownership of a computer / tablet, functional difficulty, home safety, whether the first husband is blood related to the woman, and whether the husband has multiple wives or partners. (See Fig. 1)

## Results

### Descriptive analysis

The study sample comprised 19,443 married women, with 48.4% reporting acceptance of domestic violence. The prevalence of domestic violence acceptance varied significantly across different socio-demographic factors. Women aged 15–19 had the lowest prevalence of acceptance at 5.3%, while the prevalence of acceptance was higher at 15% for those aged 20–24. The acceptance of domestic violence was around 19% of the women aged 25–29.

Education levels demonstrated an inverse relationship with domestic violence acceptance. Women with preprimary or no education had the highest prevalence of acceptance at 22.8%, whereas those with upper secondary or higher education had the lowest prevalence of acceptance at 10.2%. Technology empowerment showed that

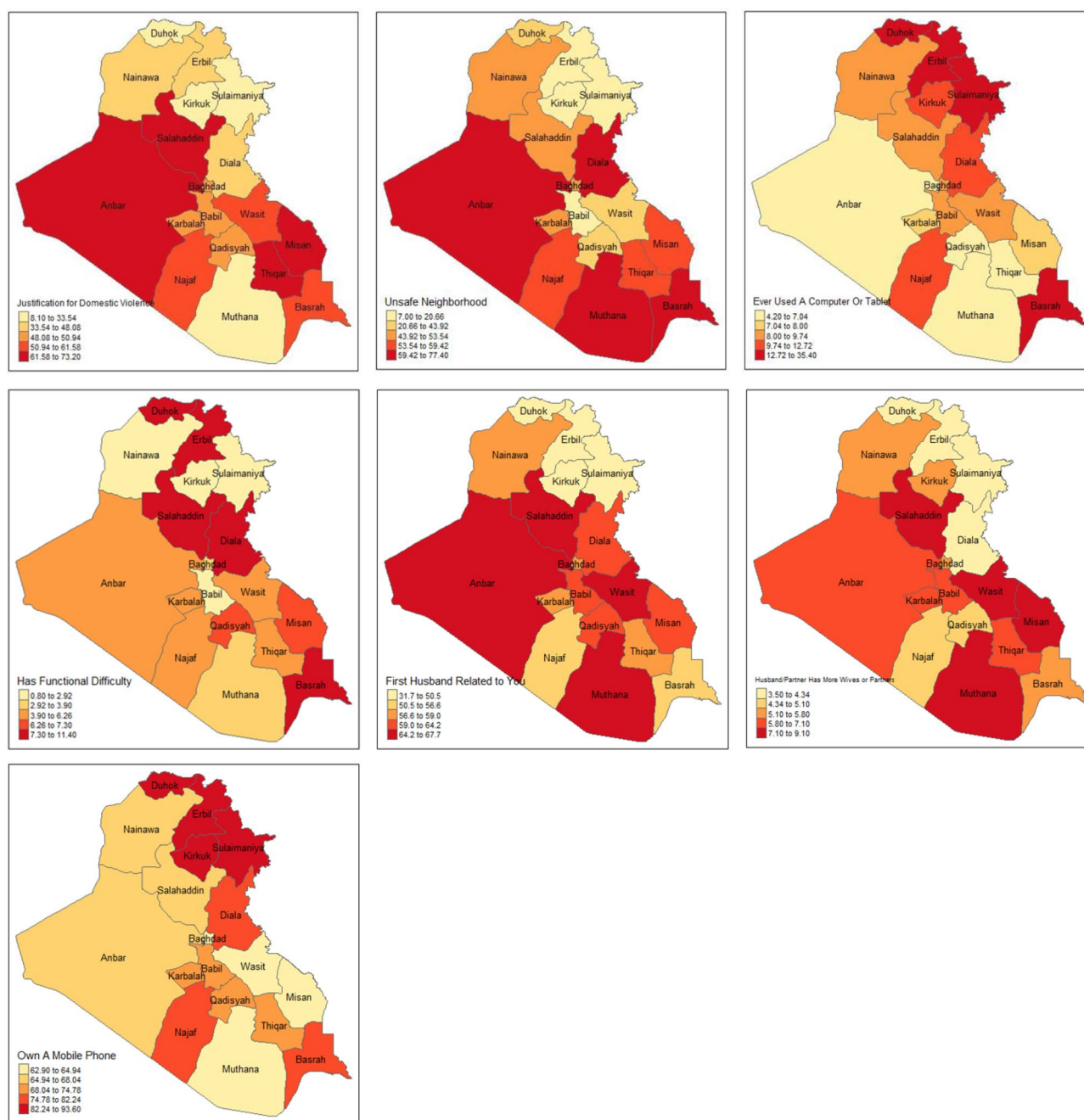
63.2% of women owning a mobile phone and 4.6% using a computer or tablet had lower prevalence of acceptances of domestic violence.

Women reporting functional difficulties had a higher prevalence of acceptance of (6.4% vs. 3.99%) compared to women who did not have functional difficulties. Marital factors also were associated with the prevalence of acceptances; 63.1% of women married to blood-related spouses and 7.1% of those with husbands having multiple wives/partners reported higher prevalence of acceptances. Additionally, the poorest wealth quintile (32.4%) and rural residence (43.1%) were associated with higher prevalence of acceptances. Please refer to Table 1 for a more detailed breakdown of the descriptive statistics of the study sample.

### Multivariate logistic regression analysis

Multivariate logistic regression analysis identified several significant predictors of domestic violence acceptance. Though age showed significant association with the outcome in models one and two, age was not significantly associated with domestic violence acceptance in the final model. However, the final model showed some significant associations with the outcome. Higher education levels were inversely related to prevalence of acceptances. For the individual level factors, compared to women with no education or preprimary education, women with primary education had adjusted odds ratios (aOR) of 0.86 (95% CI: 0.79–0.94), those with lower secondary education had aOR of 0.62 (95% CI: 0.55–0.69), and those with upper secondary or higher education had aOR of 0.39 (95% CI: 0.35–0.45). Ownership of a mobile phone and the use of a computer or tablet were significantly associated with lower acceptance of domestic violence. Women owning a mobile phone had aOR of 0.47 (95% CI: 0.44–0.50), while those using a computer or tablet had aOR of 0.34 (95% CI: 0.30–0.38), reflecting significantly lower odds of acceptance. Conversely, women with functional difficulties had higher odds of acceptance, with aOR of 1.60 (95% CI: 1.40–1.83). For the interpersonal level factors, marital factors such as being married to a blood-related spouse (aOR=1.45, 95% CI: 1.36–1.54) and having a husband with multiple wives/partners (aOR=1.51, 95% CI: 1.33–1.72) were associated with higher prevalence of acceptances.

For the community level factors, wealth and area of residence were also associated with prevalence of acceptances. Compared to women who belong to the poorest quintile, women from the second wealth quintile had aOR of 0.83 (95% CI: 0.75–0.91), indicating lower prevalence of acceptances. Residing in rural areas was associated with higher prevalence of acceptances, with aOR of 1.20 (95% CI: 1.15–1.33). Additionally, women living in the South/Central regions of Iraq had significantly higher



**Fig. 1** The spatial distribution of study variables according to 18 Iraqi governorates

odds of accepting domestic violence (aOR=2.00, 95% CI: 1.77–2.27) compared to women living in Kurdistan. Finally, the societal level variable, neighborhood safety, showed significant association with women acceptance to domestic violence. Please refer to Table 2 for a more detailed breakdown of the results of the logistic regression analyses.

The spatial analysis revealed notable geographic disparities in the acceptance of domestic violence across the 18 Iraqi governorates. The prevalence was particularly

high in the South/Central regions, including Anbar, Salahaddin, Thiagar, and Misan governorates, with prevalence of acceptances ranging from 62 to 73%. These areas also showed higher rates of unsafe neighborhoods, marriages to blood-related spouses, and husbands with multiple wives/partners. Conversely, ownership of mobile phones and the usage of computers/tablets were more prevalent in the Kurdistan region, correlating with lower prevalence of acceptances of domestic violence. (See Fig. 1)

**Table 1** Characteristics of the weighted sample stratified by domestic violence acceptance,  $N = 19,443$ 

			Domestic violence acceptance		Domestic violence acceptance				P-Value
							Total		
			No		Yes				
			Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	
			N	%	N	%	N	%	
Individual	Age	15–19	533	5.31%	641	7%	1174	6.0%	< 0.001
		20–24	1406	14.02%	1424	15%	2830	14.6%	
		25–29	1933	19.27%	1721	18%	3654	18.8%	
		30–34	1774	17.69%	1662	18%	3436	17.7%	
		35–39	1719	17.14%	1561	17%	3280	16.9%	
		40–44	1457	14.53%	1323	14%	2780	14.3%	
		45–49	1207	12.04%	1082	11%	2289	11.8%	
	Education	Pre-primary or none	1268	12.64%	2151	22.8%	3419	17.46%	< 0.001
		Primary	3893	38.82%	4822	51.2%	8715	44.51%	
		Lower secondary	1995	19.89%	1479	15.7%	3474	17.74%	
		Upper second-ary +	2873	28.65%	962	10.2%	3835	19.59%	
	Ever used a computer or a tablet	Yes	1578	15.73%	430	4.57%	2008	10.26%	< 0.001
		No	8432	84.08%	8984	95.43%	17,416	88.95%	
	Own a mobile phone	Yes	8134	81.10%	5953	63.24%	14,087	71.95%	< 0.001
		No	1892	18.87%	3460	36.75%	5352	27.34%	
	Functional difficulties	Yes	400	3.99%	605	6.43%	1005	5.13%	< 0.001
No		9424	93.97%	8563	90.96%	17,987	91.87%		
Mass Media Exposure	Yes	9172	91.5%	8576	91.1%	17,886	91.3%	0.415	
	No	854	8.5%	833	8.9%	1702	8.7%		
Interpersonal	First husband related to you	Yes	5078	50.63%	5944	63.14%	11,022	56.30%	< 0.001
		No	4945	49.31%	3468	36.84%	8413	42.97%	
	Husband/ Partner Has More Wives or Partners	Yes	448	4.47%	668	7.10%	1116	5.70%	< 0.001
		No	9563	95.35%	8737	92.81%	18,300	93.47%	
Community	Wealth Quantile	Poorest	1511	15.07%	3052	32.42%	4563	23.31%	< 0.001
		Second	1809	18.04%	2350	24.96%	4159	21.24%	
		Middle	2035	20.29%	1846	19.61%	3881	19.82%	
		Fourth	2247	22.41%	1348	14.32%	3595	18.36%	
		Richest	2427	24.20%	818	8.69%	3245	16.57%	
	Area	Urban	7463	74.41%	5352	56.85%	12,815	65.45%	< 0.001
		Rural	2566	25.59%	4062	43.15%	6628	33.85%	
	Region	Kurdistan	1841	18.36%	573	6.09%	2414	12.33%	< 0.001
		South/Central Iraq	8188	81.64%	8841	93.91%	17,029	86.98%	
	Home Safety	Yes	7107	70.9%	6156	65.4%	13,364	68.2%	< 0.001
		No	2920	29.1%	3256	34.6%	6229	31.8%	
Societal	Neighborhood Safety	Yes	5716	56.99%	4621	49.09%	10,337	52.80%	< 0.001
		No	4313	43.01%	4793	50.91%	9106	46.51%	

Note Bolded means significant at  $p < 0.05$ , "N" represents unweighted counts and the "%" represents weighted proportions

**Table 2** Adjusted logistic regression (weighted) between women's acceptance to domestic violence and selected covariates,  $N = 19,443$

Variables	Model 1					Model 2					Model 3					Model 4				
	95% CI					95% CI					95% CI					95% CI				
	aOR	Lower	Upper	P value		aOR	Lower	Upper	P value		aOR	Lower	Upper	P value		aOR	Lower	Upper	P value	
Individual																				
Age Ref= (15–19)																				
20–24	0.97	0.82	1.15	0.70		0.98	0.82	1.16	0.80		0.97	0.82	1.16	0.74		0.97	0.81	1.15	0.73	
25–29	0.86	0.73	1.02	0.08		0.87	0.74	1.03	0.10		0.88	0.74	1.04	0.14		0.88	0.75	1.05	0.16	
30–34	0.86	0.73	1.02	0.08		0.86	0.73	1.02	0.09		0.92	0.77	1.09	0.32		0.92	0.78	1.09	0.34	
35–39	0.81	0.68	0.96	<b>0.01</b>		0.80	0.68	0.95	<b>0.01</b>		0.85	0.71	1.00	0.06		0.86	0.71	1.02	0.07	
40–44	0.80	0.67	0.95	<b>0.01</b>		0.79	0.66	0.93	<b>0.01</b>		0.85	0.71	1.01	0.07		0.87	0.73	1.03	0.11	
45–49	0.78	0.66	0.93	<b>0.01</b>		0.77	0.64	0.91	<b>0.00</b>		0.85	0.71	1.02	0.08		0.87	0.74	1.04	0.13	
Education (ref= Preprimary or non)																				
Primary	0.83	0.76	0.90	<b>&lt; 0.001</b>		0.84	0.77	0.92	<b>&lt; 0.001</b>		0.86	0.79	0.94	<b>0.00</b>		0.86	0.79	0.94	<b>0.00</b>	
Lower Secondary	0.55	0.50	0.61	<b>&lt; 0.001</b>		0.58	0.52	0.64	<b>&lt; 0.001</b>		0.62	0.56	0.69	<b>&lt; 0.001</b>		0.62	0.55	0.69	<b>&lt; 0.001</b>	
Upper Secondary+	0.32	0.29	0.36	<b>&lt; 0.001</b>		0.34	0.31	0.39	<b>&lt; 0.001</b>		0.40	0.35	0.45	<b>&lt; 0.001</b>		0.39	0.35	0.45	<b>&lt; 0.001</b>	
Own A Mobile Phone (ref= no)	0.55	0.52	0.59	<b>&lt; 0.001</b>		0.57	0.53	0.61			0.72	0.67	0.77	<b>&lt; 0.001</b>		0.47	0.44	0.50	<b>&lt; 0.001</b>	
Ever Used a computer or Tablet (ref= no)	0.52	0.46	0.59	<b>&lt; 0.001</b>		0.54	0.47	0.61	<b>&lt; 0.001</b>		0.68	0.59	0.77	<b>&lt; 0.001</b>		0.34	0.30	0.38	<b>&lt; 0.001</b>	
Functional difficulty (ref= no)	1.65	1.44	1.89	<b>&lt; 0.001</b>		1.64	1.43	1.88	<b>&lt; 0.001</b>		1.70	1.47	1.95	<b>&lt; 0.001</b>		1.60	1.40	1.83	<b>&lt; 0.001</b>	
Husband/partner has more wives or partners (ref= no)						1.47	1.29	1.68	<b>&lt; 0.001</b>		1.36	1.19	1.55	<b>&lt; 0.001</b>		1.51	1.33	1.72	<b>&lt; 0.001</b>	
First husband related to the women (ref= no)						1.34	1.26	1.42	<b>&lt; 0.001</b>		1.21	1.14	1.29	<b>&lt; 0.001</b>		1.45	1.36	1.54	<b>&lt; 0.001</b>	
Community																				
Wealth Quintile (ref= poorest)																				
Second											0.83	0.75	0.91	<b>&lt; 0.001</b>		0.83	0.75	0.91	<b>&lt; 0.001</b>	
Middle											0.68	0.62	0.75	<b>&lt; 0.001</b>		0.68	0.62	0.75	<b>&lt; 0.001</b>	
Fourth											0.53	0.48	0.59	<b>&lt; 0.001</b>		0.54	0.48	0.60	<b>&lt; 0.001</b>	
Richest											0.47	0.41	0.53	<b>&lt; 0.001</b>		0.47	0.42	0.54	<b>&lt; 0.001</b>	
Region south central Iraq (ref= Kurdistan)											2.08	1.84	2.35	<b>&lt; 0.001</b>		2.00	1.77	2.27	<b>&lt; 0.001</b>	
Area Rural (ref= Urban)											1.23	1.14	1.32	<b>&lt; 0.001</b>		1.20	1.15	1.33	<b>&lt; 0.001</b>	
Home Safety (ref= yes)											0.96	0.90	1.03	0.237		1.076	0.993	1.167	0.075	
Societal																				
Neighborhood Safety (ref= yes)																1.22	1.13	1.31	<b>&lt; 0.001</b>	

Note: Bolded means significant at  $p < 0.05$ , AOR= Adjusted Odds Ratio, 95% CI= 95% Confidence Interval. The adjusted odds ratios (AOR) and 95% confidence intervals (95% CI) are based on weighted data using the sampling weights provided in the MICS survey to ensure national representation



## Discussion

This study revealed that nationwide, 48.4% of married Iraqi women accepted domestic violence, with higher prevalence rates observed in the South/Central regions of Iraq, particularly in Anbar, Salahaddin, Thiqr, and Misan, where prevalence of acceptances ranged from 62 to 73%. These findings align with the spatial distribution of factors such as neighborhood safety, marriage to blood-related husbands, and husbands with multiple wives/partners, which were more prevalent in these regions.

For the individual-level factors, age did not show a significant association with domestic violence acceptance. This finding suggests that other factors, rather than age, are more strongly associated with the acceptance of domestic violence. Further studies are recommended to better understand the potential role of women's age in accepting domestic violence. Women experiencing functional difficulties and those with lower educational attainment showed a higher likelihood of accepting domestic violence. This finding aligned with previous literature [65–67]. It emphasized the double vulnerability of women with functional difficulty and their acceptance of domestic violence. Functional difficulties likely increase vulnerability and dependency, which contributes to a higher acceptance of violence as a coping mechanism. Approximately 10% of the Iraqi population live with one or more disabilities, with nearly two million being women of reproductive age. This highlights the need for improved access to integrated gender-based violence and reproductive health services for these women [68].

Conversely, empowerment through technology—specifically ownership of a mobile phone and the use of a computer or tablet—was associated with lower acceptance of domestic violence. This finding was consistent with previous literature that highlighted the association between women's empowerment and acceptance of domestic violence [10]. This finding suggested that access to technology could enhance women's access to information, support networks, resources, and reducing tolerance for domestic violence. Studies have shown that women who have access to mobile phones and the internet are more likely to report incidents of domestic violence and seek help [41, 42]. Moreover, technology could facilitate participation in online communities that offer emotional support and resources, which is crucial in environments where physical mobility and social interactions are restricted [69, 71]. However, there were some other studies that illustrated how technology enabled and facilitated IPV through social media, texting or calling, use of tracking mobile applications, or the use of tracking devices [43, 45]. Therefore, further studies that examine the role of technology and women attitudes towards domestic violence are needed.

In general, women empowerment through technology goes beyond simple access to devices. It includes digital literacy, the ability to leverage online platforms for education, employment, and the use of social media to build support networks. Despite the positive impact of technology, only 10% of the study's participants reported using a computer or tablet. This showed the need to improve technology access for women in Iraq. More specifically, in Iraq, where ongoing conflict, social, and political instability have disrupted traditional support systems the role of technology in women empowerment is very important. Using technology women can access important resources and explore their rights even in conflict-affected areas. Study findings suggested that interventions that promote digital inclusion could play an important role in reducing domestic violence acceptance and supporting women's empowerment in Iraq.

Interpersonal level factors including marriage to a blood-related spouse and husbands with multiple wives, were associated with higher acceptance of domestic violence. Previous literature has consistently identified those two factors as key determinants of domestic violence [71, 72]. These practices are rooted in traditional patriarchal values that perpetuate gender inequality and normalize violence against women. It was emphasized that acceptability of domestic violence is associated with elements related to interpersonal level and masculinity. Traditional masculinity ideologies, which place a strong emphasis on male authority and power, frequently normalize violence against women. Cultural narratives that emphasize male power and female subjugation serve to perpetuate these deeply embedded beliefs in many patriarchal societies. In Iraq, patriarchal values have historically been reinforced by legal frameworks that limit women's rights. For example, Article 41 of the Iraqi Penal Code allows husbands to “discipline” their wives, including through physical violence, further normalizing domestic violence. Additionally, the proposed amendments to Personal Status Law No. 57 threaten to further increase patriarchal control by reinforcing male dominance in marriage and family matters [32–39]. This legislative framework exacerbates the impact of masculinity ideology by legally authorizing practices that suppress women and make it more difficult to challenge or change these deeply rooted norms. Addressing these challenges requires a comprehensive approach, including legal reforms that protect women's rights, adhere to the country commitment to the Sustainable Development Goals Target 5.2, and educational campaigns that challenge harmful gender norms [73, 74].

Furthermore, patriarchal practices that justify violence against women have been reinforced in Islamic nations, including Iraq, by misinterpretations of religious teachings. Despite the fact that Islam encourages fairness and

respect in marriage, some interpretations have been distorted to justify male authority and the suppression of women. Scholars have highlighted that these opinions are not consistent with Islam's actual teachings, which forbid violence against women [75, 76]. These misinterpretations have the potential to increase the acceptance of domestic abuse and hinder women from seeking help. In order to promote gender equity and reduce social acceptance of violence, it is important that these misconceptions be corrected [77].

For the community level variables, the study also showed that domestic violence acceptance was higher in rural areas compared to urban areas. This finding reflected the role of patriarchal norms and limited women's empowerment in rural settings [10]. While some studies have shown contrary findings, this highlighted the importance of further investigating the dynamics of rural societies and attitudes toward accepting domestic violence [78]. Additionally, women in the South/Central regions of Iraq had higher prevalence of acceptances compared to those in the Kurdistan region. This difference could be attributed to the more conservative tribal culture prevalent in the South/Central regions, where more women have limited access to financial and employment opportunities in comparison to Kurdistan region [79]. Moreover, Kurdistan enjoys relatively greater stability, leading to safer neighborhoods and greater economic development, which may have contributed to higher levels of women's empowerment compared to other regions of Iraq [79].

Furthermore, there is limited research on the association between domestic violence acceptance and neighborhood safety which was significant in this study. While one study did not find significant association between unsafe societies and domestic violence [80], in general, there is a positive association between perceptions of safety and domestic violence [81]. This finding is particularly important given the widespread conflict and political instability that Iraq has experienced for the past several years. It highlights how the external social and ecological conditions of communities could shape peoples' perceptions regarding domestic violence acceptance.

Despite the study's important findings, it has several limitations. One notable limitation of this study is the lack of assessment of how the severity of physical violence was associated with attitudes towards domestic violence. MICS data did not distinguish between different degrees of physical violence severity; instead, it concentrated on the acceptance of domestic violence in general. Women attitudes towards domestic violence could vary depending on the severity of the violence they experienced. As a cross-sectional study, the study cannot establish causal relationships between variables. Using self-reported data

might introduce biases, especially on sensitive topics like domestic violence. Future research could explore cultural and patriarchal roles in domestic violence in Iraq which will require broadening data collection efforts. Additionally, the focus on married women aged 15 to 49 limits the study's generalizability of the findings to other age groups. Finally, the attitudes towards domestic violence section in the MICS survey only measures attitudes towards physical violence and it overlooks other forms of violence.

## Conclusion

This study highlighted significant associations between various socio-ecological variables and domestic violence acceptance among married Iraqi women, with higher prevalence of acceptance observed in the South/Central regions. These findings showed the crucial need for national-level policy reforms, including amending Article 41 of the Iraqi Penal Code and reconsidering the proposed changes to Personal Status Law No. 57, which reinforce gender inequality. In order to protect women's rights and reduce the social acceptance of domestic violence, it is important that these legal changes be in line with Sustainable Development Goal 5.2. In addition to legal reforms, empowering women through increased access to technology and digital literacy could be helpful in reducing domestic violence acceptance. Regional disparities, particularly between rural and urban areas, point to the need for targeted interventions that challenge entrenched cultural norms in more conservative regions. A multi-level approach, informed by the Social Ecological Model, is warranted to address domestic violence at individual, interpersonal, community, and societal levels.

While this study provides valuable insights, further research is needed to fully understand the high levels of domestic violence acceptance in Iraq. More specifically, qualitative studies could explore the underlying reasons behind this acceptance. These studies could help provide deeper insights into cultural, social, and psychological factors that quantitative studies may not capture. Future research could also examine the varying levels of violence severity and their impact on domestic violence attitudes, beyond physical violence. Finally, a dedicated violence against women survey in Iraq is needed to provide detailed data on the prevalence and determinants of violence against women. The MICS questionnaire used in this study is limited, as it captures only attitudes toward violence against women, not the full scope of violence experiences.

## Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12905-024-03426-z>.

## Supplementary Material 1

**Author contributions**

Conceptualization, R.A.J.; Methodology, R.A.J.; Software, R.A.J.; Validation, R.A.J.; Formal Analysis, R.A.J.; Writing—Original Draft Preparation, R.A.J.; Writing—Review and Editing, R.A.J.; Visualization, R.A.J. The author has read and agreed to the published version of the manuscript.

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**Data availability**

This manuscript utilizes secondary data analysis based on the UNICEF 2018 Multiple Indicator Cluster Survey (MICS) conducted in Iraq. The full dataset is available by request at the following link: <https://mics.unicef.org/surveys>. Access to the dataset requires registration and approval from UNICEF to ensure compliance with data use policies.

**Declarations****Ethics approval and consent to participate**

This study is based on secondary data from the UNICEF 2018 Multiple Indicator Cluster Survey (MICS) conducted in Iraq. Ethics approval and informed consent were obtained by UNICEF at the time of the original data collection. No new data collection was conducted for this study, and therefore, additional ethics approval and consent to participate were not required.

**Consent for publication**

Not applicable, as this study does not include any identifiable personal data.

**Competing interests**

The authors declare no competing interests.

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