



Psychometric Properties of the Health Empowerment Scale Arabic Version for Working Women in Saudi Arabia

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Abstract

In a country such as Saudi Arabia where gender equality-related challenges continue to be social issues, measuring the health empowerment of Saudi working women is critical in understanding the real picture of women empowerment in the country during this era of great transformation. Therefore, we conducted this research to evaluate psychometric properties of the Health Empowerment Scale Arabic version (HES-A) in measuring the health empowerment of Saudi working women. We surveyed a sample of 322 Saudi working women from June to August 2020 using an online survey constituting questions on demographic and work-related information and the HES-A. The computed values for the item-level content validity index of the 8 scale items were from .80 and 1.00, whereas the computed value of the scale-level content validity index by average method was .91. The principal component and confirmatory factor analyses revealed a unidimensional scale. The computation revealed an alpha of .92. Education, type of employment, years of working experience, and salary were identified as significant factors influencing the health empowerment. The HES-A exhibited adequate validity and internal consistency for use in measuring the health empowerment of Saudi women. The HES-A can expand the research agenda on health empowerment Arab women. Researchers and policymakers could use the HES-A in assessing the status of health empowerment of Arabic-speaking women, which could inform policies and interventions aimed at ensuring health empowered women in this part of the globe.

Keywords

health empowerment, women empowerment, women health empowerment, Saudi Arabia, validation study

What do we already know about this topic?

The Health Empowerment Scale was originally developed for patients with diabetes and was proven to be valid and reliable.

How does your research contribute to the field?

The study adapted the Health Empowerment Scale to Arabic language and was found to have sound psychometric properties when used in measuring the health empowerment of Saudi working women.

What are your research's implications towards theory, practice, or policy?

Our findings provide evidence on the validity and reliability of the Arabic version of the Health Empowerment Scale which allows many doors to open in terms of research, policymaking, and intervention implementation related to the health empowerment of women, particularly in countries striving to combat gender inequalities in all aspects of their society, such as Saudi Arabia.

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Background of the Study

Current Status of Women

In the recent decade, there has been increasing interest in investigating the empowerment of women due to the critical role of gender equality in ensuring the sustainable growth and development of a nation and attaining global sustainable goals.¹ For many years, power often gravitated toward men, leading to the proposition that power is gendered as argued by the gender power model.² Many women around the globe are deprived of full and equal rights to health care, which often leads to poor health outcomes.³ Women empowerment ensures the enhanced quality and quantity of human resources, which is an essential component of a vibrant and developed society.⁴ However, despite remarkable achievements in reducing the gender-based gap in recent years, gender-based inequalities continue to be one of the most pressing issues worldwide and achieving the vision of a gender-equal society seems to be slowing down. The recent Human Development Report of the UNDP stated that women in many countries are continuously being deprived of adequate support for basic functions that are essential to sustain human life.⁵ Multi-dimensional gender-related social norms and traditions are strongly associated with powerlessness among women, which generally threatens women's health.⁵

Status of Women in Saudi Arabia and Recent Developments

For many years, women in Saudi Arabia have suffered from different forms of oppression and inequalities in all aspects of society. Before the ongoing transformation in the country, gender inequalities favoring men were rampant in all aspects of society. Saudi women were faced with many challenges in exercising their rights and privileges.⁶ For instance, women had limited access to job opportunities and were deprived of economic independence. Saudi women were also not allowed to drive for many years, which limits their mobility and freedom. In terms of education, there were some specializations that Saudi women were not allowed to take, such as Engineering, Architecture, and Political Science.⁶ In an article published by the Human Rights Watch in 2019, Saudi women experienced many curtailments of their freedom in the past, such as difficulties to travel abroad without their male guardian, no freedom to choose whom to marry, experiences of domestic violence, restrictions, and discrimination in employment opportunities, and discrimination in health care (i.e., some hospitals had internal regulations that require guardian's consent).⁷ These gender-based imbalances and discriminations negatively affect Saudi women's quality of life, well-being, mental health, and happiness.^{8,9}

The various gender-based norms and traditions in the country also continue to impact the health of women. The country's unique gender roles and expectations based on

interpretations of sharia law are strictly applied in its legal and societal activities. These gender-related rules and norms often lead to inaccessible, unavailable, or unconditioned health care services for Saudi women.¹⁰ Moreover, the guardianship system, gender separation, and some religious norms and beliefs limit the autonomy of Saudi women, negatively affecting their health-related decision-making capacity and their access to quality health care services that guarantee excellent health outcomes.¹⁰ Also, health empowerment among Saudi women is challenged by these cultural, religious, and legal limitations that directly and indirectly impact their health.¹⁰

Nevertheless, recent developments in Saudi Arabia have shown that the country is serious about bridging the gender-based gap in its society.⁵ Recognizing the significance of women in the socio-economic growth of a country, the Saudi government recently implemented various policies through its Vision 2030, which seeks to transform the political and social landscape, education, health, and gender equality in the country.⁴ Vision 2030, the country's national development blueprint for social change, emphasizes opportunities for everyone to achieve an optimum level of function. This national policy guarantees the protection of the rights of women to health, education, and employment.⁴ Recently, several improvements have been seen in the country to promote women's empowerment, such as the increase in the number of women attending schools and universities and occupying higher positions in the government, allowing women to drive, and the cancellation of the male guardianship system.¹¹ One significant highlight of the changes currently happening in the country is the considerable increase in women's employment in the public and private sectors.¹² The Saudi Vision 2030 aimed to enhance the employment status of women by 20 to 30% in the year 2030 by opening more opportunities for employment in various specializations. However, Saudi women face many challenges in advancing their paid employment, including "lack of mobility, the salience of gender stereotypes, gender discrimination in the workplace, limited opportunities for growth, development, and career advancement, excessive workload caused by a lack of family-work balance, and gender-based challenges related to dealing with pregnancy."¹³

Concept of Health Empowerment

Health empowerment, an important aspect of women empowerment, ensures that the fundamental right of women to achieve the highest possible status of overall health is protected, promoted, and observed.¹⁴ Health empowerment is the process where individuals attain autonomy by allowing them to have control over their decisions that influence their lives and well-being.¹⁵ Integral to the concept of health empowerment are its fundamental elements, including decision-making abilities, self-motivation, management and coping capacity for psychosocial distress, access to personal and health care resources, and self-efficacy.¹⁶ Empowering

women on health entails educating and enabling them to acquire adequate “knowledge (health literacy), motivation, self-efficacy, means of action and resources to stay healthy, to self-care and to seek health services appropriately.”¹⁵ Empowering women by increasing their health-related knowledge enhances their involvement in health care, thereby improving their participation and sense of responsibility in preventing diseases, protecting and promoting their own health as well as their family’s health.¹⁷ Evidence shows that women empowerment results in better health outcomes for themselves and their family, such as less pregnancy-related problems, better nutritional status of their children, better mental health, and lower morbidity and mortality for their children.¹⁸⁻²¹

However, despite the importance of health empowerment among women, no appropriate tool currently exists that can measure health empowerment among Saudi working women. Existing empowerment scales are usually focused on other facets of women empowerment and are non-specific to health empowerment.²² Having the sense of empowerment among working women is essential to guarantee they are at their highest level of health status, thereby ensuring their productivity at work. Measuring the health empowerment of Saudi working women is likewise very critical in understanding the real picture of women empowerment in the country during this era of great transformation. To achieve this, a valid and a reliable scale that captures the construct of health empowerment for women is necessary.

Factors Affecting Health Empowerment

The health empowerment theoretical framework utilized in the study of Shearer that examined health empowerment in women argues that contextual factors and relational factors affect women’s health empowerment.²³ Empirical indicators of contextual factors may include age, income, education, and the number of children, whereas empirical indicators of relational factors may include support (social and professional) and mutual interactions.²³ Moreover, several factors that influence health empowerment were reported in the literature. For instance, a previous study concluded that financial empowerment was associated with improved health status and well-being among women and narrowed the gender gap in health in India.²⁴ They argued that the positive association of socio-economic status of women and their health and well-being might be related to the women’s ability to participate in primary and secondary prevention throughout life due to their financial empowerment.²⁴ Education is another factor that may influence the health empowerment of women. Education improves women’s literacy, problem-solving skills, and competency that they can use to make decisions about their health.²⁵ Women who attained formal education had higher opportunities to land a better job with better pay, leading to economic independence. Economic independence empowers women by creating a sense of authority, autonomy, self-

control, and self-efficacy to make decisions concerning their health and body.²⁵ The literature seems to show the interconnectedness among several socio-economic variables on the health empowerment of women. As can be deduced from this information, having education provides more significant opportunities for women to land a higher-paying job, leading to greater financial freedom. These factors could then lead to greater self-control, self-efficacy, autonomy, problem-solving skills, and decision-making capacities about their health. Therefore, we sought to investigate the potential influence of these factors on health empowerment of women. We hypothesized that some personal and work-related influences the women’s health empowerment.

The Health Empowerment Scale

To address the need for a psychometrically acceptable tool to assess the health empowerment of Saudi women, we adapted the Health Empowerment Scale (HES) and tested its psychometric properties among Saudi working women.¹⁶ The development of the HES was grounded on the concept of health empowerment as “a cognitive state characterized by perceptions of control regarding one’s health and health care; perceptions of competence regarding one’s ability to maintain good health and manage interactions with the health care system; and internalization of health ideas and goals at the individual and societal level.”¹⁶ The original version of the tool was created from the “Diabetes Empowerment Scale Short Form” (DES-SF), which was established to measure the health empowerment of diabetic patients.²⁶ Park and Park argued that the DES-SF reflects each of the features of the fundamental characteristics of health-related empowerment.¹⁶ HES captures the main elements of health empowerment: “self-control, self-efficacy, problem-solving, psychosocial coping, support, motivation, and decision-making.”¹⁶ The tool has been validated to measure health empowerment among Korean older people.¹⁶ In a previous study, the HES was translated to French and German languages and was tested for psychometric characteristics and factorial validity among women.²⁷ The study revealed that the French ($\alpha = .86$) and German ($\alpha = .87$) versions had acceptable internal consistency reliability when used among women. The study also provided evidence of the one-dimensionality of the French and German versions through confirmatory factor analyses (CFA).²⁷ The study concluded that the HES could be used to assess the health empowerment of French- and German-speaking women.²⁷ Hence, we assumed that the HES could also be used to assess these construct among Saudi women.

Aim

This research evaluated the psychometric properties of the Health Empowerment Scale Arabic version (HES-A) in measuring the health empowerment of Saudi working women.

Materials and Method

Design

The research design employed in this validation study was the quantitative design.

Samples and Setting

We surveyed a sample of 322 Saudi women residing in Al Dawadmi City in Riyadh province of Saudi Arabia. Convenience sampling technique was employed for sample selection. Only those women who met the following criteria were considered in this study: (1) Saudi national, (2) currently employed during the conduct of the study, (3) at least 18 years old, and (4) consented to participate in the study. The current sample size was more than adequate for this validation study considering the recommendation of 10 samples for every item of the scale being validated to perform a factor analysis.²⁸

Measure

We utilized an online survey to gather data from our respondents. The survey has 3 main parts: (1) the study information with the electronic informed consent, (2) the information on demographic and work of the sample, and (3) the HES-A. We collected data for age, marital status, educational achievement, and family structure as the demographic variables and data on years of work experience, employment type, position, weekly hours of work, and income for the work-related variables.

The HES measures the perceived empowerment in terms of health. The scale has 8 items, which were originally developed for patients with diabetes.²⁶ It was culturally adapted to the Korean language and was used for older adults, including women.¹⁶ Responses to the scale are marked using a 5-point Likert scale from “strongly disagree” (1) to “strongly agree” (5). Scores are calculated by getting the mean of item scores. A high mean indicates a high level of health-related empowerment. The scale was reported to have good validity and reliability.¹⁶ In the present study, the HES was translated to the Arabic language following the recommendations of Beaton and colleagues on translating self-report instruments.²⁹ We performed 2 individual forward translations, which were done by 2 bilingual health-related experts from the country. After the translations, synthesis was done by a certified translator to create 1 tentative Arabic version. Following this, two independent back-translations (Arabic to English) were performed. The resulting versions of the forward- and back-translations were shown to a 10-member panel of experts who appraised the content validity of the HES-A. The suggestions of Polit and Beck were utilized to calculate the item-level (I-CVI) and scale-level (S-CVI/Ave) content validity indices.³⁰ The HES-A was first tested among

30 Saudi working women who were excluded from the main study sample. The data collected from them yielded a Cronbach’s alpha = .89.

Ethical Considerations and Data Collection

This investigation is included in a project reviewed by the Ethics Committee of the University of Hail (H-2020-022). Data were collected from June to August 2020. The study strictly adhered to the ethical principles contained in the “Declaration of Helsinki.” In the beginning of the online survey, adequate information about the study, including its purpose, significance, and possible contributions, was presented to the respondents. The rights of the respondents, such as their right to refuse involvement and their right to withdraw involvement without any consequences on their part, were explicitly explained to them. The contact information of the researchers was also provided in this part of the survey to allow the respondents to ask clarifications about the study. Respondents were asked to put their initials in the electronic informed consent form, which was also included in the online survey, to indicate their voluntary participation. Those who consented were asked to proceed with the survey. We protected the confidentiality of the participants during the conduct of the research.

Data Analyses

Data were treated confidentially by analyzing the data collectively. Cronbach’s α was estimated for internal consistency with the value deemed acceptable at a minimum of .70.³¹ The composite reliability of the scale was also calculated with a minimum threshold of .80 for a narrow construct with 5–8 items.³² Content validity was interpreted as acceptable if: $I-CVI \geq .78$ and $S-CVI/Ave \geq .90$.³⁰ To support the structural validity of HES-A, we ran a principal components analysis (PCA) with varimax rotation. Factors were extracted when their eigenvalue > 1 and their factor loadings $> .40$.³³ Before performing the PCA, we first computed the corrected item-total correlation (cut-off of $ITC \geq .30$). We also estimated the Kaiser–Meyer–Olkin (KMO) and Bartlett’s test of sphericity, wherein a KMO of .60 and above and a significant Bartlett’s test imply adequate sample and appropriate factor model, respectively. A CFA was also performed to support the structural validity of the HES-A. The following values were considered in interpreting the model’s goodness-of-fit: “root mean square error of approximation” (RMSEA) $< .06$ to $.08$, “normed fit index” (NFI) $\geq .95$, “comparative fit index” (CFI) $\geq .95$, “Tucker–Lewis index” (TLI) $\geq .95$, “goodness-of-fit index” (GFI) $\geq .95$, “adjusted GFI” (AGFI) $\geq .95$, and “Standardized Root-Mean-Square Residual” (SRMR) $\leq .80$.³⁴ We also performed a multiple linear regression on the health empowerment with the demographic and work variables as the predictors.

Results

The average age of the respondents was 35.36 years (SD = 7.25, range 18 to 55). The majority of the respondents were married (68.9%) while 24.8% and 6.2% were single and divorced/widow, respectively. More than two-thirds finished a university degree (72.7%) while 16.8% and 10.6% hold a graduate program degree and a high school diploma and below, respectively. More than half of the women belonged to a nuclear family (69.3%). In terms of employment information, the majority of the respondents were employed by the government (81.7%) and working as a staff (87.9%). Around 46.3% of them work between 25 and 48 hours/week, 41.3% between 8 and 24 hours/week, and 12.4% more than 48 hours/week. Nearly half of the respondents were receiving a monthly salary between 10 000 SAR and 14 999 SAR, 27.0% were receiving 5000 SAR to 9999 SAR, 12.7% were receiving between 15 000 SAR and 20 000 SAR, and 13.7% below 5000 SAR (Table 1).

Validity and Reliability of the HES-A

The I-CVI of the 8 items of the scale were between .80 and 1.00 with an S-CVI/Ave of .91. These results suggest that the HES-A has good content validity for measuring the perceived health empowerment of Saudi working women.

As indicated in Table 2, item means were between 3.84 (SD = .81) and 4.07 (SD = .82). The ITC of the items was between .59 and .81. Based on these parameters, none of the items were deleted and all the 8 items were entered in the PCA. A KMO of .925 was revealed, and the Bartlett's test indicated significance ($P < .001$). The PCA revealed a unidimensional scale explaining 63.0% variance in health empowerment (Table 2). This figure means that the HES-A has excellent construct validity when used among Saudi women.

The CFA indicated the following: NFI = .95, CFI = .96, TLI = .95, GFI = .95, AGFI = .90, RMSEA = .09 (CI = .07–.12), and SRMR = .03. The χ^2/df value was 3.86 ($\chi^2 = 77.25$, $P < .001$) (Supplementary File 1).

The reliability of HES-A was established by computing its Cronbach's alpha. The computation revealed an alpha of .92, which indicated good internal consistency of the items. Moreover, the computed composite reliability value was .93, further confirming the scale's reliability. The inter-item correlations among the 8 items ranged from .41 to .71 (Supplementary File 2).

Factors Influencing the Health Empowerment

The regression model was significant ($F [14, 307] = 8.40$, $P < .001$) and accounted for approximately 24.4% of the variance of health empowerment ($R^2 = .277$, Adjusted $R^2 = .244$). Among the variables entered in the model, education, type of employment, years of working experience, and monthly salary were identified as significant factors influencing the

Table 1. Socio-Demographic Characteristics of the Respondents (n = 322).

Variable	Mean (SD)	Range
Age	35.36 (7.25)	18.00–55.00
Years of working experience	9.95 (7.51)	1.00–32.00
	n	%
Marital status		
Single	80	24.8
Married	222	68.9
Divorced/Widow	20	6.2
Education		
High school and below	34	10.6
University/College	234	72.7
Graduate program	54	16.8
Type of Family		
Nuclear family	223	69.3
Extended family	99	30.7
Type of employment		
Private	59	18.3
Public	263	81.7
Position		
Staff position	283	87.9
Managerial positions	39	12.1
Working hours per week		
8 to 24 hours	133	41.3
25 to 48 hours	149	46.3
> 48 hours	40	12.4
Monthly salary		
< 5000 SAR ^a	44	13.7
5000 to 9999 SAR	87	27.0
10 000 to 14 999 SAR	150	46.6
15 000 to 20 000 SAR	41	12.7

Note. ^a3.75 SAR = 1 USD.

health empowerment of Saudi working women. As seen in Table 3, Saudi women working in public sectors reported greater perceived health empowerment compared to Saudi women working in private sectors ($\beta = .31$, $P < .001$, 95% CI = .14, .49). An increase of 1 year in the working experience of the respondents corresponded to a .02 decrease in the health empowerment mean score of the respondents ($P = .002$, 95% CI = $-.03$, $-.01$). Saudi women who were earning less than 5000 SAR ($\beta = -.94$, $P < .001$, 95% CI = -1.19 , $-.68$), 5000 SAR–9999 SAR ($\beta = -.69$, $P < .001$, 95% CI = $-.90$, $-.48$), and 10 000 SAR–14,999 SAR ($\beta = -.53$, $P < .001$, 95% CI = $-.73$, $-.34$) had poorer perceptions of health empowerment compared to those who were earning a monthly salary of 15 000 SAR–20,000 SAR.

Discussion

We examined the psychometric properties of the HES-A for Saudi women who were employed. This research highlights

Table 2. Descriptive Analysis Result, Item-Total Correlations, and Alpha if Item is Deleted and Result of the Principal Components Analysis (n = 322).

Item	Mean	SD	ITC ^a	α if Item is Deleted	Factor Loading
4. I have some health problems but can find ways to be positive	3.93	.76	.81	.896	.864
3. I can try out various ways to overcome hurdles to my health care goals	3.86	.85	.75	.900	.820
7. I know what helps me stay motivated to take care of my health	4.00	.77	.75	.901	.819
8. As I am well aware of myself, I can select a health care method suitable for me	4.02	.76	.75	.901	.815
2. I can set up a plan to achieve health care goals	3.97	.80	.74	.901	.811
5. I know a positive method to cope with stress related to my health care	3.84	.81	.69	.906	.769
1. I know what part(s) of taking care of my health that I am dissatisfied with	4.07	.82	.69	.906	.764
6. I can ask for support for taking care of my health when I need it	3.98	.81	.59	.914	.673
Eigenvalue					5.04
Variance explained (%)					63.0%

Note. ^aCorrected item-total correlation.

Table 3. Results of the Regression Analysis on the Respondents' Health Empowerment (n = 322).

Predictor Variables	β	SE-b	Beta	T	p	95% CI	
						Lower	Upper
Age	-.01	.01	-.04	-.46	.648	-.02	.01
Marital status (Reference: Married)							
Single	.10	.09	.07	1.10	.271	-.08	.28
Divorced/Widow	.03	.13	.01	.25	.800	-.22	.29
Education (Reference: Graduate program)							
High school and below	.24	.13	.12	1.86	.064	-.01	.50
University/College	-.03	.09	-.02	-.30	.767	-.19	.14
Type of Family	-.09	.07	-.07	-1.30	.196	-.24	.05
Type of employment	.31	.09	.19	3.53	<.001***	.14	.49
Position	-.03	.10	-.02	-.35	.728	-.22	.16
Years of working experience	-.02	.01	-.25	-3.17	.002**	-.03	-.01
Working hours per week (Reference: > 48 hours)							
8 to 24 hours	.19	.10	.15	1.88	.062	-.01	.39
25 to 48 hours	-.04	.10	-.03	-.42	.672	-.24	.15
Monthly salary (Reference: 15 000 to 20 000 SAR)							
< 5000 SAR	-.94	.13	-.51	-7.29	<.001***	-1.19	-.68
5000 to 9999 SAR	-.69	.11	-.49	-6.36	<.001***	-.90	-.48
10 000 to 14 999 SAR	-.53	.10	-.42	-5.35	<.001***	-.73	-.34

Note. The dependent variable was the overall mean of the Health Empowerment Scale Arabic version. β is the unstandardized coefficients; SE-b is the Standard error.

$R^2 = .277$, Adjusted $R^2 = .244$.

*Significant at .05, **Significant at .01, ***Significant at .001.

the acceptable validity and reliability of the HES-A, which could be used to provide an accurate assessment of Saudi working women empowerment in health. Specifically, the findings revealed acceptable content validity, with both I-CVI and S-CVI/Ave above the cut-off values.³⁰ Although the original version of the scale was developed for patients with diabetes,²⁶ the scale was revised and used to measure the health empowerment of elders.^{16,35} Park and Park revised the term "diabetes" in the original version to "health" to include items within the general concept of health.¹⁶ The

items describe the respondents' satisfaction/dissatisfaction with their health, ability to plan and decide for their own health care, health-related problem-solving ability, ability to cope with health problems and stress, available social support, and motivation to sustain health.¹⁶ The panel of experts in the present study believed that these items also reflect health empowerment among Saudi women and deemed them necessary to be included in the scale. This was supported by the findings of the corrected ITC values, which denoted satisfactory internal construct consistency.

These results supported the call to retain all the items of the HES-A.

Moreover, the tool's structural validity was supported by the PCA, which revealed 1 factor solution explaining more than 50% of the variance in health empowerment of Saudi working women. This outcome indicates that 1 factor among the 8 items provide substantial contribution in predicting the health empowerment of working women in Saudi Arabia.³⁶ The high loadings of the items in this single-factor signify that the factor was heavily accounted for by the eight-health empowerment item.³⁷ This finding is supported by a previous study that revealed a single-factor for the scale through confirmatory factor analysis of the data from Spanish-speaking older people (explained variance of 52.4%).³⁵ The items of HES reflect the various properties of empowerment, such as "self-control, self-efficacy, problem-solving ability, psychosocial coping, support, motivation, and decision-making."³⁵ Modifications made in the items of the Diabetes Empowerment Scale to create the HES were anchored on the definition of health empowerment by Menon as "a cognitive state characterized by perceptions of control regarding one's own health and health care; perceptions of competence regarding one's ability to maintain good health and manage interactions with the health care system; and internalization of health ideas and goals at the individual and societal level."^{16,38} The single-factor HES-A, as revealed by the EFA, captured the construct of health empowerment and could, therefore, be reasonably used to measure this construct among Saudi working women. Furthermore, the CFA provided some evidence of the fit of the one-factor model of the HES-A. The NFI, CFI, TLI, and GFI values supported a good model fit of the HES-A. However, the AGFI and the RMSEA values slightly deviated from the acceptable values, thus not supporting a model fit for the tool. Simulated studies constantly show the poor performance of AGFI as an index of goodness-of-fit.³⁴ According to Schreiber et al, if most fit indices fall within the acceptable values, the model's goodness-of-fit is more likely.³⁴ Thus, in the case of the present findings, most of the fit indices are suggestive of a model fit. However, future studies must still be conducted to replicate the CFA to provide supportive evidence on the appropriateness of the one-factor model of the HES-A.

The computed values of the Cronbach's alpha both in the pilot testing and the main study were more than the acceptable values, indicating that the HES-A items were generally coherent and in agreement with 1 another.³¹ The Cronbach's alpha in our study was higher than those reported in previous studies.^{16,35} This finding implies that the HES-A's internal consistency is excellent, thereby indicating that the HES-A is an appropriate tool with high reliability for evaluating the health empowerment of Saudi women.

This study found that several work-related factors predict the health empowerment of Saudi working women. Specifically, Saudi women in the private sector were less

empowered in terms of their health compared to those working under the government. This finding could be explained by the disparity in salaries and benefits between public and private sectors. The preference to work in the public sector is glaring among Saudis because jobs in the public sector provide higher wages and better security of tenure than do those in the private sector. The public sector provides approximately 58% more wages compared to the private sector.¹² This trend is also true in the present sample, wherein more Saudi women working in the public sector earn a higher monthly salary than do those in the private sector. The ongoing development in the health policy of the country, specifically on employees' health insurance, may explain our findings as well. The Cooperative Health Insurance Act in the country implemented the "Compulsory Employment-based Health Insurance," wherein all employers in both public and private sectors are mandated by the law to guarantee that all their employees, regardless of gender and nationality, have health insurance.³⁹ However, the existence of such health insurance does not guarantee equity and access to health care among employees, most especially when the type of employment is taken into consideration (public vs private). According to Rahman and Alsharqi (p. 8), "both equity and access to health care could not be maintained as there were different premiums for different employers for health insurance."³⁹ Employees belonging to the higher salary range had access to wider options and more advanced health care services than do those belonging to the lower salary range. The system of health care in the country is both public and private. Private health care requires the individual to pay their services or if the person has health insurance, the insurance will shoulder the costs. In addition, Saudis working in the public sector have access to any of the health care services provided by public health facilities around the country without the burden of paying any amount.³⁹ Owing to these conditions, Saudi women in the public sector may have felt more empowered in their health in terms of planning and decision-making, coping with health problems, seeking health care, and sustaining their health because of the available means and resources provided to them.

Subsequently, our findings indicate higher levels of health empowerment among Saudi women who have higher monthly earnings compared to those with lower monthly earnings. The impact of socio-economic status in one's empowerment has been supported in several previous studies. For example, a study conducted among women in Burkina Faso in West Africa reported that women in a higher socio-economic class had higher odds of being involved in decision-making about their own health than those belonging to a lower socio-economic class.⁴⁰ A qualitative study on economic empowerment and health-related decision-making among women in Sierra Leone described how the economic status of women impacts their sense of empowerment.⁴¹ Accordingly, the financial independence of women

contributes substantially to their sense of empowerment, as this status provides them an advantage in decision-making and fulfilling their responsibilities for themselves and for their family.⁴¹ A high salary can lead women to become more independent economically, which gives them better options in their own health-related decision-making, behaviors, and actions. Our finding is parallel with the feminist theory, which argues that financial independence (among other factors) contributes to women's greater autonomy and power, which in turn increases their bargaining and decision-making.⁴² Low socio-economic status (i.e., low salary range) was likewise previously reported as having a negative effect on a woman's quality of life and physical and psychological health, further supporting our finding of higher health empowerment among women with higher income.⁴³ These findings strengthen the HES-A's validity in assessing the health empowerment of Saudi women.

Our study has some acknowledged limitations. Other tests for construct validity must be explored in future investigations. For instance, convergent and divergent validity were not explored in the study due to the unavailable tools in Arabic language and in Saudi Arabian context that measure related construct. Thus, we are recommending that future studies should examine the convergent and divergent validity of the HES-A. In addition, test and re-test reliability should be tested in future studies. Another limitation is that the study was only focused on working women. The women that were included in this study had high degrees, were civil servants, and work as staff. The HES-A should also be tested among other groups of women in the country in future studies. Also, the participants in the survey were relatively young; thus, there might be some implications on the generalizability of the findings.

Conclusions

This research investigated the validity and reliability of an Arabic adaptation of a scale measuring health empowerment for Saudi working women. We conclude that the HES-A had sound psychometric properties when used among Saudi working women. The HES-A exhibited satisfactory content and structural validity and internal consistency for use in measuring the perceived health empowerment of Saudi women. It is a single-factor scale that captures the essential attributes of health empowerment.

The study has extreme significance in today's global goals and the current transformations in Saudi Arabia. The current indication of a satisfactory psychometric properties of the HES-A has implications for research, nursing and health-related practice, and policymaking related to the health empowerment of women in Saudi Arabia and other Arabic-speaking countries. For research, the HES-A can be employed by researchers to expand the women's health empowerment research agenda in the Arab world. The HES-A can be used in various research projects that aim to assess women's health empowerment, develop and test the

effectiveness of health empowerment interventions for women, and identify the gaps, challenges, and opportunities for women's health empowerment. Through conducting studies on the health empowerment of Saudi women and other Arabic-speaking women, the literature on this area from this part of the world will be enriched, and awareness about issues surrounding this topic can be brought to a broader community. For nursing and health-related practice, the HES-A could reflect the overall sense of health empowerment of women and identify which areas of health empowerment are strengths and weaknesses by considering the individual items of the scale. Identifying the strengths and weaknesses could determine which area of women's health empowerment needs to be improved and which needs to be sustained through health policies and interventions. Nurses and other health workers could use these strengths and weaknesses to plan, develop, and implement health education to improve the awareness and knowledge of women in terms of their health. Evidence-based interventions could be developed and implemented to support empowering women to be in-charge of all aspects of their health. For policymaking, the assessment that can be obtained from the HES-A could become the foundations for the development of health-related policies directed toward improving the different aspects of health empowerment of women, such as autonomy in health and life in general, self-control, self-efficacy, coping abilities, motivation, and support. Likewise, it could be used in creating health-related occupational policies to guarantee that working women are empowered in terms of health while in the workplace.

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