

Identifying the Dimensions of Empowerment and Their Impacts on Food Security in Rural Women

Kayvan Shoja Chaghervand¹, Alireza Poursaeed^{2*}, and Maryam Omid Najafabadi¹

ABSTRACT

The present study was conducted to identify the empowerment dimensions of female-headed households in rural areas and their effects on food security in Iran. Based on the data collected from the Iranian Statistical Center, the population of rural women-headed households of Tehran Province included 495 individuals, from which 216 were selected using the stratified random sampling method with proportional allocation. A questionnaire was designed by researchers and its validity and reliability was confirmed by confirmatory factor analysis and Cronbach method, respectively. The data were collected from November 2020 to July 2021. Structural equation modeling was used to analyze and estimate the relationships among multiple variables. The results confirmed the dimensions of empowerment as grouping work and communication skills, creativity and solving problem, commitment and responsibility, information and specific knowledge, technical skills and operational work, including psychological, social, political, economic, managerial, and educational factors and their effects on food security. The highest effects on food security belonged to commitment and responsibility, economic factors, and grouping work, respectively. Job empowerment predicted 75% variance in food security. It is suggested to consider job empowerment of female-headed households in rural areas to decrease food insecurity.

Keywords: Female-headed households, Gender and food security, Social and economic empowerment.

INTRODUCTION

Poverty is a global challenge that mainly influences human societies in rural areas, especially in non-developing countries and rural women-headed households (Abrar ul haq *et al.*, 2019). Women-headed households are usually faced with several challenges and are one of the most vulnerable groups in different societies in terms of poverty and food security (Daoud *et al.*, 2019; Dunga, 2020). Food security is defined as the permanent physical, social and economic access to sufficient, safe and nutritious food to supply dietary requirements and food preferences for an

active and healthy life (Galiè *et al.*, 2019). It is estimated that 800 million people are undernourished across the globe who do not receive adequate nutritional content and calories (Pakravan-Charvadeh *et al.*, 2020). Women-headed households are more vulnerable to food insecurity compared to men-headed households due to low presence in the labor market and productive activities, housekeeping, and child care (Mallick and Rafi, 2010). A major portion of women-headed households lives in developing countries and in rural regions (Van Eerdewijk *et al.*, 2017). Social and cultural factors and expectations have prevented rural women from participating in the

¹ Department of Economics, Agricultural Extension and Education, Science and Research Branch, Islamic Azad University, Tehran, Islamic Republic of Iran.

² Department of Agricultural Extension and Education, Ilam Branch, Islamic Azad University, Ilam, Islamic Republic of Iran.

*Corresponding author; e-mail: Alireza.poursaeed@iau.ac.ir



development programs (Sarani *et al.*, 2013). Despite the key role of rural women-headed households as suppliers of food security, income earners, and caretakers of households and children, they have been disempowering in society. Empowerment might be a key factor in improving food security in rural women-headed households in developing countries.

Empowerment is defined as controlling decision-making about his and/or her life and giving the ability to intervene in all life challenges (Baig *et al.*, 2018). This conception not only comprises extrinsic control but it also involves the development of intrinsic capabilities (Abrar-ul-Haq *et al.*, 2018). It initiates foundations for understanding available opportunities to women. Notably, most studies have emphasized the positive effects of empowerment in increasing food security and decreasing food insecurity (Asitik and Abu, 2020; Galiè *et al.*, 2019; Ntenkeh *et al.*, 2022; Sharaunga *et al.*, 2016), factors affecting empowerment are not the same in other countries. It is essential to identify factors empowering women in each country. Rural women in Iran mostly perform housekeeping, care of children, farming, tailoring, carpet weaving, and work at home. It was recently reported that 32% of Iranian families faced with food insecurity (Pakravan-Charvadeh *et al.*, 2020).

Although previous studies have emphasized the role of empowerment in increasing food security, they lack specific focus on the challenges and empowerment dimensions for women-headed households in rural areas, especially in countries like Iran. This study aimed to identify the unique empowerment dimensions affecting food security specifically for rural women-headed households in Iran, contributing to a localized understanding of the issue.

The research brings an innovative approach by considering not just economic, but other possible dimensions to women's empowerment and food security in rural areas. The study aimed to identify empowerment dimensions affecting food

security in rural women-headed households in Iran.

MATERIALS AND METHODS

Empowering Factors

Empowerment is a multi-dimensional factor and it can influence food security. It comprises intrinsic capabilities such as empowerment factors and job skills and communications that develop empowerment (Asitik and Abu, 2020; Galiè *et al.*, 2019; Ntenkeh *et al.*, 2022; Sharaunga *et al.*, 2016). Economic factors are one of the most important factors in the life of the women-headed households in rural areas (Sharma, 2019). Income generation, financial independence, and control over finances directly improve food security. Another factor affecting women's empowerment is social factors, which allow women to develop their lives in a holistic framework. These factors help women to (Sharma, 2019). Participation in social networks and community involvement enhances access to resources and support, and better food security. Psychological factors are another component of empowerment. It was reported that the increase in feelings of self-efficacy among people help to identify intrinsic empowerment (Muduli and Pandya, 2018). Self-efficacy, resilience, and adaptability lead to proactive behavior and greater food security. Political factors may influence women's empowerment. The political empowerment of women is a result of awakening at the individual and social levels to enable women who live with dignity (Sharma, 2020). Involvement in political processes helps women advocate for better governance and policies affecting food access. Women's education and using educational systems is an important strategy for empowering women (Savari *et al.*, 2020). Education and skills development provide better employment opportunities, indirectly improving food security. Women with management ability may have a better

feeling of self and their empowerment. Decision-making and resource management strengthen women's ability to ensure household food security.

H1: Economic, social, psychological, political, educational and managerial factors (empowering factors) are dimensions of empowerment and can independently affect food security of women-headed households in rural areas.

Job Skills and Communications

Participation of women in grouping works and using other experiences and opinions may empower rural women. The ability to communicate with others seems to be a strategy for empowering women. Other factors associated with empowerment may be creativity and solving problems. Creativity is the production of new and profitable ideas by persons in a working environment. Empowered people prefer to solve their problems and use creative solutions. Commitment and responsibility are important factors that may influence empowerment. Responsible and committed women try to maintain values in a working environment, correctly perform their tasks, show their interest in learning new subjects and have a positive view of working environments. It was reported that communication channels create several jobs in rural areas for Iranian women (Savari *et al.*, 2020). Thus, access to information and specific knowledge may empower rural women and indirectly food security. Women with technical skills can produce jobs for themselves. Such skills can decrease injuries and damage in working environments. They perform their job tasks in minimum time and decrease their costs.

H2: Creativity and solving problems, communication skills and grouping work, commitment and responsibility, information and specific knowledge and practical work and technical skills (Job skills and communications) are dimensions of empowerment and can independently affect

food security of women-headed households in rural areas.

We hypothesized that job skills and communications and empowering factors influence food security.

H3: Empowerment influences food security of women-headed households in rural areas.

A study investigated the effects of women empowerment in rural areas in South Africa and showed that female-headed households had better economic conditions, physical capital empowerment, psychological empowerment and farm financial management skills had better food security (Sharaunga *et al.*, 2016). An original study in Iran investigated the role of educational channels in improving household food security in Iranian rural women (Savari *et al.*, 2020). Recently, a study showed a positive relationship between women's empowerment and food security in Cameroon (Ntenkeh *et al.*, 2022). Another study investigated determinants of food security among female-headed households in South Africa and showed that age, race, income and size of the household had significant effects on food security (Dunga, 2020). Positive relation was reported between women's empowerment and food security and emphasized social, cultural, economic and educational factors for improving empowerment (Meti and Sathish, 2016). Another study found a significant positive relationship between the economic dimension of empowerment and food security in communities in Tanzania (Galiè *et al.*, 2019). It was reported that empowered women enhance household food security (Asadullah and Kambhampati, 2021). A positive link has been found between women's empowerment and food security (Aziz *et al.*, 2022). It has been reported that socio-economic factors play significant roles in women's food security (Clement *et al.*, 2019). The current study investigates comprehensive factors affecting empowerment in Iranian women that have not been previously investigated in female-headed households in rural areas.

**MATERIALS AND METHODS****Measurements****Statistical Population, Sample and Sampling Method**

This applied descriptive study aimed to explore the empowerment dimensions of female-headed households in Tehran Province, Iran, and their effects on food security. The statistical population comprised 495 women, based on data from the Statistical Center of Iran. Tehran Province was divided into ten rural districts, each treated as a separate stratum. A stratified sampling method with proportional allocation was used to ensure appropriate representation from each district. The sample size was determined using Cochran's formula, and 216 women were selected to participate in the study.

The indicators used in the two self-constructed questionnaires for empowerment and food security are presented in Table 1.

Additionally, demographic variables such as age, education, employment status, family size, and annual income were collected to provide context for the analysis. The data were collected from November 2020 to July 2021.

Validity and Reliability of the Questionnaires

To ensure the validity and reliability of the instruments, Confirmatory Factor Analysis (CFA) was conducted on all theoretical constructs. CFA was employed to validate the measurement models of both empowerment and food security, following the guidelines of previous studies (Magnier-Watanabe *et al.*, 2020; Yang and Hsu,

Table 1. The indicators used in the two self-constructed questionnaires.

Indicators	Number of items	Scoring	References
Empowerment		Likert scale (1-5)	
Grouping work and communication skills	7		Authors
Creativity and solving problem	6		Authors
Commitment and responsibility	6		Authors
Information and specific knowledge	5		Authors
Technical skills and operational work	5		Naseri <i>et al.</i> , (2020)
Psychological factors	9		Naseri <i>et al.</i> , (2020)
Social factors	9		Naseri <i>et al.</i> , (2020)
Political factors	5		Naseri <i>et al.</i> , (2020)
Economic factors	6		Naseri <i>et al.</i> , (2020)
Managerial factors	7		Authors
Educational factors	7		Authors
Food security		Likert scale (0-5)	
Accessibility	6		FAO (2016) WFP (2018)
Availability	6		Coates <i>et al.</i> , (2007) FAO (2016) USDA (2020)
Utilization	7		WHO (2019)
Stability	4		FAO (2016) WFP (2018)

2018). Reliability was assessed using Cronbach's alpha, ensuring internal consistency of the scales.

Data Analysis

Structural Equation Modeling (SEM) was used to analyze the relationships between the empowerment dimensions and food security. Both CFA and SEM were conducted using AMOS software (version 24). SEM allowed for the estimation of direct and indirect effects among multiple variables, providing a comprehensive understanding of how different dimensions of empowerment influence food security outcomes.

RESULTS

Descriptive Statistics

The results indicated that the average age of female-headed households in rural areas was 48.28 years, with a standard deviation of 11.55 years. The majority of the women were between 31 and 60 years old. Most had only primary education (41.20%), while a smaller proportion had attained a high school diploma or higher education. A significant portion of the women were unemployed (24.53%), with the remainder engaged in various occupations, including service work (18.51%), tailoring (15.27%), peddling (13.88%), carpet weaving (11.57%), farming (2.31%), and other jobs (13.93%). The average annual income of these households was 85 million IRR. It is also noteworthy that unemployed women were under the supervision of supporting institutions.

The means and standard deviations for the constructs were as follows: grouping work and communication skills (2.77 ± 0.88), creativity and solving problem (3.01 ± 0.90), commitment and responsibility (3.26 ± 1.02), information and specific knowledge

(2.94 ± 0.94), technical skills and operational work (3.22 ± 1.00), psychological factors (3.16 ± 0.86), social factors (3.08 ± 0.78), political factors (2.63 ± 1.01), economic factors (2.24 ± 0.86), managerial factors (2.75 ± 0.81), educational factors (2.70 ± 0.99), access (2.23 ± 0.84), availability (2.42 ± 0.80), utilization (2.69 ± 1.10) and stability (2.57 ± 0.74).

Table 2 displays the correlations between these constructs. The analysis revealed positive correlations among all variables.

Analysis of the Measurement Models

The validity and reliability of the individual measurement models were assessed following the methodologies outlined by Yang and Hsu (2018). The results are summarized in Table 3. CFA and model fit indices confirmed that all items appropriately fit their respective constructs. According to previous research (Magnier-Watanabe *et al.*, 2020), the recommended fit indices are as follows: normed chi-square less than 3.00, Root Mean Square Residual (RMR) less than 0.09, Normed Fit Index (NFI) greater than 0.90, and IFI and TLI greater than 0.95. Hair *et al.* (2010) suggest that the values for each construct should fall between 0.5 and 0.9, with reliability values exceeding 0.7. The obtained values in this study were all above 0.7, confirming the internal consistency and reliability of each scale.

Structural Equation Modeling

To avoid ambiguity and complexity, we considered the mean of constructs and did not use items for SEM. A SEM was built and the results are shown in Figure 1. The results for model-fitting showed that empowerment and food security had a good fit for the data with fit indices ($\chi^2/df = 1.86$, CFI = 0.98; NFI = 0.98; IFI = 0.97; TLI = 0.98; RMR = 0.032; RMSEA = 0.036).

The results in Figure 2 for model-fitting showed that empowerment dimensions and

Table 2. Correlation between constructs.^a

GC	CS	CR	IS	TS	PF	SF	POF	EF	MF	EDF	ACC	AVA	UTI	ST
GC	0.893 ^{***}	0.836 ^{***}	0.798 ^{***}	0.792 ^{***}	0.506 ^{***}	0.509 ^{***}	0.298 [*]	0.363 ^{***}	0.389 ^{***}	0.360 ^{***}	0.373 ^{***}	0.133 [*]	0.523 ^{***}	0.383 ^{***}
CS		0.873 ^{***}	0.807 ^{***}	0.773 ^{***}	0.505 ^{***}	0.520 ^{***}	0.272 ^{***}	0.325 ^{***}	0.506 ^{***}	0.369 ^{***}	0.379 ^{***}	0.135 [*]	0.532 ^{***}	0.269 ^{***}
CR			0.886 ^{***}	0.832 ^{***}	0.529 ^{***}	0.520 ^{***}	0.265 ^{***}	0.373 ^{***}	0.538 ^{***}	0.378 ^{***}	0.530 ^{***}	0.150 ^{***}	0.557 ^{***}	0.506 ^{***}
IS				0.865 ^{***}	0.533 ^{***}	0.533 ^{***}	0.269 ^{***}	0.335 ^{***}	0.531 ^{***}	0.532 ^{***}	0.530 ^{***}	0.139 [*]	0.537 ^{***}	0.533 ^{***}
TS					0.512 ^{***}	0.372 ^{***}	0.238 ^{***}	0.333 [*]	0.523 ^{***}	0.510 ^{***}	0.505 ^{***}	0.133 [*]	0.536 ^{***}	0.518 ^{***}
PF						0.765 ^{***}	0.518 ^{***}	0.566 ^{***}	0.725 ^{***}	0.685 ^{***}	0.372 ^{***}	0.179 [*]	0.508 ^{***}	0.533 ^{***}
SF							0.593 ^{***}	0.325 ^{***}	0.675 ^{***}	0.629 ^{***}	0.376 ^{***}	0.163 [*]	0.533 ^{***}	0.512 ^{***}
PO								0.503 ^{***}	0.363 ^{***}	0.352 ^{***}	0.263 ^{***}	0.166 [*]	0.313 ^{***}	0.360 ^{***}
F									0.563 ^{***}	0.306 ^{***}	0.317 ^{***}	0.215 ^{**}	0.338 ^{**}	0.336 ^{***}
EF										0.739 ^{***}	0.512 ^{***}	0.195 [*]	0.372 ^{***}	0.386 ^{***}
MF											0.501 ^{***}	0.130 [*]	0.390 ^{***}	0.526 ^{***}
ED														
F														
AC												0.339 ^{***}	0.693 ^{***}	0.555 ^{***}
C														
AV													0.333 ^{***}	0.332 ^{***}
A														
UT														
I														0.659 ^{***}

^a Grouping work and Communication skills (GC), Creativity and Solving problem (CS), Commitment and Responsibility (CR), Information and Specific knowledge (IS), Technical Skills and operational work (TS), Psychological Factors (PF), Social Factors (SF), Political Factors (POF), Economic Factors (EF), Managerial Factors (MF), Educational Factors (EF), Accessibility (ACC), Availability (AVA), Utilization (UTI) and Stability (ST). Superscripts *, and *** show significant correlation at P<0.05 and P<0.0001, respectively.

Table 3. Constructs and reflective indicators.

Constructs and reflective indicators	Loading
Empowerment ($\chi^2=42.47$, $df=24$; CFI= 0.93; RMR= 0.031; IFI= 0.96; TLI= 0.97)	
Grouping work and communication skills (Cronbach's $\alpha=0.759$; CR= 0.865; AVE= 0.623)	
Reflection of facts in presenting feedback is common in my work environment	0.523
I express my opinion in relation to job issues	0.598
I receive a good reaction along with patience from others.	0.502
I am interested in the transformation of information and experiences to others.	0.523
I have a devotion to solving challenges in the working environment.	0.589
Coordination and integrity are found between my colleagues.	0.569
I use my supervisor's ideas and my colleague's for solving problems.	0.567
Creativity and solving problem (Cronbach's $\alpha=0.796$; CR= 0.802; AVE= 0.551)	
I solve working issues through data collection and analysis.	0.509
I consider various aspects of a problem.	0.521
I use opportunities for creating positive changes in my life.	0.598
I am interested in new experiences and experiments	0.595
I present new strategies for job issues.	0.569
I suggest new strategies for performing job tasks.	0.567
Commitment and responsibility (Cronbach's $\alpha=0.899$; CR= 0.815; AVE= 0.665)	
I am on time in the working environment.	0.595
I try to maintain values in the working environment.	0.502
I correctly conduct working tasks.	0.685
I am interested to increase knowledge and job skills.	0.672
I have a positive view of the working environment.	0.621
I have actively participation in educational periods for improving technical skills.	0.512
Information and specific knowledge (Cronbach's $\alpha=0.752$; CR= 0.785; AVE= 0.515)	
I have sufficient information for equipment and tools in working environment.	0.526
I have obtained general knowledge for my job.	0.612
Job purposes are achieved by required knowledge.	0.570
I need a presence in educational periods for improving information and specific knowledge.	0.572
I have sufficient information for quality and activity standards.	0.525
Technical skills and practical work (Cronbach's $\alpha=0.717$; CR= 0.709; AVE= 0.589)	
I correctly use equipment in the working environment.	0.599
I have standardized job skills.	0.597
Damages and injuries have decreased in the working environment.	0.598
I perform job tasks in minimum time and for improving working quality.	0.602
I use raw materials in a true way.	0.707
Psychological factors (Cronbach's $\alpha=0.717$; CR= 0.741; AVE= 0.576)	
I feel myself to be a valuable human.	0.712
I feel to have several good characteristics.	0.511
I can well conduct several works.	0.541
I have a good view of myself.	0.539
I have abilities for the expression of opinions in family meetings.	0.614
My member family uses my opinions.	0.647
I am a determiner of interactions of my member family with others.	0.615
I have abilities for changing the conditions of my life based on current possibilities.	0.523
I am independent in solving problems.	0.516
Social factors (Cronbach's $\alpha=0.802$; CR= 0.773; AVE= 0.562)	
I am interested in participation in grouping works.	0.506
I have interactions with kinfolk and neighbors.	0.501
I participate in different meetings.	0.605
I consult others for different problems.	0.712
I participate in community-oriented educational classes.	0.597
I have the ability for finding new friends.	0.522
Political factors (Cronbach's $\alpha=0.739$; CR= 0.752; AVE= 0.562)	

Table 3 continued



Continued of Table 3. Constructs and reflective indicators.

Constructs and reflective indicators	Loading
The services given by the village council are efficient for improving my job.	0.553
Political decisions influence my life.	0.552
I participate in elections.	0.551
Decisions of local agents for rural regions influence my life.	0.514
I participate in meetings of people agents and managers.	0.595
Economic factors (Cronbach's α = 0.702; CR= 0.717; AVE= 0.645)	
I have access to facilities and a bank loan.	0.516
I participate in the microfinance credits fund.	0.667
I participate in activities of consumers' co-operative.	0.547
I provide the required equipment and facilities for myself and member family.	0.702
I decide on financial resources and ways for spending them.	0.502
I feel to be valuable women activities in society.	0.540
Managerial factors (Cronbach's α = 0.751; CR= 0.820; AVE= 0.598)	
I have abilities for handling my job.	0.589
I participate in local meetings.	0.597
I have enough ability for supplying local products.	0.606
My job is affecting society.	0.641
I can manage crises in my life.	0.578
I manage economic issues in my life.	0.641
I can manage my assets.	0.529
Educational factors (Cronbach's α = 0.796; CR= 0.824; AVE= 0.591)	
I feel rural women appreciate educational periods.	0.532
I feel that potential trainers educate us.	0.541
Educational contents are in agreement with my requirements.	0.537
It is possible to combine science and practice	0.536
All skills and educations are various.	0.541
I have the ability for learning professional skills.	0.546
I feel educational classes are in agreement with my requirements.	0.527
Food security (χ^2 = 43.12, df= 24; CFI= 0.98; RMR= 0.033; IFI= 0.97; TLI= 0.98)	
Access (Cronbach's α = 0.741; CR= 0.736; AVE= 0.565)	
My required food is in access.	0.632
My required food for my children is in access.	0.541
Various foods are in access to us.	0.571
Food supplier centers are in access.	0.569
Food supplier centers supply enough food.	0.502
Food supplier centers supply high-quality foods.	0.622
Availability (Cronbach's α = 0.741; CR= 0.751; AVE= 0.598)	
I have enough income for purchasing the required foods for my body.	0.571
I have enough income for purchasing the required foods for my children.	0.533
I have enough income for providing dietary diversity.	0.625
Price fluctuations influence dietary diversity.	0.593
My income is one important factor in purchasing interesting foods.	0.576
My saving is affected by purchasing in an emergency condition.	0.588
Utilization (Cronbach's α = 0.912; CR= 0.755; AVE= 0.717)	
Knowing quality affects food utilization.	0.555
Knowing calories affects food utilization.	0.575
Foods with low waste influence their utilization.	0.632
Knowing diets influence food utilization.	0.509
Knowing food benefit influences food utilization.	0.707
An appropriate food program for family members influences food utilization.	0.812
Having an appropriate food program for children influences food utilization.	0.589
Stability (Cronbach's α = 0.763; CR= 0.751; AVE= 0.613)	
Required foods are constantly supplied in the market.	0.645
Foods are scarce in undetermined and unpredictable times.	0.512
Suppliers immediately supply scarce foods.	0.507
Precise mechanisms are considered and performed for keeping stability.	0.596

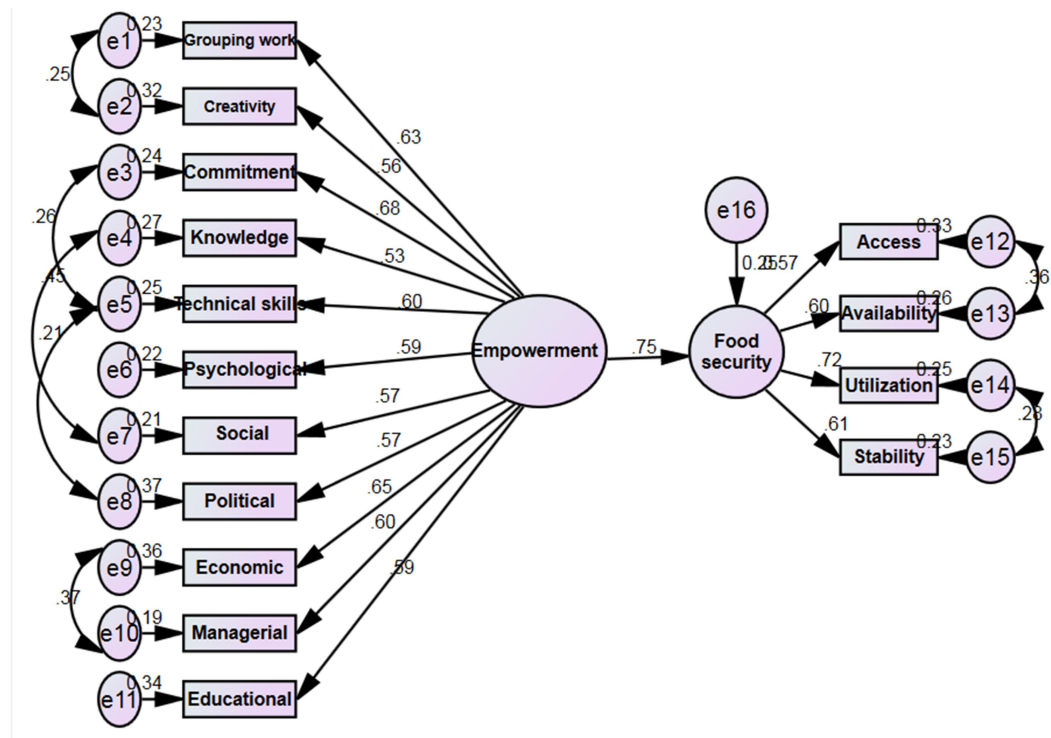


Figure 1. Results of the structural equation modeling for the effect of empowerment on food security.

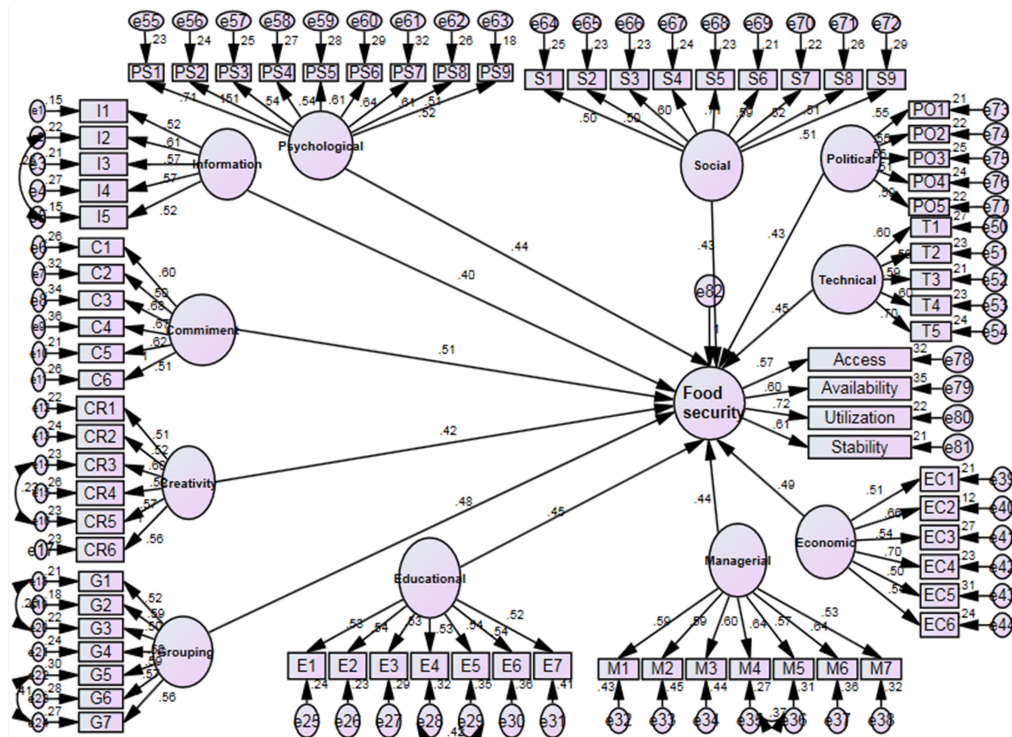


Figure 2. Results of structural equation modeling for the effect of empowerment dimensions on food security.



food security had a good fit for the data with fit indices ($\chi^2/df= 1.71$, CFI= 0.96; NFI= 0.95; IFI= 0.96; TLI= 0.97; RMR= 0.036; RMSEA= 0.041).

The results for the SEM of the effects of empowerment and its dimensions on food security are shown in Table 4, which show that empowerment predicts 75% of the variance in food security. To investigate the hypotheses, we ran another model comprising items, and the results are shown in Table 4 and Figure 2.

The results of the effects of the empowerment construct on food security are shown in Table 4, which confirmed all the hypotheses. All the constructs predicted food security. Commitment and responsibility, economic factors and grouping work predicted 51.00%, 49.00% and 48.00% of the variance of food security, respectively. The results also showed that job skills and communications and empowering factors predicted 61% and 58% of the variance of food security, respectively. The model was run twice. The first run assessed the effects of factors as dimensions of empowerment, which allowed for an evaluation of the overall empowerment effect.

DISCUSSION

The empirical role of empowerment and its dimensions as independent variables in enhancing food security is revealed by this

study. In line with previous research, the findings demonstrate that empowerment accounts for 75.00% variance in food security. (Clement *et al.*, 2019; Sharaunga *et al.*, 2016).

Group work and communication abilities predicted differences in food security and empowerment by 48.00 and 63.00%, respectively. Through improved decision-making, negotiation, and leadership, communication promotes the sharing of information and experiences, thereby increasing empowerment (Mishra and Mishra, 2020). The ability to articulate ideas clearly enhances women's self-esteem and strengthens their contributions to family or community food security plans. Working in groups offers individuals the opportunity to solve problems and exchange experiences. These social partnerships can promote collective empowerment by addressing issues collaboratively, transforming women's individual abilities into community-based solutions for food security while also providing emotional and practical support.

Food security and empowerment are influenced by creativity and problem-solving. Women with creative minds can develop innovative ways to raise living standards in rural areas, such as launching new businesses or adopting sustainable farming methods. Women who apply their creativity are better equipped to leverage local resources, reduce risks, and identify new sources of income, thereby

Table 4. The results of SEM for the effects of constructs on food security**.

Relationship	Estimates	C.R.	P-value
Empowerment→Food	0.75	6.92	0.001
Grouping work→Food	0.48	4.42	0.001
Creativity→Food	0.42	3.87	0.001
Commitment →Food	0.51	4.70	0.001
Information→Food	0.40	3.68	0.001
Technical skills →Food	0.45	4.14	0.001
Psychological→Food	0.44	4.05	0.001
Social→Food	0.43	3.96	0.001
Politicial→Food	0.43	3.95	0.001
Economic→Food	0.49	4.51	0.001
Managerial →Food	0.44	4.05	0.001
Educational→Food	0.45	4.15	0.001

strengthening their ability to provide food for their families.

Food security and empowerment were most impacted by commitment and responsibility ($\beta=0.68$). Commitment represents a strong intrinsic drive to provide sufficient food for families, particularly in female-headed households. Women's sense of duty to their families and children motivates them to take the initiative in developing their skills and ensuring food security by seeking reliable sources of income, improving agricultural yields, or securing high-quality food products.

Disparities in food security and empowerment were predicted by specific knowledge and information to be 40.00 and 53.00%, respectively. Women with access to timely and relevant information are better equipped to make informed decisions about nutrition, food production, and household management. Another important factor is women's participation in training programs or knowledge-sharing networks, which help them progress into more empowered and financially stable roles.

Technical skills and practical work predicted 60.00 and 45.00% of the variations in empowerment and food security, respectively. These abilities provide women with opportunities to work in occupations that can increase income and improve living standards. Women who possess technical skills in business, crafts, or agriculture are evidently better able to empower themselves and contribute to their households' food security.

Both food security ($\beta=0.44$) and empowerment ($\beta=0.59$) were significantly influenced by psychological factors. Long-term food security relies on women's ability to manage risks and seize opportunities, both of which are strengthened by psychological well-being (Ahmed and Malik, 2019). When faced with obstacles, psychologically empowered women are more likely to persist, whether through education, starting a business, or adopting improved farming methods.

Social and political factors alone predicted 43.00% of the variance in food security and 57.00% in empowerment. When women participate in community organizations, cooperatives, or political systems they gain platforms for advocacy, resource access, and mutual support. Especially in rural regions, women can influence decisions that shape food security policies through political engagement. Participation in social groups enhances women's agency and voice, opening opportunities for collective action that can improve both community-wide food security and individual empowerment.

Economic considerations had a significant impact on both food security ($\beta=0.49$) and empowerment ($\beta=0.65$). These findings align with documented research on the influence of economic factors on food security (Ali *et al.*, 2019; Oni *et al.*, 2010). Food security improves directly when women have access to economic resources, such as land ownership, credit, and financial capital, allowing them to invest in productive assets like business or farming equipment. Additionally, 60% of the variance in empowerment was explained by managerial factors, which enable women to manage resources effectively and balance economic activities with domestic responsibilities, thereby supporting food security.

Food security was significantly impacted by educational characteristics, similar to other factors. Education provides women with the technical know-how, social skills, and critical thinking abilities necessary for managing food production, finding employment, and participating in community decision-making. Educational initiatives, particularly those emphasizing employable, and real-world skills can greatly aid in reducing food insecurity.

There are limitations to this study. The exclusive emphasis on a specific rural group may restrict the broader applicability of the results to other cultural or regional contexts. Significant differences in socioeconomic and cultural factors influencing empowerment and food security in rural



developing nations compared to urban areas or other regions may limit the generalizability of the findings. To better understand how various groups of women perceive empowerment, future research should consider intersectional aspects such as age, ethnicity, class, and disability. Although the study discusses several empowerment-related aspects, it falls short in addressing external factors that can directly impact food security in rural areas, such as market access, government policy, and climate change.

CONCLUSIONS

In summary, empowerment and its components significantly impacted food security individually. To enhance women's empowerment and food security, it is essential to educate them about the largely internal factors involved. We propose that local institutions, NGOs, and government agencies collaborate to establish community-based skill development centers specifically designed for rural women to improve food security and empowerment in these areas. In addition to partnering with local media for educational outreach, they must implement practical technical training that incorporates safety precautions. The centers should also support women-led cooperatives by facilitating peer learning and access to microfinance. Furthermore, strong monitoring and evaluation procedures must be established to track progress and make the necessary program adjustments.

Acknowledgements

We appreciate the participants in the study.

REFERENCES

1. Abrar-ul-Haq, M., Jali, M. and Islam, G. 2018. The Development of Household Empowerment Index among Rural Household of Pakistan. *Pertanika J. Soc. Sci. Hum.*, **26(2)**: 787-810.
2. Abrar ul haq, M., Jali, M. R. M. and Islam, G. M. N. 2019. Household Empowerment as the Key to Eradicate Poverty Incidence. *Asian Soc. Work Policy Rev.*, **13(1)**: 4-24.
3. Ahmed, N. and Malik, B. 2019. Impact of Psychological Empowerment on Job Performance of Teachers: Mediating Role of Psychological Well-Being. *Rev. Econ. Dev. Stud.*, **5(3)**: 451-460.
4. Ali, N. B., Tahsina, T., Hoque, D. M. E., Hasan, M. M., Iqbal, A., Huda, T. M. and El Arifeen, S. 2019. Association of Food Security and Other Socio-Economic Factors with Dietary Diversity and Nutritional Statuses of Children Aged 6-59 Months in Rural Bangladesh. *Plos One*, **14(8)**: e0221929.
5. Asadullah, M. N., and Kambhampati, U. 2021. Feminization of Farming, Food Security and Female Empowerment. *Glob. Food Secur.*, **29**, 100532.
6. Asitik, A. J. and Abu, B. M. 2020. Women Empowerment in Agriculture and Food Security in Savannah Accelerated Development Authority Zone of Ghana. *Afr. J. Econ. Manag. Stud.*, **11(2)**: 253-270.
7. Aziz, N., He, J., Raza, A. and Sui, H. 2022. A Systematic Review of Review Studies on Women's Empowerment and Food Security Literature. *Glob. Food Secur.*, **34**: 100647.
8. Baig, I. A., Batool, Z., Ali, A., Baig, S. A., Hashim, M. and Zia-ur-Rehman, M. 2018. Impact of Women Empowerment on Rural Development in Southern Punjab, Pakistan. *Qual. Quant.*, **52(4)**: 1861-1872.
9. Clement, F., Buisson, M.-C., Leder, S., Balasubramanya, S., Saikia, P., Bastakoti, R., Karki, E. and van Koppen, B. 2019. From Women's Empowerment to Food Security: Revisiting Global Discourses through a Cross-Country Analysis. *Glob. Food Secur.*, **23**: 160-172.
10. Coates, J., Swindale, A. and Bilinsky, P. 2007. *Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide: Version 3*. Food and Nutrition Technical Assistance III Project (FANTA), Academy for Educational Development, Washington, DC.
11. Daoud, S. A. M., Gindeel, R. H. and Ahmed, H. B. 2019. Targeting the Poor for Social Protection: A Study of Female Headed Households, in West Darfur, Genina Locality. *Ahfad J.*, **36(2)**: 17-26.

12. Dunga, H. M. 2020. An Empirical Analysis on Determinants of Food Security among Female-Headed Households in South Africa. *Int. J. Soc. Sci. Hum. Stud.*, **12(1)**: 66-81.
13. FAO (Food and Agriculture Organization). 2016. The State of Food and Agriculture: Climate Change, Agriculture and Food Security. FAO.
14. Galiè, A., Teufel, N., Girard, A. W., Baltenweck, I., Dominguez-Salas, P., Price, M. J., Jones, R., Lukuyu, B., Korir, L., Raskind, I. G., Smith, K. and Yount, K. M. 2019. Women's Empowerment, Food Security and Nutrition of Pastoral Communities in Tanzania. *Glob. Food Secur.*, **23**: 125-134.
15. Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. 2010. Canonical Correlation: A Supplement to Multivariate Data Analysis. In: "Multivariate Data Analysis: A Global Perspective". 7th Edition, Pearson Prentice Hall Publishing, Upper Saddle River, NJ, USA.
16. Magnier-Watanabe, R., Uchida, T., Orsini, P. and Benton, C. F. 2020. Organizational Virtuousness, Subjective Well-Being, and Job Performance: Comparing Employees in France and Japan. *Asia Pac. J. Bus. Adm.*, **12(2)**: 115-138.
17. Mallick, D. and Rafi, M. 2010. Are Female-Headed Households More Food Insecure? Evidence from Bangladesh. *World Dev.*, **38(4)**: 593-605.
18. Meti, S. and Sathish, H. 2016. Women Empowerment and Food Security for Sustainable Development. *Indian Res. J. Ext. Educ.*, **14(3)**: 83-87.
19. Mishra, S. K. and Mishra, P. 2020. Functional Aspects of Communication Skills for Professional Empowerment. *J. Engl. Lang. Lit. (JOELL)*, **7(1)**: 79-85.
20. Muduli, A. and Pandya, G. 2018. Psychological Empowerment and Workforce Agility. *Psychol. Stud.*, **63(3)**: 276-285.
21. Naseri, S., Amin, H. C., Poursaeed, A. and Arayesh, M. B. 2020. Investigating the Effective Factors on Employment-Oriented Empowerment of Rural Female Heads of Households in Ilam, Iran. *Nexo Sci. J.*, **33(02)**: 539-546.
22. Ntenkeh, B. T., Fonchamnyo, D. C. and Yuni, D. N. 2022. Women's Empowerment and Food Security in Cameroon. *J. Dev. Areas.*, **56(2)**: 141-153.
23. Oni, S., Maliwichi, L. and Obadire, O. 2010. Socio-Economic Factors Affecting Smallholder Farming and Household Food Security: A Case of Thulamela Local Municipality in Vhembe District of Limpopo Province, South Africa. *Afr. J. Agric. Res.*, **5(17)**: 2289-2296.
24. Pakravan-Charvadeh, M. R., Khan, H. A. and Flora, C. 2020. Spatial Analysis of Food Security in Iran: Associated Factors and Governmental Support Policies. *J. Public Health Policy*, **41(3)**: 351-374.
25. Sarani, V., Shahpasand, M. and Savari, M. 2013. Analysis of Barriers to Entrepreneurship among the Rural Women in Divan-Darreh City Using by Grounded Theory. *Int. Res. J. Appl. Basic Sci.*, **4(5)**: 1302-1308.
26. Savari, M., Sheykhi, H. and Amghani, M. S. 2020. The Role of Educational Channels in the Motivating of Rural Women to Improve Household Food Security. *One Health*, **10**: 100150.
27. Sharaunga, S., Mudhara, M. and Bogale, A. 2016. Effects of 'Women Empowerment' on Household Food Security in rural KwaZulu-Natal Province. *Dev. Policy Rev.*, **34(2)**: 223-252.
28. Sharma, E. 2020. Women and Politics: A Case Study of Political Empowerment of Indian Women. *Int. J. Sociol. Soc. Policy*, **40(7/8)**: 607-626.
29. Sharma, K. 2019. Hunger in Jharkhand: Dimensions of Poverty and Food Security in Palamu District. *South Asia Res.*, **39(1)**: 43-60.
30. USDA (United States Department of Agriculture). 2012. Household Food Security Survey Module: Three-Stage Design, with Screeners.
31. Van Eerdewijk, A., Wong, F., Vaast, C., Newton, J., Tyszler, M. and Pennington, A. 2017. *White Paper: A Conceptual Model on Women and Girls' Empowerment*. Royal Trop. Inst. (KIT), Amsterdam.
32. WFP (World Food Programme). 2018. Food Security and Nutrition Assessment.
33. WHO (World Health Organization). 2019. Nutrition and Health in Women: A Global Perspective. WHO.
34. Yang, C. -C. and Hsu, W. -L. 2018. Evaluating the Impact of Security Management Practices on Resilience



شناسایی ابعاد توانمندسازی و تأثیر آن بر امنیت غذایی زنان روستایی

کیوان شجاع چاغروند، علیرضا پورسعید، و مریم امیدی نجف آبادی

چکیده

این مطالعه با هدف شناسایی ابعاد توانمندسازی خانوارهای زنان سرپرست در مناطق روستایی و تأثیرات آنها بر امنیت غذایی در ایران انجام شد. بر اساس داده‌های جمع‌آوری‌شده از مرکز آمار ایران، جمعیت زنان سرپرست خانوار در مناطق روستایی استان تهران شامل ۴۹۵ نفر بود که از میان آنها ۲۱۶ نفر با استفاده از روش نمونه‌گیری تصادفی طبقه‌بندی‌شده با تخصیص تناسبی انتخاب شدند. پرسشنامه‌های توسط پژوهشگران طراحی شد و اعتبار و پایایی آن به ترتیب با استفاده از تحلیل عاملی تأییدی و روش کرونباخ تأیید گردید. داده‌ها از نوامبر ۲۰۲۰ تا ژوئیه ۲۰۲۱ جمع‌آوری شد. برای تحلیل و برآورد روابط بین متغیرهای متعدد از مدلسازی معادلات ساختاری استفاده شد. نتایج، ابعاد توانمندسازی را شامل کار گروهی و مهارت‌های ارتباطی، خلاقیت و حل مسئله، تعهد و مسئولیت‌پذیری، اطلاعات و دانش تخصصی، مهارت‌های فنی و کار عملیاتی نشان داد که شامل عوامل روانی، اجتماعی، سیاسی، اقتصادی، مدیریتی و آموزشی میشوند و تأثیر آنها بر امنیت غذایی را مشخص کرد. بیشترین تأثیر بر امنیت غذایی به ترتیب متعلق به تعهد و مسئولیت‌پذیری، عوامل اقتصادی و کار گروهی بود. توانمندسازی شغلی توانست ۷۵٪ واریانس امنیت غذایی را پیشبینی کند. پیشنهاد میشود برای کاهش ناامنی غذایی، توانمندسازی شغلی خانوارهای زنان سرپرست در مناطق روستایی مورد توجه قرار گیرد.