# Cross-Cultural Adaptation, Validity, Reliability, and Cut-Off Points of Persian Version of Widowhood Resilience Scale (WRS, 25-Items) among Iranian Widows

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**Received:** 18 July 2022
**Revised:** 06 August 2022
**Accepted:** 19 September 2022

**Abstract**

**Background:** Widowhood is an unwonted stage after married life accompanied by emotional and physical stress. Resilience plays an important role in coping with widowhood, but there is no appropriate instrument to help measure resilience among the Iranian population. Hence, the objective of the present study was to assess the psychometric properties of the Persian version of the widowhood resilience scale (WRS, 25-Items).

**Methods:** In a psychometric study, 352 Iranian widows were randomly selected; then, the WRS, Loneliness, general resilience, and demographic questionnaire were used to gather data. The exploratory and confirmatory factor analysis was used to extract the factors using IBM-SPSS version 24 and AMOS version 24.

**Results:** The mean ages of 352 participants were 65.7±9.8, and the highest frequency of education level was no formal schooling (42.6%). The construct validity of WRS based on Confirmatory Factor Analysis showed that the six subscales explained a total of 85.35 % of the variance. The convergent validity of the WRS 25-items was compared to Iranian versions of UCLA-Loneliness (0.71) and CD-RISC (0.78) as well (P<0.01). The WRS scale demonstrated excellent reliability and Cronbach's alpha obtained 0.94 for the entire scale (P<0.001). The optimal cut-off point that best differentiates between resilient and non-resilient widows was 55, with a sensitivity of 100% and a specificity of 74.4%.

**Conclusion:** Based on the results, the Persian version of the WRS is a valid and reliable tool that can be utilized to measure widows' resilience. However, further investigations are suggested.

## Introduction

Throughout the world, populations are getting older. One of the most common phenomena in the aging world is widowhood.[1] A spouse's death has been considered the most stressful life event one can suffer and will inevitably be experienced by older people.[1, 2] Half of the women over the age of 64 have lost their husbands, and this event will increase with age.[3]

When women mourn for their husbands, they find that their roles and responsibilities in life increase unbearably. Widows have to become the breadwinners, provide daily necessities, and consider child care and family finances. Even in cases where widows are financed, they do not have sufficient authority to decide on family finances. In addition, widows feel that after the death of their spouses, they are not respected and are constantly monitored by

their relatives. Sexual hesitation, having no security in the workplace, and having a dual identity are some widow's problems that make life difficult for widowers women.[4]

Recently researchers have shifted their focus from different aspects of widowhood to factors that help widowers better cope with widowhood and factors that allow them to have well-being in this period.[5] Based on the finding, over time, most women show better reactions to their spouses' death, known as the psychological resilience process.[6]

Resilience, which means the process of exchange, management, and adjustment to stressful events, can play an important role in improving the quality of life for widows by utilizing individual, social, and communicational resources to reduce the devastating effects of stressful events.[4]

Resilience is significantly associated with life satisfaction and lower psychiatric distress.[3] A study (2004) showed that if widows increase their resilient, their depression will decrease and their health will increase.[6] Resilient widowers show an initial painful awareness of loss; they can continue their lives optimistically, keep a positive mood, and participate in meaningful activities.[5] Resilient widowers did not mention distress, grief, or depression one year after the wife's death. They only report low mood or grief close to the time of the spouse's death.[3] Some researchers believe resilient widowers even have an opportunity to enhance personal growth.[7]

Although resilience is a key element in returning to routine life after widowhood, it is only one possible outcome for widows. Bonanno et al. identified five trajectories of bereavement outcomes: common grief, chronic grief, chronic depression, depression followed by improvement, and resilience.[8] However, it is estimated that only one-third of widowers can achieve resilience and 20% to 40% never fully recover.[9]

Thus, researchers attempted to determine the factors involved in the resilience process. This attempt led to the design of some resilience themes.[10] In a Nepali study conducted by Hendrickson et al. forgetfulness, acceptance, moving forward, confidence, and personal strength are characteristics of resilience that help widows.[10] Soon after the identification of some resilience factors in qualitative studies, it is required to design resilience tools that can differentiate between resilient and non-resilient widows.[11] Finally, in 2019, West et al., by reviewing the results of previous studies, were able to design and validate a tool to measure resilience in widowhood.[12]

By identifying the level of resilience in widows, this tool can help health professionals to identify non-resilient widows early to provide supportive interventions.[12]

In addition, the applicability of this designed tool must be reviewed and approved by other researchers in various contexts, including different cultures.

With a dramatic increase in the Iranian widows population in the next few decades, the need for Persian resilience screening tools will be obvious.[13] Therefore, the purpose of the present study was to investigate the psychometric properties of the Persian version of the Widowhood Resilience Scale (WRS) in Iranian widows.

## Methods

*Instrumentation Introduction*

The Widowhood Resilience Scale (WRS) is a 25-item scale designed by West, Dreeben & Busing that measures the specific resilience of widows and widowers.[12] They firstly conducted a project to assess the concept of resilience in 744 widowed people through open-ended questions. First, the participants were asked to express their experiences of resilience and resilient behaviors they praised in other widowed people. Analysis of the two previous questions resulted in 14 themes which contained 49 items. Second, the researchers surveyed to assess the validity and reliability of the 49-item questionnaire. At this stage, they invited 1188 participants to complete the 49-item questionnaire and its six equivalent tools to assess the construct validity of the designed questionnaire, i.e., The Connor–Davidson resilience scale (CD-RISC-25), The brief coping orientation to problems experienced (COPE), the inventory of daily widowed life (IDWL), the Texas revised inventory of grief-revised, the 10-item personality inventory, and the University Rhode Island change assessment (URICA). Finally, a valid questionnaire containing 25 items and 6 subscales was obtained that showed good reliability (Cronbach's alpha reported 0.94), ICC=0.67, and high internal consistency (subscale Correlation obtained more than 0.47).[12]

*Participants*

352 widows were randomly selected from eight health care centers in Shiraz, south Iran. In two-stage cluster sampling, 44 women were selected from each health care center. In the first stage, Researchers defined four districts city from eight districts of Shiraz as clusters; in the second stage, two health care centers were selected from each city district. Finally, the list of qualified women was extracted from each health care center and the required sample size was obtained. According to Klein et al., in the factor analysis, 20 subjects are needed per factor.[14] Hence, this study's required sample size was 140 subjects. Since another number of participants was required to perform Exploratory Factor Analysis (CFA), 352 participants were

included in the study. Women were selected from eight centers in four city districts, which were randomly selected using NCSS-PASS version 11.[15] The inclusion criteria were a considered declaration of satisfaction to participate in the study, the ability to communicate, and being widows. All participants completed the written informed consent questionnaire to participate in the study. The ethics committee at Shiraz University of Medical Sciences has approved the present study with ethics code IR.SUMS.REC.1399.328.The questionnaires were completed through face-to-face interviews in the second half of 2019 (From July 10 to Oct. 8).

### Statistical Analyses

We used the WHO guidelines of instruments translation and adaptation process to translate the original WRS into Persian. It contains four steps: the forward translation, the expert panel back-translation, the pre-testing and the cognitive interviewing, and the final version. WRS items had good cultural compatibility with Iranian widows, and only one item (item eight) changed due to cultural mismatch. Item eight deals with the expectations of others to determine the manner of mourning (I do not let othersexpectations determine how I grieve). In Iranian culture, the deceased spouse is often unable to decide on spouse burying, arranging his funeral, holding his mourning, and expressing her grief independently of her late husband's relatives. That is why this item was changed (I can perform proper mourning).

After completing the scale (link) by subjects, data processed toevaluated the model fit by Confirmatory Factor Analysis (CFA) using Principal Component Analysis (PCA) with a rotated component matrix. The statistical indexes used to assess goodness-of-fit were included Chi-Square, Chi-Square/degrees of Freedom (Chi2/df), the Tucker–Lewis Index (TLI), Non-Normed Fit Index (NNFI), Goodness-of-fit index (GFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). The internal consistency was assessed between subscales and total scores using the Pearson Correlation test. The convergent validity of the WRS 25-items was compared to UCLA-Loneliness (0.71) and CD-RISC (0.78) as well.[16-18] In addition, internal consistency was assessed by Cronbach's alpha. Optimal cut-off points were obtained firstly by calculating the area under the ROC curve AUC of the ROC curve and secondly by using Youden's J, which maximizes the sum of sensitivity and specificity. The present study used SPSS version 25 and AMOS version 24 as the statistical software for data analysis.[19, 20]

## Result

The study results are presented in 4 sections: 1. Demographic characteristics and descriptive statistics for WRS scales, 2. Validity assessments by Content Validity Index (CVI), Exploratory Factor Analysis (AFA), and Confirmatory Factor Analysis (CFA), 3. Reliability results for each scale by Cronbach's alpha and Spearman-Brown coefficient, 4. Cut-off points by computing the Area Under the Curve (AUC). In the present study, Skewness was between±1 score, Kurtosis was between±0.7, and the P value more than 0.05 in the Kolmogorov_Smirnov test, indicates that data have a normality of distribution.

### Participant Description

The mean ages of 352 participants were 65.7±9.8 and the highest frequency of education level was no

**Table 1:** The One-way Analysis of variance for Subscales Factors (N=352, P≤0.05)

| Subscales | Source of Variation | Mean (SD)a | Sum of Squares | df | Mean Square | F | Eta Squared | Sig. |
|---|---|---|---|---|---|---|---|---|
| Social Support | Between Groups | 16.19 (3.08) | 29398.085 | 13 | 2261.391 | 38.308 | 0.678 | 0.001 |
| | Within Groups | | 13931.499 | 236 | 59.032 | | | |
| | Total | | 43329.584 | 249 | | | | |
| Living in the Present | Between Groups | 20.52 (3.38) | 30048.697 | 16 | 1878.044 | 30.783 | 0.678 | 0.001 |
| | Within Groups | | 14275.972 | 234 | 61.008 | | | |
| | Total | | 44324.669 | 250 | | | | |
| Helping Others | Between Groups | 12.57 (1.88) | 23534.907 | 8 | 2941.863 | 20.237 | 0.531 | 0.000 |
| | Within Groups | | 20789.762 | 242 | 85.908 | | | |
| | Total | | 44324.669 | 250 | | | | |
| Integration | Between Groups | 16.71 (2.65) | 18948.539 | 12 | 1579.045 | 14.810 | 0.427 | 0.001 |
| | Within Groups | | 25376.131 | 238 | 106.622 | | | |
| | Total | | 44324.669 | 250 | | | | |
| Outlook | Between Groups | 12.45 (2.14) | 14997.392 | 8 | 1874.674 | 15.469 | 0.338 | 0.001 |
| | Within Groups | | 29327.277 | 242 | 121.187 | | | |
| | Total | | 44324.669 | 250 | | | | |
| Agency | Between Groups | 23.06 (5.2) | 27470.691 | 17 | 1615.923 | 22.340 | 0.620 | 0.000 |
| | Within Groups | | 16853.978 | 233 | 72.335 | | | |
| | Total | | 44324.669 | 250 | | | | |

a. Standard deviation; df: Degree of freedom

formal schooling (42.6%). About 81.7 percent lived alone and 70.1 percent were not receiving pension services. The mean and standard division of the total score of the WRS and its six subscales are shown in Table 1. It also revealed the results of Analysis of Variance (ANOVA) to explain the effect size of each subscale on the total score of the WRS. In Table 1, the effect size equals 62% for the agency, 67% for social support, 67% for living in the present, 53% for helping others, 42% for integration, and 33% for t outlook, respectively.

*Validity*

CVI for the scale of WRS was evaluated by 10 specialists (5 health specialists, 3 psychologists, and 2 psychiatrists). The CVI of scale questions were obtained from 0.90 to 0.99.

The correlation matrix reported most correlations above 0.3 and the Kaiser–Meyer–Olkin value (KMO) was 0.88 (P<0.001), which is more than the recommended threshold of .6 (Kaiser, 1974). The construct validity of the WRS based on exploratory factor analysis (EFA) using three extracting models, i.e., Principal Component Analysis, Generalized Least Squares, and Maximum Likelihood with Equamax rotation was 21, 18, and 15 iterations, respectively. According to Table 2, all models showed the six subscales and explained more than 85 percent of the total variance. The factors were loaded <0.40 and are not shown in the table.

The principal component analysis in the Equamax rotation method explains 89 percent of total variance with 21 iterations, which could be a valuable model for the final extraction of factors. Similar to the results of West et al., the extracted factors can be named F1: Agency (23.06±5.2), F2: Social Support (16.19±3.08), F3: Living in the Present (20.52±3.38), F4: Helping Others (12.57±1.88), F5: Integration (16.71±2.65), and F6: Outlook (12.45±2.14) in Iranian middle-aged and older adults in the community.

The final explained model is shown in Figure 1.

In the next step, for the evaluation of the factor structure proposed in the previous step, we conducted CFA using AMOS-24.[20] The factor structure of the WRS for the obtained model was good based on the main goodness of fit indices. As shown in Figure 1, the chi-square was significant (P<0.001), the relative chi-square was 1.59, the AGFI was 0.91, the TLI was 0.98, the IFI was 0.95, the NNFI was 0.95, the GFI was 0.90, the CFI was 0.90, and, finally, RMSEA was 0.04. Therefore, according to Furr, the CFA fit indices should have standardized loadings of 0.80 and more.[21]

*Reliability*

The six subscales demonstrated moderate to

**Table 2:** Rotated Component Matrix for the Widowhood Resilience Scale

| Items | Factors [a] | | | | | | Factors [b] | | | | | | Factors [c] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| WRS.1 | 0.942 | | | | | | 0.946 | | | | | | 0.902 | | | | | |
| WRS.2 | 0.940 | | | | | | 0.967 | | | | | | 0.900 | | | | | |
| WRS.3 | 0.939 | | | | | | 0.921 | | | | | | 0.839 | | | | | |
| WRS.4 | 0.869 | | | | | | 0.888 | | | | | | 0.819 | | | | | |
| WRS.5 | 0.805 | | | | | | 0.698 | | | | | | 0.815 | | | | | |
| WRS.6 | 0.741 | | | | | | 0.706 | | | | | | 0.731 | | | | | |
| WRS.7 | | 0.842 | | | | | | 0.847 | | | | | | 0.812 | | | | |
| WRS.8 | | 0.818 | | | | | | 0.845 | | | | | | 0.808 | | | | |
| WRS.9 | | 0.727 | | | | | | 0.821 | | | | | | 0.717 | | | | |
| WRS.10 | | 0.624 | | | | | | 0.762 | | | | | | 0.604 | | | | |
| WRS.11 | 0.401 | 0.840 | | | | | | | 0.882 | | | | 0.411 | 0.820 | | | | |
| WRS.12 | | 0.833 | | | | | | | 0.818 | | | | | 0.813 | | | | |
| WRS.13 | | 0.753 | | | | | | | 0.734 | | | | | 0.723 | | | | |
| WRS.14 | | 0.697 | | | | | | | 0.726 | | | | | 0.620 | | | | |
| WRS.15 | | 0.598 | 0.287 | | | | | | 0.706 | | | | | 0.592 | | | | |
| WRS.16 | | | 0.795 | | | | | | | 0.864 | | | | | 0.805 | | | |
| WRS.17 | | | 0.720 | | | | | | | 0.830 | | | | | 0.728 | | | |
| WRS.18 | | | 0.732 | 0.367 | | | | | | 0.824 | | | | | 0.652 | 0.312 | | |
| WRS.19 | | | | 0.755 | | | | | | | 0.889 | | | | | 0.761 | | |
| WRS.20 | | | | 0.752 | | | | | | | 0.883 | | | | | 0.742 | | |
| WRS.21 | | | | 0.728 | | | | | | | 0.831 | | | | | 0.708 | | |
| WRS.22 | | | | 0.684 | | | | | | | 0.801 | | | | | 0.671 | | |
| WRS.23 | | | | | 0.767 | | | | | | | 0.869 | | | | | | 0.807 |
| WRS.24 | | | | | 0.753 | | | | | | | 0.864 | | | | | | 0.783 |
| WRS.25 | | | | | 0.748 | | | | | | | 0.777 | | | | | | 0.648 |

a. Extraction by Principal Component Analysis in Equamax Rotation Method and 88.94 % total variance explained (21 iterations). b. Extraction by Generalized Least Squares in Equamax Rotation Method and 86.35 % total variance explained (18 iterations). c. Extraction by Maximum Likelihood in Equamax Rotation Method and 85.01 % total variance explained (15 iterations).
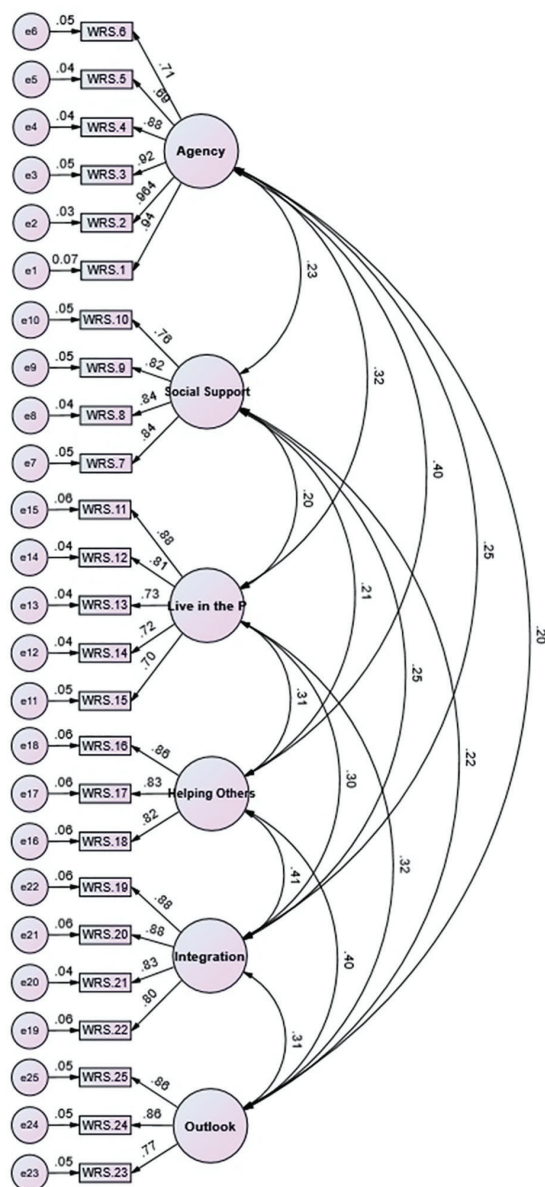
Chi2 = 1425.421, df = 891, n = 251, Chi2/df = 1.599, RMSEA = 0.049, AGFI = 0.91, CFI = 0.90, NFI = 0.91, IFI = 0.95, GFI = 0.90, NNFI = 0.95

**Figure 1:** Path Diagram for the Confirmatory Factor Analysis of Six Domains of the Widowhood Resilience Scale, 25-Items

high internal consistency with each other and the total score and loneliness score (Table 3). All of the path coefficients were significant at P<0.001 level. The WRS scale demonstrated excellent reliability and the Cronbach's alpha obtained 0.94 for the entire scale (P<0.001), ICC=0.94, Fleiss Kappa=0.63, and Weighted Kappa=0.65. The convergent validity of the WRS 25-items was compared to Iranian versions of UCLA-Loneliness (0.71) and CD-RISC (0.78) as well (P<0.01). Tukey's test for nonadditivity was statistically significant, F (1,24)=131.44 and P>F: .001. It means that the data are nonadditive.

*ROC Curve Analysis and Cut-off Points*

Table 4 shows the area under the ROC curve (AUC), the sensitivity, the specificity, and the cut-off points for the WRS and its six subscales. As shown,

the cut-off point that best differentiates between resilient and non-resilient widows was 55, with a sensitivity of 100%, a specificity of 74.4% and the area under the curve in this point was 0.95% with a 95 % of confidence interval (CI) between 0.931 and 1.00 (P=0.006). In the same way, obtained cut-off point was equal to 16.5 for the agency, 10.5 for social support, 11.5 for living in the present, 10.50 for helping others, 12.5 for integration, and 10.5 for outlook.

## Discussion

The present study aimed to evaluate the construction of the Persian version of the WRS and test its psychometric properties. Results showed that WRS items are in good agreement with Iranian culture. Therefore, no item was removed and only item eight was changed for further

**Table 3:** Correlation between Widowhood Resilience Subscales and Total Score

| Subscale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | UCLA-Loneliness[a] | CD‑RISC[b] |
|---|---|---|---|---|---|---|---|---|---|
| 1. Agency | – | | | | | | | | |
| 2. Social Support | 0.68* | – | | | | | | | |
| 3. Living in the Present | 0.42* | 0.73* | – | | | | | | |
| 4. Helping Others | 0.22* | 0.43* | 0.62* | – | | | | | |
| 5. Integration | 0.20* | 0.27* | 0.30* | 0.65* | – | | | | |
| 6. Outlook | 0.20* | 0.20* | 0.23* | 0.23* | 0.73* | – | | | |
| 7. Total Score | 0.75* | 0.81* | 0.78* | 0.69* | 0.63* | 0.56* | | 0.71** | 0.78** |

*Correlation is significant at the 0.001 level. **Correlation is significant at the 0.01 level. a. UCLA Loneliness Scale; b. Connor-Davidson Resilience Scale

**Table 4:** The area under the curve, sensitivity, specificity, and Youden's index for possible cut-off points of subdomains of the Widowhood Resilience Scale and its subscales

| Variables | AUC | 95% CI | | Mean (SD) | P * | Cut-off Point(≥) | Sensitivity | Specificity | Youden's J | D Value | DIFF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Lower Bound | Upper Bound | | | | | | | | |
| Agency | 0.894 | 0.800 | 1.000 | 23.06 (5.24) | 0.001 | 16.5 | 1 | 0.868 | 0.868 | 0.017 | 0.132 |
| Social Support | 0.986 | 0.978 | 1.000 | 16.19 (3.08) | 0.007 | 10.5 | 1 | 0.710 | 0.710 | 0.084 | 0.290 |
| Living in the Present | 0.980 | 0.800 | 1.000 | 20.52 (3.38) | 0.004 | 11.5 | 1 | 0.746 | 0.746 | 0.065 | 0.254 |
| Helping Others | 0.994 | 0.982 | 0.920 | 12.57 (1.88) | 0.008 | 10.5 | 1 | 0.868 | 0.868 | 0.017 | 0.132 |
| Integration | 0.866 | 0.812 | 0.858 | 16.71 (2.65) | 0.007 | 12.5 | 1 | 0.750 | 0.750 | 0.063 | 0.250 |
| Outlook | 0.576 | 0.294 | 0.981 | 12.45 (2.14) | 0.003 | 10.5 | 1 | 0.764 | 0.764 | 0.056 | 0.236 |
| Total Score | 0.956 | 0.931 | 1.000 | 101.48 (13.31) | 0.006 | 55 | 1 | 0.744 | 0.744 | 0.066 | 0.256 |

* Two-sided Chi-squared test, P≤0.05. Abbreviations: AUC=area under the curve; CI=confidence interval; DIFF=abs (sensitivity–specificity); D Value or K-Index=Sqrt ((1-Sensitivity)²+(1-Specificity)²).[22]

cultural adaptation. Because the items had a clear meaning, they needed less serious emendations. Based on the study results, six factors explained a high percentage of the variance, which means a good construct validity of the scale. In the present study, all items load more than 0.69 of their factors. With factor loadings of 0.40, it can be considered significant for the inclusion of the items in a factor.[23] So, the structure of the WRS seems to be trustworthy. To achieve a better resilience explanation in Iranian-Islamic widows, other factors should be added to the Persian version scale. For example, researchers suggested that western widowers gain resilience in the following ways: changing themselves in some way, changing their environment, and finding a companion.[5] However, not all of these options are available to Iranian widows. A study conducted in Iran showed that Iranian widows were reluctant to remarry and even considered it a factor that destroyed their respect and social support in society.[13] In addition, living costs, especially in the early days of widowhood force many Iranian widows to do hard and low-income jobs or even quirky things such as begging.[1] Finally, Alikarami et al. found that the concept of widowhood among Iranian widowers is explained by "feeling of abandonment", "feeling of rejection", "feeling of loneliness", " concerns about the certitude and overload", and " concerns of dying alone.[13] Therefore, if Iranian widows can overcome these emotions, they will be resilient. In addition to the emotional and physical problems of bereavement, many of them do not have a pension which will make them dependent on their children, friends, and relatives to support themselves. Even if they want to get a job, they will face cultural barriers such as a sense of mistrust and a negative attitude from employers. In Iranian culture, the feeling of sexual deprivation in widows causes widowhood sometimes to be seen as a social stigma.[1] So, adding items such as receiving support from government agencies, not worrying about death or fear of abuse, being independent, and having relatively good health at the end of life may increase the accuracy of the Persian version of the WRS.

Also, the goodness-of-fit (TLI, NNFI, GFI, CFI, and RMSEA) in the CFA was good, which means the six-factor structure was acceptable and supported the construct validity of the Persian version of the WRS. In the study of West et al., the goodness-of-fit indices of the WRS were not assessed by the designer.[12] But in our study, the structure of subscales in the introduced model was completely confirmed by evaluating the model fit indices. Cronbach's Alpha coefficient (0.9) indicated an excellent internal consistency for this instrument.[24] We also assessed internal consistency by evaluating the correlation between the factors that revealed a moderate to high correlation among the domains and the total score of the WRS. Cronbach's Alpha was obtained; 94% for original WRS, which is similarly equal to the present study. In addition, we assessed the Construct validity of the overall scale by reexamining the relationship among the WRS, UCLA-Loneliness, and CD-RISC. Our finding suggested that scores of the WRS were positively correlated

with scores of the CD-RISC (r=0.78, P<0.001) and negatively correlated with scores of the UCLA-Loneliness (r=0.71, P<0.001). In the study of West et al., scores of WRS and scores of CD-RISC were correlated (r=0.75, P<0.001).[12] The new finding of the present study was the presentation of cut points for the total score of WRS and its subscale. King et al. revealed that resilience was significantly and negatively associated with depressive symptoms for married but not for widowed women.[25]

In the study of Bennett et al., personal strength, such as spiritual growth,, could affect resilience.[4] The obtained effect size by the agency on resilience in our study was 75%, and in the study of Bennett et al., it was reported as 85% for resilient widows and 15% for vulnerable widows. This finding suggested that subjects in our study were mostly resilient.[4]

Social support and helping others were two important components included in the resilience theme and had the 67% and 53% effect sizes on resilience, respectively.[4] In a study by Mohammed, an individual's social network that included friends, family members, and children was the booster factor for increasing resilience in widowhood.[11] It seems that family members and friends provided key elements in coping patterns and they relied on them for emotional and financial support. In addition, his study showed that wider networks such as colleagues at work or church members improve resilience processes.[26] Together with our findings, Todd and Worell revealed that social communications and social comparisons predicted over 48% of the variance in resilience.[27] The other important factor was integration; researchers believed that personality characteristics significantly influence the adjustment to widowhood. In the study of Todd and Worell, self-efficacy, for example, predicted the widow's adaptation to losing a spouse.[27] Despite the difficulty of experiencing a spouses' death, Hendrickson et al. showed that widows try to recover their previous abilities to adjust to widowhood. Hence, they reassume the effort to control themselves by focusing on action rather than emotions. In fact, widowhood does not appear to define a widow's existence, but stands as a significant life event that becomes more tolerable by the passing of time.[10]

The third factor, living in the present, could explain 54.55% of the resilience variance. In line with our findings, O'rourke showed that the commitment to living in the present determined 37.61% of the variance of the women's well-being in widowhood.[3] Results of the study by Satici indicated that even hope could fully mediate the impact of resilience on subjective well-being.[28] In other words, when widowed women adjust themselves to their new situation, they can distance themselves from the negative preoccupation with the past and make a positive future orientation.[3] In the present study, the widow's resilience was explained by a positive outlook. In Bennett et al.'s study, widows with positive life perspectives were more likely to adapt successfully to widowhood. In fact, a positive outlook facilitated the adaptation and enabled widows to adjust to potential changes during widowhood.[4]

*Limitation*

One of the limitations of the present study was the high percentage of participants with Persian ethnicity (88 percent) compared to other ethnicities. As a result, sufficient precautions should be considered to generalize results of the present study to other populations, especially regarding the cut-off point score. In addition, we suggest that researchers examine other factors that may play a role in Iranian widows' resilience which have not been addressed in the present study.

## Conclusion

In the present study, the psychometric properties of the WRS were assessed. Based on the results, the six subscales of the Persian version of the WRS have explained a total of 85.35 % of the variance. The WRS scale demonstrated excellent reliability and Cronbach's alpha obtained 0.94 for the entire scale. This scale can differentiate resilient and non-resilient widows by introducing a cut-point. Researchers suggest further studies to validate WRS in different cultures throughout Iran.

## Acknowledgments

## Funding

**Conflicts of interest***: None declared.*

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