



# The Relationship between Psychological Hardiness and Psychological Maladjustment in Individuals with Sensory Disabilities, Mediated by Frustration Tolerance and Social Support

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## Abstract

**Background and Objective:** Psychological hardiness and adjustment play pivotal roles in determining the quality of life of individuals with sensory disabilities. Although their importance is widely recognized, the precise mechanisms linking these factors remain unclear. This study examined the mediating roles of frustration tolerance and social support in the relationship between psychological hardiness and psychological maladjustment among individuals with sensory disabilities.

**Materials and Methods:** Using a descriptive-analytic correlational design, this study recruited a convenience sample of 300 individuals with sensory disabilities (visual or hearing impairments) receiving services at welfare centers in Tehran, Iran, during 2024. Data were collected using validated questionnaires measuring psychological hardiness, psychological adjustment, frustration tolerance, and social support. Pearson correlation coefficients and structural equation modeling (SEM) conducted in Smart PLS software were employed to assess direct and indirect relationships among the variables.

**Results:** Psychological hardiness showed a significant direct negative association with psychological maladjustment ( $p < 0.001$ ), indicating that higher hardiness was associated with lower maladjustment (i.e., better psychological adjustment). Both frustration discomfort (higher Harrington Frustration Tolerance Questionnaire scores indicating lower actual frustration tolerance) and social support significantly mediated the relationship between hardiness and maladjustment ( $p < 0.001$ ).

**Conclusions:** These findings highlight the critical contributions of psychological hardiness, frustration tolerance, and social support to psychological adjustment in individuals with sensory disabilities. They underscore the need for therapeutic and rehabilitative interventions that simultaneously strengthen hardiness, enhance frustration tolerance, and build robust social support networks to foster greater resilience and well-being.

**Keywords:** Adaptation, Disabled persons, Frustration, Psychological, Social support

## Background

Sensory disabilities, encompassing visual and hearing impairments, pose significant public health and societal challenges worldwide, profoundly affecting individuals' psychological, social, and educational functioning [1]. These conditions present unique barriers—such as heightened stress, social isolation, and communication difficulties—that increase the risk of psychological distress, including anxiety and depression, compared to the general population [2]. The persistent need to adapt to environments designed primarily for non-disabled individuals generates chronic stress and restricts opportunities in education, employment, and interpersonal relationships [3]. Consequently, identifying factors that promote psychological adjustment is essential for improving quality of life

and developing effective, compassionate rehabilitation strategies [4].

The present study focuses on psychological hardiness as a key resilience factor and investigates the mediating roles of frustration tolerance and social support in the relationship between hardiness and psychological adjustment among individuals with sensory disabilities. The hypothesized model posits that hardiness not only directly enhances adjustment but also indirectly influences it by fostering greater frustration tolerance and stronger perceived social support, thereby buffering the impact of disability-related stressors.

Psychological hardiness is a personality construct comprising three interrelated components: commitment, control, and challenge [5].

Commitment reflects active engagement in life activities, control involves the belief in one's ability to influence outcomes, and challenge entails viewing difficulties as opportunities for growth rather than threats [6]. Together, these components enable individuals to appraise stressors as manageable and meaningful, thereby reducing their adverse effects. Extensive evidence demonstrates that hardiness protects against the negative consequences of stress and is associated with better mental and physical health outcomes [7]. In the context of sensory disabilities, hardiness is particularly relevant, as it equips individuals to confront specific challenges, maintain agency, and engage purposefully with their environment [8]. Previous research has consistently linked hardiness to resilience across various populations, suggesting its potential importance for people with disabilities [9].

Psychological adjustment refers to the capacity to meet life's demands while maintaining emotional stability, social functioning, and behavioral flexibility [10]. For individuals with sensory disabilities, successful adjustment involves accepting the emotional implications of the disability, establishing meaningful relationships, and pursuing personal goals despite limitations. Poor adjustment, conversely, is characterized by helplessness, social withdrawal, and reduced self-esteem [11]. This dynamic process is influenced by factors, such as self-efficacy, adaptive coping strategies, and supportive environments [12]. Understanding the determinants of adjustment is therefore crucial for designing interventions that enhance resilience and overall well-being in this population.

Frustration tolerance is defined as the ability to endure setbacks and stressors without experiencing overwhelming emotional or behavioral dysregulation [13]. It is especially critical for individuals with sensory disabilities, who frequently encounter obstacles in daily activities [14]. High frustration tolerance prevents minor irritants from escalating into significant psychological burdens, thereby supporting effective problem-solving and emotional equilibrium [15]. In this population, it serves as a protective mechanism against the cumulative strain imposed by environmental and functional barriers.

Social support encompasses both the perceived availability and actual receipt of care, esteem, and belonging within a network of meaningful relationships [16]. It includes emotional, instrumental, and informational assistance [17]. For individuals with sensory disabilities, support from family, peers, and the broader community mitigates isolation, fosters a sense of belonging, and provides practical resources. Substantial evidence identifies

social support as a robust predictor of mental health, buffering the effects of stress and adversity [18]. Within disability contexts, it enhances access to resources, promotes positive self-concept, and facilitates psychological adjustment [19].

Although psychological hardiness, frustration tolerance, and social support are each well-established predictors of well-being, their interrelationships and combined influence in the context of sensory disabilities remain underexplored. Few studies have examined how hardiness influences psychological adjustment through the mediating pathways of frustration tolerance and social support. These mediators are particularly salient in this population: frustration tolerance equips individuals to manage daily challenges, whereas social support provides essential external resources for sustained adaptation.

### Objectives

This study sought to investigate the relationship between psychological hardiness and psychological maladjustment among individuals with sensory disabilities, with particular attention to the mediating effects of frustration tolerance and social support.

### Materials and Methods

#### Design

This study employed a descriptive-analytic, correlational design to examine the relationships among psychological hardiness, frustration tolerance, social support, and psychological adjustment.

#### Participants

The target population consisted of individuals with sensory disabilities (visual or hearing impairments) who attended welfare centers in Tehran, Iran, during 2024. A convenience sample of 300 participants was recruited, comprising 165 (55%) men and 135 (45%) women with a mean age of 28.52 years ( $SD=5.86$ ). The sample included 150 individuals with visual impairments and 150 with hearing impairments.

#### Inclusion and exclusion criteria

Inclusion criteria were: (a) age between 20 and 35 years, (b) a confirmed clinical diagnosis of visual or hearing impairment, (c) willingness to provide informed consent, and (d) ability to comprehend and complete the questionnaires independently or with appropriate assistance. Exclusion criteria comprised: (a) presence of severe psychiatric disorders (e.g., schizophrenia or bipolar disorder), (b) comorbid intellectual disability or

neurocognitive disorders (e.g., dementia) that could impair questionnaire comprehension, and (c) concurrent severe physical illness that might significantly affect psychological functioning. Psychiatric and cognitive status were ascertained through review of medical records and, when necessary, brief clinical screening.

### Procedure

Data collection was conducted by trained researchers at multiple welfare centers. After providing a clear explanation of the study objectives and obtaining written informed consent, participants completed the questionnaires in a quiet and accessible setting. For participants with visual impairments, items were read aloud and responses recorded by the researcher according to the participant's preferences. For those with hearing impairments, written versions of the questionnaires were provided. Each session lasted approximately 30–45 minutes. All responses were anonymized to ensure confidentiality.

### Instruments

**Psychological Hardiness Questionnaire (PHQ):** Developed by Kobasa [20], this 20-item self-report measure evaluates the core dimensions of commitment, control, and challenge using a 4-point Likert scale (0=Not at all true to 3=Completely true). Scores range from 0 to 60, where elevated totals signify stronger hardiness and greater resilience against stressors. In Persian-language validations, reliability was established at a Cronbach's alpha of 0.78 [21]; the present study yielded 0.88.

**Sinha and Singh Adjustment Inventory (SSAI):** This 60-item tool [22], featuring yes/no responses, assesses adjustment across social, emotional, and educational domains. Through reverse scoring (0 for adjustment, 1 for maladjustment), total scores span 0 to 60, with higher values denoting greater maladjustment and poorer psychological adjustment. Persian adaptations have shown strong internal consistency (Cronbach's alpha=0.87) [23], consistent with the 0.84 observed here.

**Harrington Frustration Tolerance Questionnaire (HFTQ):** Comprising 27 items on a 5-point Likert scale, this instrument [24] gauges frustration discomfort. Higher total scores (range 27–135) indicate greater frustration discomfort and therefore lower actual frustration tolerance. Reliability in Persian contexts stands at Cronbach's alpha=0.86 [25], aligning closely with the 0.82 found in this research.

**Social Support Questionnaire (SSQ):** This 23-item

Likert-scale assessment [26] captures perceptions of support across emotional, instrumental, and informational facets, yielding scores from 23 to 92 (higher indicating more robust support). Persian validations report a Cronbach's alpha of 0.85 [27]; the current analysis confirmed 0.87.

### Statistical Analysis

Analyses were performed using Smart PLS software (version 3.3.3). Bivariate associations between psychological hardiness, frustration tolerance, social support, and psychological adjustment were first examined via Pearson correlation coefficients, illuminating the magnitude and orientation of these links. Structural equation modeling (SEM) then tested the conceptual framework, delineating direct pathways (for instance, from hardiness to adjustment) and indirect influences via the mediators (frustration tolerance and social support). Path significance was determined through coefficients, standard errors, t-statistics, and p-values. Overall model adequacy was evaluated with established fit indices: Chi-square/degrees of freedom ( $\chi^2/df$ ), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR).

### Results

This study included 300 individuals with sensory disabilities (visual or hearing impairments). Participants were aged 20–35 years, with a mean age of 28.52 years (SD=5.86). Regarding educational level, 45% had completed high school, whereas 55% had pursued higher education. The sample consisted of 55% men and 45% women.

Table 1 presents the descriptive statistics and intercorrelations among the study variables. Means and standard deviations were within expected ranges, and skewness and kurtosis values confirmed approximately normal distributions, supporting the use of parametric analyses. Pearson correlations revealed significant associations in the hypothesized directions. Psychological hardiness was negatively correlated with both psychological maladjustment ( $r=-0.48$ ,  $p<0.01$ ) and frustration discomfort ( $r=-0.39$ ,  $p<0.01$ ) and positively correlated with social support ( $r=0.55$ ,  $p<0.01$ ). Frustration discomfort (higher scores indicating lower actual frustration tolerance) was positively associated with psychological maladjustment ( $r=0.45$ ,  $p<0.01$ ), whereas social support was negatively associated with maladjustment ( $r=-0.51$ ,  $p<0.01$ ).

**Table 1.** Mean, standard deviation, skewness, kurtosis, and correlations among research variables

Variable	Mean	SD	Skewness	Kurtosis	1	2	3	4
1. Psychological hardiness	43.33	4.60	-0.35	0.42	1			
2. Psychological maladjustment	36.92	11.34	0.21	-0.15	-0.48**	1		
3. Frustration tolerance	117.17	6.76	0.18	-0.31	-0.39**	0.45**	1	
4. Social support	43.54	3.19	-0.29	0.53	0.55**	-0.51**	-0.41**	1

\*\*: $p < 0.01$

Table 2 displays the goodness-of-fit indices for the structural model. All indices met or exceeded conventional thresholds, indicating excellent model

fit ( $\chi^2/df=2.15$ ; GFI=0.94; AGFI=0.91; NFI=0.92; RMSEA=0.057; SRMR=0.048).

**Table 2.** Goodness-of-fit indices for the final model

Fit index	Value	Acceptable value
Chi-Square ( $\chi^2$ ) / df	2.15	$\leq 3$
Goodness of Fit Index (GFI)	0.94	$\geq 0.90$
Adjusted GFI (AGFI)	0.91	$\geq 0.90$
Normed Fit Index (NFI)	0.92	$\geq 0.90$
Root Mean Square Error of Approximation (RMSEA)	0.057	$\leq 0.08$
Standardized Root Mean Square Residual (SRMR)	0.048	$\leq 0.08$

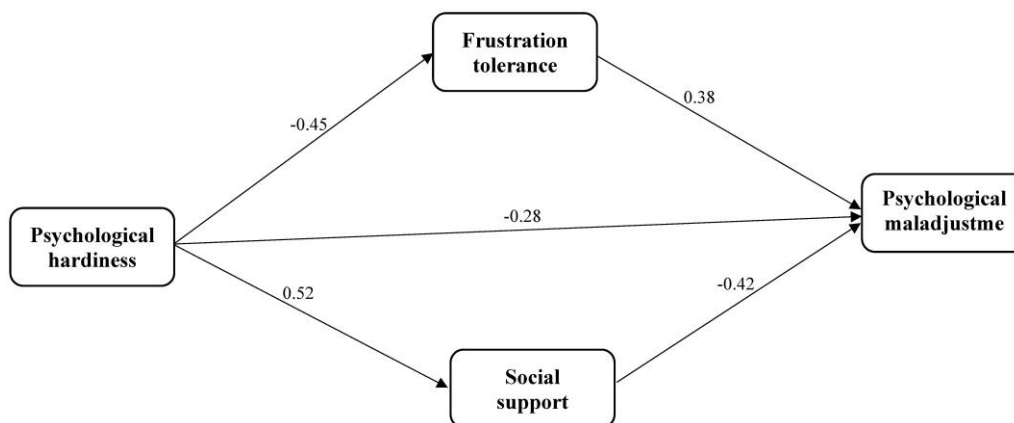
Table 3 summarizes the direct and indirect effects in the final model, all of which were statistically significant ( $p < 0.001$ ). Psychological hardiness exerted a significant direct negative effect on psychological maladjustment ( $\beta = -0.28$ ), indicating that higher hardiness was associated with lower maladjustment (i.e., better psychological adjustment). Hardiness also significantly predicted lower frustration discomfort ( $\beta = -0.45$ ) and higher perceived social support ( $\beta = 0.52$ ). In turn, greater frustration discomfort predicted higher maladjustment ( $\beta = 0.38$ ), whereas stronger social support predicted lower maladjustment ( $\beta = -0.42$ ).

The indirect effects of hardiness on maladjustment through frustration discomfort ( $\beta = -0.17$ ) and through social support ( $\beta = -0.22$ ) were both significant, resulting in a significant total indirect effect ( $\beta = -0.39$ ) and partial mediation.

Figure 1 illustrates the final structural model with standardized path coefficients. Psychological hardiness emerged as a key exogenous variable that influenced psychological maladjustment both directly and indirectly through reduced frustration discomfort (reflecting higher actual frustration tolerance) and enhanced perceived social support.

**Table 3.** Direct and indirect relationships between variables in the final model

Path	$\beta$	SE	t	p
<b>Direct relationships</b>				
Psychological hardiness → Frustration tolerance	-0.45	0.04	11.25	<0.001
Psychological hardiness → Social support	0.52	0.05	10.40	<0.001
Psychological hardiness → Psychological maladjustment	-0.28	0.03	9.33	<0.001
Frustration tolerance → Psychological maladjustment	0.38	0.04	9.50	<0.001
Social support → Psychological maladjustment	-0.42	0.04	10.50	<0.001
<b>Indirect relationships</b>				
Psychological hardiness → Frustration tolerance → Psychological maladjustment	-0.17	0.03	5.67	<0.001
Psychological hardiness → Social support → Psychological maladjustment	-0.22	0.03	7.33	<0.001
Total indirect effect	-0.39	0.04	9.75	<0.001



**Figure 1.** The final research model

**Discussion**

The present findings provide robust evidence that

psychological hardiness is a significant protective factor against psychological maladjustment in

individuals with sensory disabilities. Higher levels of hardiness were directly associated with better psychological adjustment, a result that aligns closely with previous studies conducted in disability and chronic illness contexts. For instance, Caples et al. [28] reported that parents of children with deletion syndrome who scored higher on hardiness exhibited significantly lower levels of psychological distress and better family adaptation. Similarly, Assi et al. [8] found that sensory-impaired older adults with greater hardiness showed superior mental health outcomes and higher healthcare satisfaction, reinforcing the role of this construct as a stress-buffer in sensory disability populations [8, 28].

A central contribution of this study is the identification of two significant mediating pathways. First, individuals with greater hardiness reported lower frustration discomfort (i.e., higher actual frustration tolerance), which in turn predicted lower psychological maladjustment [29]. This finding extends the systematic review by Senewiratne et al. [30], which concluded that cognitive hardiness facilitates distress reduction primarily by enhancing tolerance of uncertainty and emotional discomfort. The current results provide empirical evidence in a clinical population that frustration tolerance is a key explanatory mechanism linking hardiness to adaptive outcomes, particularly among those facing recurrent daily barriers due to visual or hearing impairment.

Second, hardiness was strongly associated with higher perceived social support, which independently contributed to reduced maladjustment. This result converges with Jalali and Rahimi [31], who observed that women with breast cancer exhibiting high hardiness perceived greater social support and, consequently, lower psychological distress. Likewise, Haj Hashemi et al. [32] demonstrated, in a study of oncology patients, that the relationship between hardiness and quality of life was partially mediated by perceived social support. The present study replicates and extends these findings to the sensory disability context, confirming that hardy individuals are not only more resilient internally but also more effective at mobilizing external supportive resources [31, 32].

Taken together, these mediated pathways indicate that the protective effect of hardiness is partially explained by its influence on both internal (frustration tolerance) and external (social support) resources. This integrated model offers a more nuanced understanding of resilience processes in sensory disability than previous studies that examined only direct effects. From an applied perspective, the results strongly support multidimensional interventions that simultaneously

target the enhancement of hardiness (e.g., through cognitive-behavioral techniques emphasizing commitment, control, and challenge), the development of frustration tolerance skills (e.g., structured exposure to manageable setbacks and emotion regulation training), and the strengthening of social support systems (e.g., peer support groups and family-inclusive programs).

Several limitations should be acknowledged. The cross-sectional design precludes causal inferences, and the use of convenience sampling from welfare centers in Tehran limits generalizability to broader or more diverse populations with sensory disabilities. Longitudinal studies are needed to confirm the directionality of the observed relationships and to explore additional potential mediators or moderators.

## Conclusion

In summary, the present study provides robust evidence that psychological hardiness is a key predictor of psychological adjustment among individuals with sensory disabilities, with its protective effect significantly amplified through the mediating roles of actual frustration tolerance and perceived social support. By showing that higher levels of hardiness are associated with greater actual frustration tolerance (reflected in lower HFTQ scores) and stronger social support—both of which, in turn, predict lower maladjustment scores on the SSAI—the findings offer a coherent explanatory framework for resilience in this population. These results carry important implications for clinical practice, strongly recommending the integration of interventions designed to strengthen hardiness, enhance skills for coping with frustration, and bolster social support networks. Such a comprehensive, person-centered approach holds promise for fostering durable resilience and overall well-being that is sensitively tailored to the unique challenges faced by people with sensory disabilities. Future research should employ longitudinal designs to establish causality more firmly and to identify additional mediating or moderating variables, thereby refining and optimizing supportive interventions.

## Ethical Considerations

The research was granted ethical clearance by the Ethics Committee of Islamic Azad University, with the approval reference number IR.IAU.TMU.REC.1403.429.

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#### Author Contributions

All authors were involved in drafting and revising the manuscript and take responsibility for its content.

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#### Conflicts of Interest

The authors declare that there are no conflicts of interest.

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