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A Structural Path Analysis of Elder Abuse: Mediating Role of Depression in the Link between Multiple Hardships and Abuse Risk

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Abstract This study analyzed the mediating effect of depression in the relationship between the four major hardships experienced by older adults—namely, physical illness, economic hardship, loneliness, and loss of social role—and their experience of elder abuse. Using data from the 6th National Survey on the Living Conditions of Elderly People (2023), a total of 9,951 individuals aged 65 and over were included in the final analysis after excluding non-responses. Structural equation modeling (SEM), path analysis, and bootstrapping techniques were employed to verify the causal pathways and mediating effects among the variables. The results showed that all four hardship factors had a statistically significant positive effect on depression, and depression, in turn, had a significant positive effect on the experience of elder abuse. However, the direct effects of each hardship factor on elder abuse were not statistically significant, confirming that depression serves as a full mediator. These findings support the Affective Vulnerability Model, which posits that emotional vulnerability plays a more direct role in elder abuse than external stressors themselves. Therefore, proactive interventions and the establishment of psychosocial support systems that consider the emotional well-being of older adults are essential. Alongside improving physical and economic conditions, it is also necessary to implement depression screening and intervention programs.

Keywords Elder Abuse, Physical Illness, Economic Hardship, Loneliness, Loss of Social Role, Depression, Mediation Effect, Path Analysis

1. Introduction

As the global population of older adults grows rapidly, a range of social and psychological challenges affecting their health and quality of life has emerged as a key issue in public health. Among these, elder abuse has become a serious problem that threatens the fundamental human rights and well-being of older people. According to the World Health Organization [1], elder abuse is defined as “a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person.” It reports that approximately 16.7% of people aged 60 or older globally have experienced some form of abuse in the past year.

South Korea is no exception. In 2024 alone, a total of 22,746 suspected cases of elder abuse were reported to elder protection agencies, of which 7,167 cases (31.5%) were confirmed as actual abuse. This marks a 14.5% increase compared to 2020, indicating a continued rise in elder abuse across Korean society [2]. Furthermore, Statistics Korea projects that by 2067, 46.5% of the Korean

population will be aged 65 or older, suggesting that the risk of elder abuse will continue to grow in line with rapid aging [3].

The vulnerability of older adults to abuse is not limited to biological aging alone. Instead, it stems from a complex interplay of structural factors that threaten their overall well-being. In particular, four dimensions of hardship traditionally associated with aging—namely illness (loss of physical functioning), poverty (economic hardship), loneliness (social isolation), and loss of social role (idleness)—have long been identified as key risk factors negatively impacting the emotional stability and quality of life of older adults. While these concepts originate in traditional views of aging from Korean and East Asian cultural contexts, they have recently been incorporated into aging research in other countries as well, providing a theoretical framework for understanding the multidimensional vulnerability of older populations.

Illness, for instance, refers to chronic pain and reduced ability in activities of daily living (ADL), which can result in a loss of autonomy and sense of control, thereby increasing depressive symptoms. A study on older Australians found that subjective pain intensity significantly predicted depression [4], while research in low- and middle-income countries showed higher depressive risks among older adults with multiple chronic diseases [5]. Korean studies also consistently report a strong association between poor subjective health and elevated levels of depression [6,7].

Poverty, more than a mere lack of income, influences mental health through chronic stress, deprivation of resources, and social stigma [8]. Low-income older adults are also more likely to be excluded from psychological resources and support networks, which may contribute to persistent depression. In Korea, numerous studies confirm that depressive symptoms are significantly higher among older adults with lower income levels [9].

Idleness, or loss of social role, in modern aging societies refers not only to a reduction in activities but also to the loss of social roles and identity developed throughout one's life. This can lead to the collapse of social networks, a diminished sense of belonging, and weakened autonomy. The term "idleness hardship" captures this collective sense of lost social meaning. Recent studies emphasize the negative impact of this phenomenon on physical and mental health. For instance, Torres et al. [10] reported that reduced social participation among European older adults was associated with decreased physical activity and increased depression. Similarly, Herbolsheimer et al. [11] found that declining outdoor activity among older Germans led to weaker social networks and greater isolation, ultimately exacerbating depression. In rural China, Jiang et al. [12] observed that social exclusion and disrupted daily activities intensified negative perceptions of aging and anxiety, which then led to depressive symptoms. Choi et al. [13], studying older adults in Korea, also found that lack of social participation was strongly associated with depression, especially when emotional and social support was absent. These findings, consistent across diverse cultural and national contexts, suggest that idleness in old age reflects not just inactivity but a deeper loss of meaning, social utility, and autonomy. As such, it poses a serious threat to both quality of life and mental health, highlighting the need for more psychosocial approaches to support older adults in states of social withdrawal.

These four dimensions of hardship independently contribute to depression, and depression, in turn, plays a mediating psychological role in increasing the risk of elder abuse. Large-scale domestic studies have shown that economic hardship, lack of social support, and depression all significantly affect elder abuse, with depression emerging as the strongest predictor [3]. Studies from the U.S. and China likewise report a higher prevalence of abuse among depressed older adults [14,15], with the risk particularly elevated among those living alone [16,17].

Each of the four hardships also has a direct relationship with elder abuse. For example, illness increases dependence on caregivers and lowers self-esteem, thereby raising the risk of emotional and physical abuse [18]. Economic stress caused by poverty also increases vulnerability to various forms of abuse [19]. Loneliness, as a result of disconnection from support systems, limits the opportunity to report or seek help for abuse [20]. Loss of social role weakens identity and meaning in life, increasing the likelihood of emotional abuse [18].

These four hardships can also interact and overlap, producing compounding effects. For instance, limited ADL functions restrict participation in social activities [21], reducing interpersonal interactions and deepening social isolation, which intensifies perceived loneliness [22]. Conversely, higher levels of physical activity are associated with reduced emotional difficulties such as loneliness [23]. Weiss conceptualized loneliness as having two dimensions: social loneliness and emotional loneliness [24], the former closely related to isolation and lack of societal integration [25]. When such factors act simultaneously, depression and vulnerability to elder abuse become even more pronounced.

Despite these findings, most existing studies tend to focus on individual factors, and few have systematically examined how older adults' compounded hardships influence elder abuse through the mediating role of depression. Furthermore, empirical research grounded in theoretical frameworks such as the stress process model or the affective vulnerability model remains limited both domestically and internationally.

Accordingly, this study seeks to analyze how the fourfold hardships of older adults—illness, poverty, loneliness, and loss of social role—affect experiences of elder abuse through the mediating role of depression, using path analysis. Through this, the study aims to contribute to the development of evidence-based public health policies that can enhance the quality of life and prevent abuse among older adults in aging societies.

2. Materials and Methods

2.1. Research Model and Hypotheses

Based on previous studies on the fourfold hardships of older adults, depression, and elder abuse, this study proposed a hypothetical model in which depression mediates the relationship between older adults' hardships—namely illness, poverty, loneliness, and loss of social role—and their experiences of elder abuse (Figure 1).

Focusing on the causal relationships among these constructs, the fourfold hardships of older adults (illness, poverty, loneliness, and loss of social role) were set as exogenous variables, while depression was established as a mediating variable. Finally, elder abuse was designated as the endogenous outcome variable.

Based on the proposed model, this study derived the following research hypotheses:

First, the fourfold hardships of older adults—illness, poverty, loneliness, and loss of social role—will increase their level of depression.

Second, the fourfold hardships of older adults will have a positive effect on their experiences of elder abuse.

Third, depression will mediate the relationship between the fourfold hardships and elder abuse among older adults.

2.2. Data and Participants

This study utilized secondary data from the 2023 Korean Longitudinal Study of Aging (6th Wave) conducted by the Ministry of Health and Welfare and the Korea Institute for Health and Social Affairs (KIHASA). The 2023 survey, the sixth of its kind, was conducted between September and November 2023 through face-to-face interviews with individuals aged 65 or older nationwide, following approval from the Institutional Review Board (IRB) at KIHASA [26]. A total of 10,078 respondents participated in the survey, and after excluding incomplete responses, 9,951 cases were included in the analysis.

The demographic characteristics of the respondents were as follows: 61.6% were female, and the largest age group was 65–69 years. Approximately 29% of respondents had completed either an elementary or a high school education. About 59.1% were currently living with a spouse. In terms of household composition, 54.5% were elderly couple households, while 34.4% lived alone. Additionally, 71.8% identified themselves as heads of household, and the annual household income was relatively evenly distributed across quintiles.

2.3. Measures

This study conceptualized the "fourfold hardships" of older adults — illness, poverty, loneliness, and loss of social role — into four sub-dimensions. Variables aligned with these concepts were selected from the 2023 dataset. Given the limitations of using secondary data, proxy indicators were developed based on theoretical definitions.

2.3.1. Exogenous Variables: Fourfold Hardships

Illness was measured by the number of physician-diagnosed chronic diseases reported by respondents. Out of 33 items (e.g., hypertension, stroke, hyperlipidemia), 32 were included, excluding one overlapping with depression. Each item was binary-coded (1 = yes, 0 = no), and the average number of chronic conditions served as an objective indicator of physical health.

Poverty was assessed using a single item: "Are you satisfied with your current financial situation?" Responses were recorded on a 5-point Likert scale (1 = very satisfied to 5 = very dissatisfied), with higher scores indicating greater economic stress. Despite being a single-item measure, this has proven effective in capturing subjective perceptions of economic hardship.

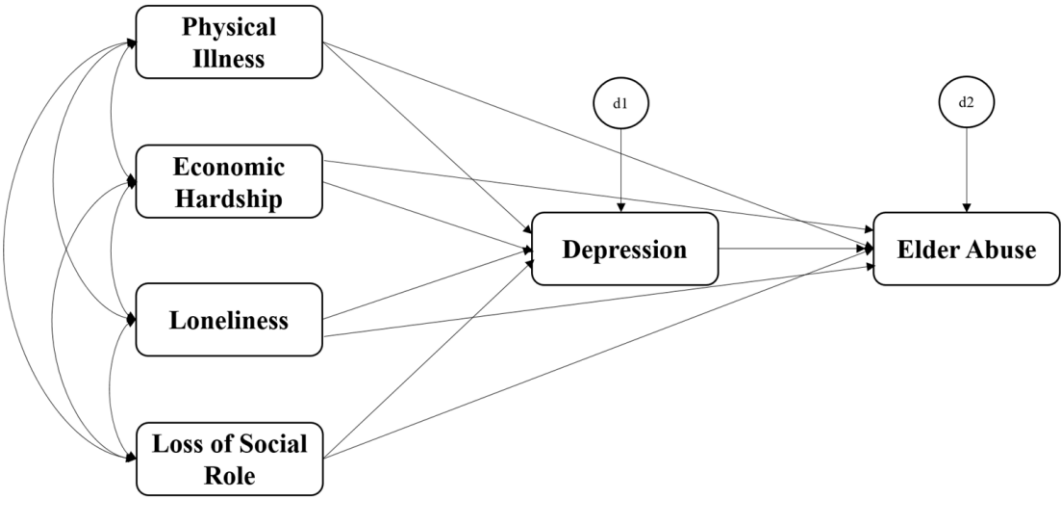

Figure 1. Research Model

Loneliness was assessed using three items measuring satisfaction with key interpersonal relationships—spouse, children, and friends/community. Each item was rated on a 5-point Likert scale (1 = very satisfied to 5 = very dissatisfied). Higher scores indicate greater dissatisfaction with social relationships, implying higher levels of perceived loneliness. The internal consistency was modest (Cronbach's α = .668), but the scale was deemed conceptually valid as it covered essential relational domains.

Loss of social role was measured by the absence of participation in social engagement activities. Seven domains were included: leisure, lifelong learning, volunteer work, clubs, friendship groups, political/social organizations, and religious activities. Responses were binary (1 = non-participation, 0 = participation), and the average score was calculated. A higher score reflects greater inactivity and, consequently, a greater loss of social role.

2.3.2. Mediating Variable: Depression

Depression was measured using the Short Geriatric Depression Scale – Korean Version (SGDS-K), consisting of 15 items [27]. The scale assesses emotional states such as lack of motivation, emptiness, boredom, anxiety, and hopelessness. Each item was answered as "Yes (1)" or "No (0)," with five positively worded items reverse-coded. Scores were summed and converted to an average score. Higher scores indicate greater depressive symptoms. The scale demonstrated strong internal consistency (Cronbach's α = .842).

2.3.3. Endogenous Variable: Elder Abuse

Elder abuse was measured using six items covering physical, sexual, emotional, financial abuse, neglect, abandonment, and self-neglect. Respondents answered whether they had experienced each type (1 = yes, 0 = no), and the average score was used. Higher scores indicate a broader range of abuse experiences. This index is based on the official items of the Korean Longitudinal Study of Aging and captures multidimensional aspects of abuse. Due to the conceptual heterogeneity of self-neglect, internal reliability was not calculated.

2.4. Data Analysis

To examine the causal pathways among observed variables, path analysis based on structural equation modeling (SEM) was conducted. IBM SPSS 24.0 and AMOS 29.0 were used for analysis. Model fit was assessed using the following indices: Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR).

The analysis procedure included the following steps:

First, Pearson correlation analysis was conducted to assess theoretical associations between variables.

Second, path analysis was performed to examine the direct and indirect effects among exogenous variables (fourfold hardships), the mediating variable (depression), and the endogenous variable (elder abuse).

Third, bootstrapping with 2,000 resamples was used to test the significance of the mediating effects. Mediation was considered statistically significant if the 95% confidence interval did not include zero.

3. Results

3.1. Descriptive Statistics and Correlations among Key Variables

To examine the general trends of the measured variables, descriptive statistical analyses were conducted (Table 1).

For the independent variable illness, the average score was 0.068 out of 1, indicating that on average, older adults reported 2.2 chronic illnesses per person, which can be considered a relatively low level.

Table 1. Descriptive Statistics <N=9,951>

		Mean		Skewness		Kurtosis	
		Statistics	S.D.	Statistics	S.E.	Statistics	S.E.
Independent	Physical Illness	.068	.049	.997	.025	2.162	.049
	Economic Hardship	2.880	.805	.090	.025	-.017	.049
	Loneliness	2.424	.598	.559	.025	.880	.049
	Loss of Social Role	.288	.162	.401	.025	.237	.049
Mediating	Depression	.206	.216	1.262	.025	1.17	.049
Dependent	Elder Abuse	.011	.049	5.998	.025	49.668	.049

Economic hardship scored an average of 2.880 out of 5, which is slightly below the midpoint of the scale (3.0), suggesting a relatively low level of economic dissatisfaction among respondents.

Loneliness had an average score of 2.424, and loss of social role averaged 0.288 out of 1, both reflecting generally low levels of social isolation and inactivity.

The mediating variable, depression, had a mean score of 0.206, while the dependent variable, elder abuse, was measured at 0.011 on average, indicating a very low prevalence.

Overall, the distribution of the fourfold hardships, depression, and elder abuse among the study participants appeared to be low. In particular, illness, loss of social role, depression, and abuse were measured on binary scales and averaged into continuous indicators within a 0–1 range. Therefore, interpretations should focus more on relative comparisons and regression coefficients rather than absolute values.

To examine the normality of the variables prior to conducting the main analysis, skewness and kurtosis values were reviewed. Except for elder abuse, skewness ranged from –0.090 to 1.262 and kurtosis from –0.017 to 2.162, all falling within commonly accepted thresholds (i.e., |skewness| < 3, |kurtosis| < 7), thus supporting the assumption of normality [28].

However, the elder abuse variable exhibited significant asymmetry, with skewness of 5.998 and kurtosis of 49.668. This reflects the highly skewed nature of the data, as approximately 94.8% of respondents reported no experience of abuse (coded as 0). This structural limitation made it difficult for the variable to meet normal distribution assumptions.

Accordingly, the Maximum Likelihood Estimation (MLE) method was used in the path analysis. MLE is known to yield reliable results even under moderate violations of normality assumptions and is well suited for the analytic objectives of this study [29,30].

In this analysis, a correlation analysis was conducted to check for potential multicollinearity among the variables [Table 2]. Focusing on the dependent variable, elder abuse, it was found that greater levels of physical illness ($r = .068$, $p < .001$), economic hardship ($r = .045$, $p < .001$), loneliness ($r = .042$, $p < .001$), and loss of social role ($r = .040$, $p < .001$) were all significantly associated with higher levels of elder abuse experience. Notably, depression ($r = .119$, $p < .001$) showed the strongest correlation with elder abuse, suggesting its potential role as a mediating variable. All correlation coefficients among the variables ranged from .040 to .439, remaining below .7, indicating that the risk of multicollinearity in the research model is low.

3.2. Model Fit

Before conducting the path analysis, the model fit of the proposed research framework was examined to confirm its adequacy, upon which the final model was established. The estimation method employed was Maximum Likelihood Estimation (ML). Model fit was primarily evaluated using the chi-square statistic (χ^2), an absolute fit index. However, due to the chi-square statistic's sensitivity to sample size and non-normality of data distributions [30], additional fit indices less affected by sample size were also considered to ensure a comprehensive evaluation.

The initial model was identified as a just-identified model with zero degrees of freedom, as the number of parameters to estimate equaled the number of available data points (Table 3). In such a model structure, statistical evaluation through χ^2 tests or other fit indices is not possible. Moreover, in the initial model, the direct paths from the four types of elder hardship (physical illness, economic hardship, loneliness, and loss of social role) to elder abuse were found to be statistically non-significant. Based on this, the model was revised by removing those direct paths and constructing an alternative model focused on depression as the key mediating variable.

This revision was not merely a statistical adjustment but a theoretically grounded modification. It aligns with the Psychosocial Stress Theory and the Affective Vulnerability Model [31,32], which suggests that stressors (i.e., elder hardships) influence behavioral outcomes (e.g., elder abuse) through emotional responses, particularly depression. Thus, the revised model highlights depression as a core mediating construct.

Table 2. Correlations Among Variables <N=9.951>

	Physical Illness	Economic Hardship	Loneliness	Loss of Social Role	Depression	Elder Abuse
Physical Illness	1					
Economic Hardship	.226***	1				
Loneliness	.144***	.439***	1			
Loss of Social Role	.091***	.217***	.261***	1		
Depression	.351***	.392***	.375***	.236***	[1]	
Elder Abuse	.068***	.045***	.042***	.040***	.119***	1

***p<.001

Table 3. Absolute and Incremental Fit Indices: Baseline Model vs. Alternative Model

	Absolute Fit Indices				Incremental Fit Indices		
	X^2	RMR	RMSEA	GFI	NFI	TLT	CFI
Cut-off Criteria	p≧.05	≦.05	≦.05	≧.90	≧.90	≧.90	≧.90
Baseline Model	.000	.000	-	1.000	1.000	-	1.000
Alternative Model	.000	.000	.037	.998	.992	.971	.992

Unlike the initial model, the alternative model was over-identified, allowing for the interpretation of various fit indices. As Miles [33] noted, "The purpose of structural equation modeling is to allow a model to be wrong," which is only possible in over-identified models. In line with this epistemological rationale, the current study moved beyond a just-identified structure to adopt an over-identified model, thereby enhancing theoretical validation and interpretability.

The fit indices for the alternative model were as follows: Chi-square = 58.867 ($p < .000$), RMR = .000, RMSEA = .037, GFI = .998, NFI = .992, TLI = .971, and CFI = .992. These results meet commonly accepted thresholds for good model fit, such as those proposed by Hu & Bentler [34] and Byrne [35] (e.g., RMSEA < .06, CFI and TLI > .95), indicating that the proposed model fits the observed data well. Therefore, the alternative model centered on depression as a mediator is both statistically and theoretically valid.

In conclusion, the alternative model presented in this study demonstrated excellent fit across all statistical criteria, providing a strong basis for examining the causal relationships among key variables and verifying the mediating role of depression.

3.3. Path Analysis

The results of the path analysis for the alternative model are presented in Table 4 and Figure 2. The analysis revealed that all four types of elder hardship—physical illness, economic hardship, loneliness, and loss of social role—had statistically significant positive effects on depression. In turn, depression was found to have a significant positive effect on elder abuse.

More specifically, physical illness was positively associated with increased levels of depression ($\beta = .261$, $p < .001$). Similarly, economic hardship also showed a significant positive relationship with depression ($\beta = .214$, $p < .001$). Loneliness was significantly associated with higher levels of depression ($\beta = .215$, $p < .001$), and loss of social role also exerted a statistically significant effect on increasing depression ($\beta = .109$, $p < .001$). These findings suggest that the four dimensions of hardship among older adults act as key components of affective vulnerability, each indirectly associated with experiences of elder abuse through the mediating effect of depression.

Furthermore, depression had a significant positive effect on elder abuse, indicating that higher levels of depressive symptoms were associated with a greater likelihood of experiencing abuse ($\beta = .119$, $p < .001$). This supports the interpretation that affective vulnerability functions as a central pathway linking psychosocial stressors to the risk of elder abuse.

3.4. Verification of the Mediating Effect of Depression

To examine whether depression mediates the relationship between the four types of elder hardship and elder abuse, a bootstrapping procedure was conducted. The analysis was based on 2,000 resamples with a 95% confidence level, and the results are presented in Table 5.

First, depression was found to significantly mediate the relationship between physical illness and elder abuse (B = .031, 95% BC CI [.023, .038], $p < .01$), with zero not included in the confidence interval, indicating a statistically significant indirect effect. Second, the mediating effect of depression was also significant in the relationship between economic hardship and elder abuse (B = .025, 95% BC CI [.019, .032], $p < .01$). Third, loneliness was found to influence elder abuse through depression via a significant indirect path (B = .026, 95% BC CI [.019, .032], $p < .01$). Lastly, depression also significantly mediated the association between loss of social role and elder abuse (B = .013, 95% BC CI [.010, .017], $p < .01$), with the confidence interval again excluding zero.

These results suggest that the influence of structural vulnerabilities in later life—including physical illness, economic hardship, loneliness, and loss of social role—on elder abuse occurs not through direct effects, but rather through the mediating pathway of depression. In this regard, depression serves as a key psychological conduit linking various forms of elder hardship to abuse experiences, lending empirical support to the explanatory power of the Affective Vulnerability Model.

Table 4. Path Analysis Results of the Alternative Model

Path	B	β	S.E	C.R.	p
Depression ← Physical Illness	1.143	.261	.038	29.912	.000
Depression ← Economic Hardship	.057	.214	.003	22.163	.000
Depression ← Loneliness	.078	.215	.003	22.315	.000
Depression ← Loss of Social Role	.146	.109	.012	12.332	.000
Elder Abuse ← Depression	.027	.119	.002	11.922	.000

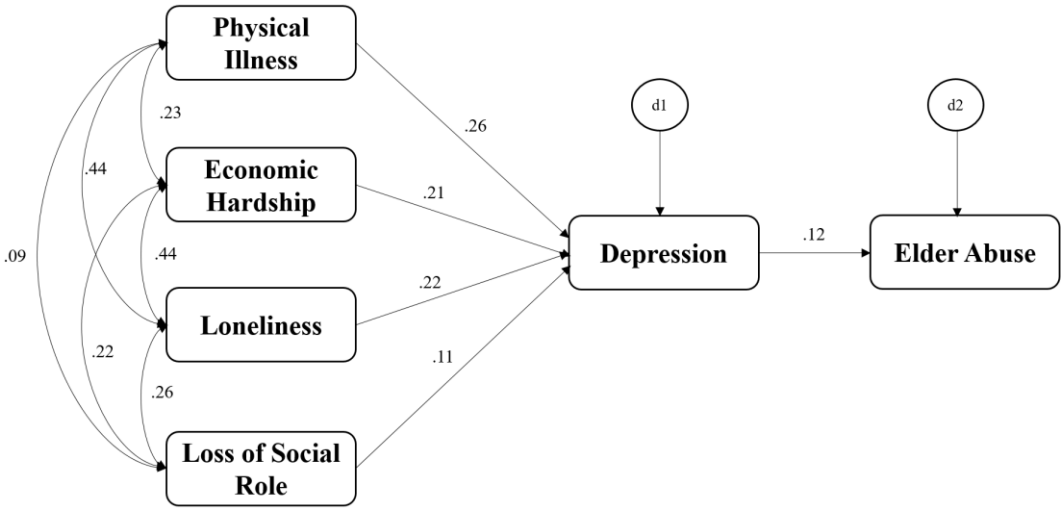

Figure 2. Path Analysis of the Alternative Model

Table 5. Verification of the Mediating Effect of Depression

Path	Estimate	S.E.	95% CI
Elder Abuse← Depression← Physical Illness	.031	.004	.023~.038
Elder Abuse← Depression← Economic Hardship	.025	.003	.019~.032
Elder Abuse← Depression← Loneliness	.026	.003	.019~.032
Elder Abuse← Depression← Loss of Social Role	.013	.002	.010~.017

4. Discussion

This study examined the structural relationships among the four types of elder hardship (physical illness, economic hardship, loneliness, and loss of social role), depression, and elder abuse. The results of the path analysis supported Hypothesis 1, showing that all four hardships had significant positive effects on depression, and also supported Hypothesis 3, as depression significantly influenced elder abuse. However, Hypothesis 2 was not supported, as the direct paths from the four hardships to elder abuse were not statistically significant. These findings suggest that stressful life conditions among older adults influence experiences of elder abuse not directly but indirectly through depression as an emotional mediator.

First, all four factors—physical illness, economic hardship, loneliness, and loss of social role—contributed significantly to increased levels of depression, which in turn heightened the likelihood of elder abuse. This aligns with previous studies, confirming once again that various life stressors have a negative impact on the psychological well-being of older adults. The positive association between physical illness and depression supports existing evidence that chronic illness and pain are detrimental to mental health in old age [4–7]. Similarly, the link between economic hardship and depression reflects findings from previous research that highlight the emotional vulnerability of low-income elderly populations [8,9]. The connection between loneliness and depression has been replicated across diverse cultural contexts, including in Europe and Asia [10–13]. It is consistent with studies linking reduced social engagement and role loss to emotional isolation [10,11]. The association between depression and elder abuse has also been repeatedly verified in studies conducted in the United States, China, and Japan [3,14–17]. The present study extends these fragmented findings by

integrating them within a single path model framework.

Second, although the direct effects of the four hardships on elder abuse were not statistically significant, their indirect effects mediated by depression were all significant. Specifically, depression significantly mediated the relationship between physical illness and elder abuse (B = .031), economic hardship (B = .025), loneliness (B = .026), and loss of social role (B = .013). These findings suggest that depression functions as a key psychological mechanism in translating reduced quality of life into increased vulnerability to abuse.

These results indicate that external vulnerabilities in later life—such as chronic illness, financial pressure, social isolation, and diminished social roles—do not directly lead to elder abuse. Instead, they first trigger emotional reactions, particularly depression, which then indirectly elevate the risk of abuse. This mediating pathway is consistent with the structural framework of Psychosocial Stress Theory, which posits that stressors influence health and behavioral outcomes through cognitive and emotional processes [31]. Moreover, considering that older adults are prone to increased emotional sensitivity due to changes in emotional regulation, accumulated losses, and diminished resilience, the findings align with the theoretical pathway proposed by the Affective Vulnerability Model [32], which emphasizes emotional fragility in later life. In other words, rather than external hardship itself, the resulting depression acts as a catalyst that materializes vulnerability to elder abuse. Although this study focused on Korean older adults, the findings have broader international implications. Studies in Japan and China have similarly identified depression as a strong predictor of elder abuse, particularly in rapidly aging societies [12, 15]. Research in Western countries has emphasized loneliness and financial strain as key contributors to emotional vulnerability and abuse risk [8, 11]. Taken together, these cross-cultural perspectives suggest that depression is a universal mechanism linking elder hardships to abuse, underscoring the broader relevance of the present findings.

In practice, older adults experiencing depression may feel like a burden, tolerate mistreatment, or show reduced self-defense and help-seeking behaviors, creating psychosocial conditions that increase their exposure to abusers [16]. From this perspective, depression can be considered a full mediator in the relationship between elder hardship and elder abuse. Even when loneliness or economic hardship is present, the risk of abuse may remain low in the absence of depression, whereas its presence significantly amplifies vulnerability. Although this study included self-neglect in the measurement of elder abuse, it is conceptually distinct from abuse by others, and future research should analyze it separately to ensure greater conceptual clarity.

This study thus empirically confirms that depression—as a marker of emotional vulnerability—plays a decisive mediating role in the experience of elder abuse. Consequently, addressing economic needs or medical conditions alone may not suffice in preventing abuse; more refined, emotion-based public health strategies must be implemented. Specifically, the following policy recommendations are proposed:

Establish community-based depression screening programs using primary healthcare providers (e.g., public health nurses, mental health case managers) to conduct regular emotional assessments.

Expand community initiatives that restore older adults' social roles—such as neighborhood volunteers, peer caregiving programs, and public elder employment projects—to reduce social isolation and role loss.

Strengthen emotional support systems and early detection of abuse in home-based care environments by training frontline personnel (e.g., visiting nurses, social workers) in elder abuse recognition and reporting protocols.

Finally, connect older adults to financial relief programs—such as basic pensions, emergency welfare, and medical expense subsidies—to mitigate economic hardship and alleviate emotional burdens.

A multilayered strategy such as this may effectively block the emotional pathway of depression and improve the prevention of elder abuse among older adults.

5. Conclusions

The purpose of this study was to investigate the effects of four types of elder hardship—physical illness, economic hardship, loneliness, and loss of social role—on elder abuse, and to verify the mediating role of depression in this process. To achieve this, the study utilized secondary data from the 6th National Survey of the Elderly conducted in 2023, a government-approved national statistical dataset. After excluding non-responses, a nationally representative sample of 9,951 older adults was included in the analysis. This survey was administered through in-person interviews by trained personnel and is a government-approved national statistical dataset, ensuring high reliability and representativeness.

The results empirically confirmed that the four forms of hardship experienced by older adults significantly influenced depression, which in turn had a significant impact on elder abuse. In particular, the finding that depression mediates the relationship between elder hardship and elder abuse highlights the critical role of emotional factors in elder welfare. Therefore, in addition to policy efforts aimed at alleviating stressful life conditions such as physical illness, economic hardship, loneliness, and loss of social role, it is essential to implement early screening and intervention services for depression.

This study is meaningful in several respects: it utilized a large-scale, nationally representative sample of 9,951 participants based on official national statistics; it employed a structural equation modeling (SEM) approach to examine the mediating path of depression; and it applied bootstrapping techniques to address non-normality,

enhancing the stability and robustness of the estimates.

This study has several limitations and suggests directions for future research. First, the use of secondary data meant that hardship variables were measured with single or limited items, and the elder abuse variable included self-neglect, raising concerns about conceptual consistency. Future studies should develop multi-item or latent constructs and distinguish between abuse perpetrated by others and self-neglect. Second, as this study employed cross-sectional analyses, causal relationships cannot be established, and the possibility of reverse causality between abuse and depression cannot be ruled out. Future longitudinal research is needed to clarify these causal pathways. Third, although SEM and bootstrapping techniques were applied, results may be sensitive to sample characteristics and measurement error, highlighting the need for replication using diverse datasets and methods. Finally, underreporting due to social desirability bias remains a concern, suggesting the value of anonymous surveys or linking administrative data for validation.

In conclusion, this study demonstrates that depression fully mediates the relationship between multiple hardships and elder abuse. Future research should enhance conceptual precision, clarify causal directions through longitudinal analyses, and incorporate cross-cultural comparisons to expand the international relevance of the findings. These results underscore the importance of early depression screening and community-based psychosocial interventions, providing a foundation for preventive strategies in aging societies.

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