

## Mental Health Factors associated with North Korean Defectors' Quality of Life

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### Abstract

*The purpose of this study was to assess mental health and quality of life (QOL) including factors influencing QOL among early North Korean defectors in South Korea. Participants were 151 early North Korean defectors residing in a settlement support center. All measures were self-administered. Unlike refugees living in communities, early defectors did not experience a high rate of mental health problems and reported a good QOL. Psychoticism was the most predictive factor affecting QOL. Findings from this study suggest the importance of mental health assessment and support over time. Psychoticism, significant in explaining QOL of early North Korean defectors, needs early diagnosis and treatment to prevent progression. Mental health issues among refugees may not be evident while they are in a structured, supportive environment. Evaluation and treatment are needed over time.*

**Keywords:** Mental health; Quality of life; Korea; Defectors

### 1. Introduction

The number of North Korean defectors entering South Korea has rapidly increased since 2006, reaching 29,137 in March 2017 [1]. A series of natural disasters, compounded by economic deterioration following Kim Il-Sung's death in 1994, and the resulting food shortages forced many North Koreans to seek refuge in China. These refugees subsequently defected to South Korea [2-3]. Many North Korean defectors arrived having experienced serious violence, such as being shot at, pursued, detained, and tortured. During escape, defectors faced the threats or actual trauma associated with human trafficking, repatriation to the North, loss of family members, death threats, and sexual violence [4]. Subsequently, many defectors suffer psychological health problems, including sleep disorders, somatoform disorder, depression, and anxiety exacerbated by the process of adapting to life in South Korean society [5].

Upon arrival in South Korea, many defectors are housed at the government-run Hanawon Resettlement Center, located one hour south of Seoul. At the center, refugees spend three months in compulsory education to learn about South Korean culture, politics, and economics. Relocation support has focused on negotiating practical activities such as basic education, job training, and skills to navigate daily life as well as psychological assessment. Psychotherapeutic counseling is also offered, but the defectors often reject this type of service due to North Koreans' cultural perceptions of mental health. Thus, little attention has been given to the psychological and emotional aspects of integrating into a new society [5-6]. In spite of regional and national multilateral efforts to support the defectors, failure to adjust to South Korean society has negatively affected mental health and quality of life of North Korean defectors [5, 7].

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More than 29% of defectors at the Hanawon Resettlement Center have complained of feeling depressed [5, 8-12]. Upon arrival, however, defectors in Hanawon scored low in somatization disorder, agoraphobia, anxiety, interpersonal sensitivity, obsessive compulsive syndrome, depression, and victim mentality. After placement into communities and over time, scores for depression, anxiety, post-traumatic stress disorder, and somatization disorder increased [13]. Somatization disorder is a mental condition characterized by recurring clinical complaints about physical symptoms, such as pain and fatigue, which has implications for long-term health services utilization; and post-traumatic stress disorder impacts socialization success making assimilation more difficult. Despite the increase in serious mental health problems upon leaving the Resettlement Center, refugees tend not to seek medical assistance, instead choosing to self-medicate and use home remedies which result in chronic aggravation of symptoms and decreased quality of life [5]. Over time and without intervention, mental health problems worsen; post-traumatic stress disorder, anxiety about the future, and a victim mentality adversely affect quality of life [7].

The World Health Organization (WHO) [14] defines quality of life (QOL) as “individuals’ perception of their position in life in the context of culture and value systems, in which they live and in relation to their goals, expectations, standards, and concerns”. Previous studies examining mental health and quality of life among North Korean refugees focus on mental health status or the correlation between mental health and quality of life [6, 15-17]. Most studies focused on post-traumatic stress disorder, mental health status, or quality of life after leaving Hanawon and adapting to living in communities [5, 11, 18-20]. Studies regarding mental health and QOL of early North Korean defectors who entered Hanawon are rare, and only examined mental status [7] or the influence of North Korean defectors’ health belief on their health behaviors [3].

Assessment of QOL is recommended as a means to assess how well refugees adapt to South Korean society [21]. To assess adaptation, a baseline of North Korean defectors’ QOL when entering Hanawon under the protection of the state is important. Therefore, the purpose of this study was to assess mental health and quality of life of North Korean refugees living in a South Korean Resettlement Center. The specific aims of this study are as follows: (a) to identify demographic and health-related characteristics of North Korean defectors, (b) to identify the differences in quality of life based on demographic and health-related characteristics, (c) to measure levels of mental health and quality of life of the participants, (d) to assess the correlation between mental health and quality of life, and (e) to identify the mental health factors associated with the participants’ quality of life.

Findings from this study may provide health care providers guidance to actively assess and intervene to improve the mental health and QOL of North Korean defectors upon arrival in South Korea. The study also raises mental health considerations for the global community facing massive migrations of large numbers of displaced persons throughout the world.

## **2. Method**

### **2.1 Study Design and Participants**

A cross-sectional descriptive design to identify mental health factors affecting quality of life of early North Korean defectors who entered Hanawon was conducted.

A convenience sample of North Korean defectors who entered Hanawon Resettlement Center and underwent broad-based education to help adapt to South Korean society was used. Inclusion criteria included: North Koreans living in Hanawon Resettlement Center, 20 - 60 years of age, able to understand and communicate in Korean, and able read and respond to written questionnaires. Based on an alpha of .05, power of .80, and effect size of 0.15, power analysis suggested a sample size of 118 was necessary for regression analysis with ten independent variables [22]. Assuming a high attrition rate (25%) due to the content of the study, a sample of 148 was sought.

## 2.2 Measures

### 2.2.1 Mental health

The Korean version of the Symptom Checklist-90-Revision (SCL-90R) was used to assess mental health [23]. Originally developed by Derogatis, Rickels, and Rock [24], Kim et al. [23] translated and revised the SCL-90R for use in South Korea. As in the original, the Korean version of the instrument contains 90 items with nine symptom dimensions: somatization (12 items), obsessive-compulsive (10 items), interpersonal sensitivity (9 items), depression (13 items), anxiety (10 items), hostility (6 items), phobic anxiety (7 items), paranoid ideation (6 items), psychoticism (10 items), and additional items (7 items), for measuring the mental status of North Korean defectors. Items focus specifically on problems and complaints. Possible answers range from 0 "none" to 4 "very severe." Higher scores indicate worse mental health conditions. Derogatis et al. [24] reported that the internal reliability of the scale ranged from .78 to .90. The Cronbach's alpha of this study was .74 to .89.

### 2.2.2 Quality of life

The WHOQOL-BREF, developed by the WHOQOL Group [25], was used to assess QOL. Min, Lee, Kim, Suh, and Kim [26], and Min et al. [27] translated and developed the Korean versions of WHOQOL-100 scale and WHOQOL-BREF. The WHOQOL-BREF instrument is comprised of 26 items with four domains: physical health, psychological health, social relationships, and environment. Items focus on how symptoms and complaints, such as those reported in the SCL-90R, impact QOL. Possible answers range from 1 "not at all" to 5 "completely." Higher scores indicate better quality of life. Min and colleagues [26] reported an internal reliability of .90. Cronbach's alpha for this study was .84.

## 2.3 Data Analysis

The data was analyzed using SPSS 18.0. Descriptive statistics was used to calculate frequency and percentage of general and health-related characteristics of participants. Average and standard deviation scores were calculated to assess mental health and quality of life. Differences in the level of quality of life depending on general and health-related characteristics were analyzed using independent t-test and one-way ANOVA. The correlation between mental health and quality of life was analyzed using Pearson's correlation. Lastly, the factors affecting the quality of life of participants were analyzed using multiple linear regression.

## 3. Results

**Differences in the QOL based on demographic and health-related characteristics.** Of the 156 questionnaires returned, five were excluded from final analyses due to incomplete responses, leaving a final sample of 151. Participants were primarily female (74.8%) with a mean age of 35.7. The majority of participants were employed as laborers (45.7%), had a middle school or higher level of education (76.2%), and separated or divorced following defecting (78.3%). Participants were generally free from chronic illness (75%), non-smokers (59.6%), did not use alcohol (44.4%), alcohol drinker (55.6%), and exercised regularly (61.6%). Detailed descriptions of the sample demographics and health related characteristics are found in Table 1. The reported QOL scores did not differ based on any of the demographic or health related characteristics; all statistical tests were non-significant.

**Reported mental health and quality of life.** The average of the SCL-90R overall mental health score was 0.86 ( $\pm 0.61$ ), indicating a low incidence of mental health problems among the participants. Subscale scores for mental health were reported as 0.97 ( $\pm 0.76$ ) for somatization, 1.12 ( $\pm 0.72$ ) for obsessive-compulsive, 0.90 ( $\pm 0.68$ ) for interpersonal sensitivity, 0.98 ( $\pm 0.69$ ) for depression, 0.94 ( $\pm 0.76$ ) for anxiety, 0.57 ( $\pm 0.68$ ) for hostility, 0.62 ( $\pm 0.65$ ) for phobic anxiety, 0.68 ( $\pm 0.67$ ) for paranoid ideation, 0.66 ( $\pm 0.65$ ) for psychoticism, and 0.88 ( $\pm 0.68$ ) for additional items.

Total QOL as measured by the WHOQOL-BREF was 3.17 ( $\pm 0.43$ ) on the 1-5 scale. Subscale scores for

QOL were reported as 3.30 ( $\pm 0.77$ ) for mental health, 2.97 ( $\pm 0.46$ ) for physical health, 3.16 ( $\pm 0.53$ ) for psychological health, 3.34 ( $\pm 0.54$ ) for social relationships, and 3.26 ( $\pm 0.57$ ) for environmental QOL.

**Correlation between mental health and quality of life.** Participants reported QOL was negatively correlated with somatization ( $r = -.274$ ,  $p = .001$ ), obsessive-compulsive ( $r = -.298$ ,  $p < .001$ ), interpersonal sensitivity ( $r = -.218$ ,  $p = .007$ ), depression ( $r = -.336$ ,  $p < .001$ ), anxiety ( $r = -.320$ ,  $p < .001$ ), hostility ( $r = -.249$ ,  $p = .002$ ), phobic anxiety ( $r = -.338$ ,  $p < .001$ ), paranoid ideation ( $r = -.257$ ,  $p = .001$ ), psychoticism ( $r = -.388$ ,  $p < .001$ ), and additional items ( $r = -.218$ ,  $p = .007$ ) subscales. These findings indicate that QOL declines as the incidence of mental health problems rise.

**Mental health factors affecting quality of life.** As a result, every variable was used for analysis, because variance inflation factor (2.56-7.74) showed no multicollinearity in independent variables, Durbin-Watson correlation coefficient (1.69) satisfied the mutual independence of the residuals, and normal distribution and homoscedasticity of the residuals satisfied normal distribution and equal variance assumption on scatter plot of standardized predicted values and standardized residuals. In order to identify which mental health factors affected participants' QOL, the mental health subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and additional items), which were all significantly correlated with QOL, were entered as predictors in multiple regression analysis. Psychoticism emerged as a predictive factor affecting total QOL ( $F = 3.88$ ,  $p < .001$ ), explaining 16.1% of the variance. Additionally, interpersonal sensitivity ( $\beta = .37$ ) positively influenced QOL (Table 2).

#### 4. Discussion

This study of mental health and QOL of early North Korean defectors undergoing a compulsory education process for three months in the Hanawon Resettlement Center was conducted to provide a basis for helping defectors adapt to South Korean society. The demographics of the study sample are consistent with those reported by the Ministry of Unification [1]. The high incidence of marital separation is of interest and is reflected in the literature. Among those who were married in North Korea, more participants were separated than remaining married. Prior to 2000, the majority of North Korean defectors came to South Korea alone, making it more difficult to adapt to South Korean society without family support [28]. Although the number of North Korean defectors accompanied by family members is increasing, many families suffer from dissolution after arriving in South Korea. The breakdown of family units may be a critical factor affecting QOL while adapting to South Korean society; future research should consider this variable.

Participants' average mental health score was 0.86 suggesting this sample had few mental health problems. It is possible mental health improved when entering South Korean society as defectors were no longer subject to the violence and abuse suffered prior to arrival. The low incidence of mental health problems could also be explained by the fact that Hanawon provided the defectors with protection and psychological support as suggested by Hong and colleagues [29]. Time in country was not considered in the current study; it is possible that the relief experienced by arrival in a safe location may later be overwhelmed by feelings of guilt over families left behind in the North and lead to increased depression and anxiety [3, 30]. Consistent follow-up surveys and management of early stages of mental problems are recommended. Obsessive-compulsive behaviors ranked highest among mental health concerns for this study sample. This is congruent with the findings of Lee, Min, and Oh's study [31] of North Korean illegal immigrants living in China. Obsessive-compulsive behaviors, in which individuals feel the need to check things repeatedly, have certain thoughts repeatedly, or feel the need to perform certain routines repeatedly, tend to occur when people have anxiety. Craig and colleagues [10] reported that anxiety, reflecting their experience of trauma and loss was one of the most common disorders. North Korean defectors reported few mental problems during the training period in Hanawon. However, the defectors may encounter problems after leaving the security of the Resettlement Center and moving into communities. Consistent mental health management is needed for North Korean defectors transitioning to communities; results of this study may serve as baseline data for support agencies in communities.

Quality of life of participants in this study was 3.17, which is slightly above average. This score was lower than that reported for Koreans in general [5], but was similar to Lee and colleagues [31] study of North Korean illegal immigrants defecting to China. Of interest is the higher score on the social relationships QOL subscale. Given the defectors often left family behind or were separated from support systems, this was not expected. It is possible that living in the stable, safe environment of Hanawon, which provides needed support, and being surrounded by others who have similar experiences account for the higher QOL scores reported for social relationships.

Interestingly, study results do not indicate high correlations between Mental Health (as measured by the SCL-90R) and QOL. There appears to be a disconnect between how participants feel about their life and the symptoms they are experiencing. Also, although the participants' mental health score was 0.86 on average, meaning they had a few mental health problems, there is the potential that mental health will suffer upon leaving the protected environment provided in Hanawon. Evidence suggests that once leaving Hanawon, where protection and psychological support is provided, the refugees experience increased psychological and physiological stress as they enter the community and try to acclimate to South Korean society [3, 30]; thus consistent follow-up and management for early stage mental problems are needed.

Psychoticism emerged as a predictive factor affecting the quality of life of early North Korean defectors who entered Hanawon, explaining 16.1% of the variance. Herrman, Hawthorne and Tomas [32] reported that patients with psychoticism who lived in local communities experienced lower QOL, with physical health QOL very low in particular. Without treatment, psychoticism progresses and becomes a chronic condition, seriously affecting the person, family and society. Prevention, identification of prodromal symptoms, early diagnosis, and treatment are recommended to prevent an acute episode from becoming a chronic illness [33]. The North Korean defectors seeking refuge in South Korea may experience increased mental health issues upon transitioning to the community, where prejudice and discrimination may occur, such as post-traumatic stress following escape from the North Korea [8]. Thus it is necessary to develop and offer on-going mental health management programs, through which North Korean defectors will be able to adapt to South Korean society more successfully. Additional longitudinal studies of mental health and QOL of North Korean defectors through the resettlement process and transition to communities are needed.

The limitation of this study must be considered. The use of a convenience sample always runs the risk of a skewed sample. The transition period from an initial resettlement center and movement into general society can be seen a frightening and intimidating. Therefore, response bias cannot be totally discounted as the émigrés are dependent on their benefactors and may well be inclined to respond in a perceived satisfactory way. Furthermore, the perception of mental health disorders may be unknown in the receiving country making the defectors less comfortable in being candid about their mental health issues on a survey for fear of being stigmatized, rejected or even sent back. Using a previously-verified survey in their own language may have helped with the validity of responses.

Generalization of the results of this study should be considered carefully, since participants of this study were limited to those entering Hanawon during a specified period. This study contributes to understanding the mental health and QOL of North Korean defectors in early stages of resettlement. Additional studies should be conducted to identify the change in mental health and QOL of North Korean defectors over time as they transition to and settle into local communities. Given a large percentage of defectors are female, future studies to identify factors affecting the quality of life of North Korean female defectors are recommended. Finally, the breakdown of families among defectors and its impact on QOL needs further investigation.

## **5. Conclusion**

This study is the first that attempted to identify mental health status and its impact on the QOL of early North Korean defectors who entered the Hanawon Resettlement Center in South Korea. Findings reveal a low incidence of mental health issues and a fairly good reported QOL among participants during the first three months following defection and while living in the secure and supportive Resettlement Center. As previous

studies have reported increased mental health problems for defectors following integration into communities, this study suggests the need for early and continued mental health support in helping North Korean defectors adapt to South Korean society successfully.

**Table 1. Quality of Life by General Characteristics of Participants (N=151)**

Characteristics	Categories	Total		M	SD	t/F	p
		n	(%)				
Gender	Female	113	(74.8)	3.28	0.56	0.89	0.376
	Male	38	(25.2)	3.19	0.59		
Age (in years)	<30	63	(41.7)	3.22	0.59	1.12	0.344
	30-39	31	(20.5)	3.42	0.52		
	40-49	40	(26.5)	3.23	0.48		
	≥50	17	(11.3)	3.19	0.72		
	Mean ± SD			35.70	11.16		
Type of occupation in North Korea	Student	4	(2.6)	3.47	0.41	0.56	0.763
	Soldier	4	(2.6)	3.38	0.42		
	Laborer	69	(45.7)	3.18	0.59		
	Cooperative farm worker	12	(7.9)	3.29	0.74		
	Working interior	11	(7.3)	3.24	0.48		
	Others	10	(6.6)	3.46	0.62		
	None	41	(27.2)	3.30	0.51		
Religious affiliation	Yes	84	(55.6)	3.29	0.59	0.44	0.508
	No	67	(44.4)	3.22	0.54		
Educational level in North Korea	Elementary school or less	9	(6.0)	3.24	0.80	0.01	0.992
	Middle & High school	115	(76.2)	3.26	0.57		
	College or higher	27	(17.9)	3.25	0.51		
Marital status	Married	18	(11.9)	3.40	0.62	0.65	0.627
	Separated	64	(42.4)	3.25	0.57		
	Divorced	19	(12.6)	3.22	0.58		
	Bereaved	16	(10.6)	3.37	0.59		
	Unmarried	34	(22.5)	3.17	0.53		
Current chronic illness	Yes	37	(24.5)	3.21	0.60	-0.56	0.577
	No	114	(75.5)	3.27	0.56		
Hospital admission in the past year	Yes	18	(11.9)	3.23	0.65	-0.23	0.817
	No	133	(88.1)	3.26	0.56		

<b>Smoker</b>	<b>Yes</b>	<b>61</b>	<b>(40.4)</b>	<b>3.23</b>	<b>0.56</b>	<b>0.19</b>	<b>0.661</b>
	<b>No</b>	<b>90</b>	<b>(59.6)</b>	<b>3.28</b>	<b>0.57</b>		
<b>Alcohol use</b>	<b>No</b>	<b>67</b>	<b>(44.4)</b>	<b>3.30</b>	<b>0.52</b>	<b>0.54</b>	<b>0.654</b>
	<b>2-3 times/month</b>	<b>40</b>	<b>(26.5)</b>	<b>3.28</b>	<b>0.62</b>		
	<b>1-2 times/week</b>	<b>26</b>	<b>(17.2)</b>	<b>3.22</b>	<b>0.61</b>		
	<b>Everyday</b>	<b>18</b>	<b>(11.9)</b>	<b>3.12</b>	<b>0.58</b>		
<b>Exercise Regularly</b>	<b>Yes</b>	<b>93</b>	<b>(61.6)</b>	<b>3.29</b>	<b>0.53</b>	<b>0.92</b>	<b>0.361</b>
	<b>No</b>	<b>58</b>	<b>(38.4)</b>	<b>3.20</b>	<b>0.62</b>		

**Table 2. Results of Multiple Regression Analysis (N=151)**

<b>Variables</b>	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>	<b>t</b>	<b>p</b>
<b>Somatization</b>	<b>-0.09</b>	<b>0.07</b>	<b>-.16</b>	<b>-1.21</b>	<b>.230</b>
<b>Obsessive-compulsive</b>	<b>-0.02</b>	<b>0.11</b>	<b>-.03</b>	<b>-0.15</b>	<b>.884</b>
<b>Interpersonal sensitivity</b>	<b>0.23</b>	<b>0.10</b>	<b>.37</b>	<b>2.34</b>	<b>.021</b>
<b>Depression</b>	<b>-0.12</b>	<b>0.13</b>	<b>-.19</b>	<b>-0.91</b>	<b>.365</b>
<b>Anxiety</b>	<b>-0.02</b>	<b>0.11</b>	<b>-.04</b>	<b>-0.22</b>	<b>.828</b>
<b>Hostility</b>	<b>0.09</b>	<b>0.10</b>	<b>.15</b>	<b>0.98</b>	<b>.328</b>
<b>Phobic anxiety</b>	<b>-0.11</b>	<b>0.09</b>	<b>-.16</b>	<b>-1.12</b>	<b>.266</b>
<b>Paranoid ideation</b>	<b>0.06</b>	<b>0.10</b>	<b>.10</b>	<b>0.63</b>	<b>.531</b>
<b>Psychoticism</b>	<b>-0.35</b>	<b>0.12</b>	<b>-.53</b>	<b>-2.96</b>	<b>.004</b>
<b>Additional items</b>	<b>0.08</b>	<b>0.08</b>	<b>.13</b>	<b>1.09</b>	<b>.279</b>

**Adjusted R<sup>2</sup>=.161, F=3.88, p<.001**

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