



Loneliness, Social Disconnectedness and General Health as an Overlooked Occupational Concern in Iran: The Case of Translators

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Abstract

Background: Translation typically requires concentration in a quiet environment, necessitating a commitment to accurately render and deliver the final product to clients. This often isolates translators from social interactions, potentially leading to loneliness and adversely affecting their mental and physical health.

Objectives: The present study aims to investigate the prevalence of loneliness and social disconnectedness among translators, examining their general health and personal characteristics.

Methods: This descriptive correlational study was conducted in 2022 among translators and interpreters in Iran, with 260 participants recruited through convenience sampling. Data collection involved an online questionnaire that included demographic information, the UCLA Loneliness Scale, Lubben's Social Network Scale (LSNS-6), and the General Health Questionnaire (GHQ-12). Data analysis was performed using SPSS, employing both descriptive and inferential statistics.

Results: One-quarter of participants (scoring 3 or higher) reported feeling lonely, with 130 respondents (50%) scoring above the mean (1.81 ± 0.11), and 5% experiencing severe loneliness. More than half ($n = 141$; 54.2%) scored below the mean (12.28 ± 0.39), indicating social disconnectedness. Less than half ($n = 113$; 43.5%) were at risk for mental health disorders, with 124 participants (47.7%) reporting symptoms of mental disorders, and 169 participants (65%) exhibiting unsatisfactory health status.

Conclusions: The findings highlight mental health concerns among translators, with implications for translators, job assessors, and occupational psychologists. Policymakers should recognize and address loneliness and social disconnectedness to ensure the well-being of translators and similar professions that require prolonged solitude. Employers and translators should strive to balance social life and work to fulfill occupational commitments effectively.

Keywords: Social Isolation, Loneliness, Mental Health, Occupational Health, Psychological Distress, Social Support, Translators

1. Background

Social relations play a vital role in mental health protection as they are among the most salient features of human well-being (1). In fact, socially sound relationships are so important that without them, a person's mental and social health can be jeopardized (2, 3). Contrary to social relations and engagement are social disconnectedness and isolation, defined as "the extent to which the individual emotionally feels socially isolated due to unpleasant experience or unmet needs

in either quantity or quality of social relationships" (4). The concepts of loneliness and disconnectedness are variously defined (5, 6). For instance, they are defined as the unpleasant experience that occurs when a person's network of social relationships is significantly deficient in quantity or quality (7). Victor et al. (8) also define loneliness as a measure of one's integration with and relation to family, friends, and community. The concept known as "social loneliness" originates in the lack of such a social network (9). Deprivation from various forms of social ties is described as loneliness (10). Simply

stated, loneliness may be viewed as having the experience of being alone (11). Relevant occupational theories have also stressed the need for social connectedness as a deeply ingrained human characteristic (12, 13). As a matter of fact, participation in social activities and developing social network ties are associated with better mental health (14). However, some jobs require degrees of solitude by nature. Among professions requiring a private space and concentration, translation from one language to another reflects unique requirements in that long hours are spent in isolation for occupational commitments. Despite sporadic social activities, translators of written texts often seek seclusion in order to render a more accurate translation at the expense of social disconnectedness, ultimately ending up in persistent fatigue symptoms such as depression (15); emotional loneliness may even follow in severe cases (9).

Translators consequently fall within the category of professionals who are inevitably subject to feelings of social disconnectedness and isolation. By focusing on intricate texts such as those in law and medicine (16) and spending long hours in isolation for deeper concentration (17), translators engage in challenging intellectual work, which is an inherent characteristic of translating from one language or culture to another (16). Despite being considered as possibly the "second oldest profession" (18), translators often acknowledge a lack of societal recognition (19). Consequently, they miss opportunities to experience nature, connect with friends and relatives, and participate in social events, in addition to losing chances for intimacy (20). The nature and consequences of social disconnectedness and loneliness have been investigated in relation to quality of life (21), healthcare providers (22), and in fields such as psychology, healthcare, and aging (23-26). However, to the best of the researchers' knowledge, the risks of loneliness, social disconnectedness, and mental health issues are less explored in relation to occupations requiring long hours of concentration, a necessity in the translating profession.

2. Objectives

The present study was designed to investigate the prevalence of loneliness and social disconnectedness in relation to translators' general health by examining the following two hypotheses: (1) Whether there is a significant relationship between general health and loneliness in Iranian translators, and (2) whether there is a significant relationship between general health and social isolation in Iranian translators, in order to raise

awareness about the adverse occupational repercussions for translators.

3. Methods

In this descriptive correlational study, a sample of 260 Iranian translators completed the study questionnaire in 2022 in Iran. The sample size calculation indicated a need for 235 participants; however, 260 participants were recruited to account for potential attrition. As no participants withdrew from the study, there were no missing data. Participants were purposively included through convenience sampling from the population of official translators and freelancers. The inclusion criteria required continuous engagement in translation practice and a willingness to participate in the study. Participants were free to discontinue the questionnaire at any time.

An online questionnaire was compiled using Google Docs, including demographic information (e.g., gender, age, marital status, and educational degree), occupational information (e.g., occupation type, working environment, and work experience), and social health concerns (e.g., number of close friends, self-assessed mental and physical health). Participants were recruited through professional groups of translators and interpreters currently engaged in translation activities; their responses were collected and entered into SPSS software. The three scales described below were included and administered in order.

- The 3-item UCLA Loneliness Scale: The questions on this scale are answered with "Hardly Ever" (score of 0), "Some of the Time" (score of 1), and "Often" (score of 2), with scores ranging from 0 (lowest) to 6 (highest); higher scores indicate greater degrees of loneliness. This scale is currently the most convenient measure for understanding participants' self-perceived experiences of loneliness. While there is no standard score for definitively classifying someone as 'lonely', it may be useful to compare the mean scores of different groups within the sample. The reliability of this tool is 0.84 (27) and it has good discriminant and concurrent validity (28).

- The Lubben Social Network Scale-6 (LSNS-6): This scale is a self-report measure of social engagement with family (items 1 to 3) and friends (items 4 to 6). It uses a five-point Likert scale to reflect the frequency of reciprocity with network members (0 = none, 1 = one, 2 = two, 3 = three or four, 4 = five to eight, 5 = nine or more). The total score ranges from 0 to 30, with higher scores indicating more social engagement and lower scores indicating social disconnectedness. This questionnaire and its two components demonstrate acceptable

validity (Cronbach's alpha = 0.80 - 0.89) with a high correlation (29).

- General Health Questionnaire (GHQ-12): This scale is a self-administered screening questionnaire designed to detect individuals with diagnosable psychiatric disorders (30). It is derived from the original 60-item GHQ-60, reduced to GHQ-30, GHQ-28, and finally to this 12-item version (31). The GHQ-12 is the most extensively used screening instrument for common mental disorders and serves as a general measure of psychiatric well-being (32). Its brevity makes it attractive for research purposes, especially in busy occupations. Its psychometric properties have been studied in various countries (33) and with diverse populations. We used a Farsi version of the GHQ-12, validated by (34), who found the scale to be a reliable and valid instrument for measuring psychological disorders in Iran (Cronbach's $\alpha = 0.87$).

The GHQ-12 is scored either as a bimodal scale (0-0-1-1) or a 4-point Likert-type scale (0-1-2-3). The latter produces a more acceptable distribution of scores for parametric analysis, with less skew and kurtosis, and is recommended for comparing levels of psychiatric impairment within and between samples (35). Therefore, we applied the latter type of scoring in the present study. The total score ranges from 0 to 36, with higher scores indicating worse health status. It has two subscales: Symptoms of mental health (items 2, 3, 4, 6, 10, and 12) and mental disorder (items 1, 5, 7, 8, 9, and 11).

The Research Ethics Committee of Sabzevar University of Medical Sciences approved the study (IR.MEDSAB.REC.1400.146). No personal information of the participants (e.g., name, e-mail address, national code) was requested. The data were used solely for the present research purposes, and participants were assured of confidentiality.

To describe and summarize the sample characteristics, we used descriptive statistics, such as frequency, percentage, mean, and standard deviation. To test for linear relationships between variables, correlation coefficients were used. After identifying correlating variables, we intended to model the relationships by running linear regression models. The researchers aimed to determine how one variable could function as a predictor or explanatory variable for other variables. Analyses were conducted using SPSS.

4. Results

The study sample comprised 260 participants, with a mean age of 35.26 ± 9.62 years. The majority of participants were female (63.8%), single (58.5%), freelance translators of written texts (71.5%), held MA

degrees (42.3%), worked from home (76.2%), and had less than 5 years of work experience (53.5%) (Table 1).

Regarding their social network size, most participants reported having 2 to 3 friends (41.5%) and 4 to 9 friends (33.8%), while 5% reported having no friends. Additionally, more than one-third of the participants rated their mental health (36.5%) and physical health (40.4%) as "good", whereas a considerably smaller number indicated "poor" mental (8.1%) and physical health (3.8%) (Table 2).

The participants' mean score on the UCLA Loneliness Scale (ranging from 0 to 6) was 1.81 ± 0.11 (1.48 ± 0.16 for males and 1.99 ± 0.15 for females), indicating that those scoring above the mean ($n = 130$) experienced higher levels of loneliness. However, only 25% of respondents scored 3 or higher, and just 5% scored 6, indicating severe loneliness. As shown in Table 3, the translators' loneliness was significantly affected by marital status ($P = 0.002$), educational level ($P = 0.02$), occupation ($P = 0.01$), working environment ($P = 0.03$), number of close friends ($P < 0.01$), and their self-perception of mental and physical health status ($P < 0.001$). However, gender ($P = 0.07$) and years of working experience ($P = 0.07$) had no significant effect on their loneliness (Table 3).

The mean score for the LSNS-6, which ranges from 0 to 30, was 12.28 ± 0.39 (12.04 ± 0.46 for males and 12.71 ± 0.71 for females). Participants scoring below the mean ($n = 141$ or 54.2%) were exposed to higher degrees of social disconnectedness. In the 95th percentile, maximum connectedness was observed at 22.95; only the top 5% of the sample exceeded this level, indicating strong signs of an optimal social network. Variables affecting participants' social isolation included marital status ($P < 0.001$), close friends ($P < 0.001$), as well as self-perceived mental and physical health status ($P < 0.001$) (Table 3). Single translators reported significantly higher levels of social isolation (11.34 ± 0.50) and disconnectedness from friends (5.45 ± 0.27) compared to married participants (Table 3). However, social isolation scores did not significantly differ by gender, educational level, occupation, working environment, or years of work experience. Additionally, 55 participants' family subsection scores (21.2%) fell below the mean (6.60 ± 0.22), indicating poor social connectedness with family/relatives. This was influenced by marital status ($P < 0.001$), educational level ($P = 0.02$), occupation ($P = 0.04$), number of close friends ($P < 0.001$) as well as self-perceived mental and physical health status ($P < 0.001$). Similarly, 77 participants' scores on connectedness with friends (29.6%) fell below the mean (5.68 ± 0.21), showing their poor social connectedness with friends; it was affected by the number of close friends ($P < 0.001$) and

Table 1. Participants' Demographic Information

Variables	No. (%)
Gender	
Male	94 (36.2)
Female	166 (63.8)
Marital status	
Single	152 (58.5)
Married	108 (41.5)
Degree	
BA	84 (32.2)
MA	110 (42.3)
PhD	66 (25.4)
Occupation type	
Certified translator	19 (7.3)
Freelancer (written)	186 (71.5)
Freelancer (oral)	15 (5.8)
Translation instructor	40 (15.4)
Working environment	
Office	27 (10.4)
Home	198 (76.2)
Both home and office	35 (13.5)
Working experience	
Less than 5 years	139 (53.5)
5 to 10 years	62 (23.8)
10 to 20 years	46 (17.7)
More than 20 years	13 (5)

their self-perceived mental and physical health status ($P < 0.001$) (Table 3).

Regarding the participants' GHQ-12 scores (ranging from 0 to 36), the mean score was 13.05 ± 0.21 (11.97 ± 0.31 for males and 13.67 ± 0.27 for females), with 43.5% ($n = 113$) of participants scoring above the mean, indicating exposure to potential mental health disorders. However, up to the 95th percentile, the maximum score observed was only 19.00. Scores were influenced by gender ($P < 0.001$) and marital status ($P = 0.004$), years of working experience ($P = 0.03$) and self-perceived mental health ($P < 0.001$). In other words, symptoms of mental disorder were significantly higher in female translators (4.98 ± 0.35) than male participants (6.40 ± 0.30) ($P = 0.004$); general health status varied significantly between male and female participants ($P < 0.001$). Similarly, symptoms of mental disorder were significantly higher in single translators (6.65 ± 0.32) than married participants (4.80 ± 0.30) ($P < 0.001$); general health status significantly varied among single and married participants as well ($P = 0.004$). Also, 124 participants (47.7%) fell above the mean (5.89 ± 0.23) and were exposed to symptoms of mental disorder (ranging from 0 to 18). But up to the 95th percentile, the maximum score observed was 13.95,

which is not close to the most severe disorder score (i.e. 18). It significantly differed by type of occupation ($P = 0.002$), working environment ($P = 0.03$), years of working experience ($P < 0.001$), number of close friends ($P = 0.03$), and their self-perceived mental and physical health status ($P < 0.001$) but it was not related with their educational level (Table 4). As for the mental health subsection (range between 0 and 18), 169 participants (65%) fell below the mean (7.17 ± 0.18), indicating their unsatisfactory health status; up to the 95th percentile, the maximum mental health score observed was 12.95, still distanced from the optimal health level (i.e. 18).

In an initial examination of the relationships, the two subscales of the GHQ-12 (i.e., mental health and mental disorders) showed significant and symmetric relationships with the UCLA Loneliness Scale, the LSNS-6, and its subscales (connectedness with friends and family).

As shown in Table 5, there was a moderate positive correlation between the UCLA Loneliness Scale and the mental disorders subscale ($r = 0.55$, $P < 0.001$). Also, there were moderate negative correlations between loneliness and connectedness with relatives/family ($r = -0.42$, $P < 0.001$), connectedness with friends ($r = -0.33$, P

Table 2. Participants' Social Network Size and Self-assessed State of Health

Variables	No. (%)
Social network size	
No friends	13 (5)
1 friend	11 (4.2)
2 to 3 friends	108 (41.5)
4 to 9 friends	88 (33.8)
10 to 20 friends	21 (8.1)
More than 20 friends	19 (7.3)
Self-assessed mental health	
Poor	21 (8.1)
Average	66 (25.4)
Good	95 (36.5)
Very good	56 (21.5)
Excellent	22 (8.5)
Self-assessed physical health	
Poor	10 (3.8)
Average	57 (21.9)
Good	105 (40.4)
Very good	56 (21.5)
Excellent	32 (12.3)

= 0.001), LSNS-6 total score ($r = -0.41$, $P < 0.001$), and GHQ-12 total score ($r = -0.41$, $P < 0.001$).

In addition, the LSNS-6 total score positively correlated with its subscales, i.e. connectedness with relatives/family ($r = 0.34$, $P < 0.001$) and friends ($r = 0.34$, $P < 0.001$). Its subscales also showed significant positive mutual correlation ($r = 0.64$, $P < 0.001$). Similarly, connectedness with relatives/family showed strongly positive and significant correlation with LSNS-6 total score ($r = 0.91$, $P < 0.001$); it further showed a moderate significant and positive correlation with the GHQ-12 subscale (i.e. mental health scores) ($r = 0.34$, $P < 0.001$). But a moderate negative correlation was observed between connectedness with relatives/family and the other GHQ-12 subscale (i.e. mental disorder scores) ($r = -0.35$, $P < 0.001$). Also, connectedness with friends showed a strong positive correlation with LSNS-6 total score ($r = 0.89$, $P < 0.001$); it positively correlated with the GHQ-12 subscale (i.e. mental health scores) ($r = 0.28$, $P < 0.001$) as well but negatively with the other GHQ-12 subscale (i.e. mental disorder scores) ($r = -0.28$, $P < 0.001$).

Subsequently, six regression models (R1-R6) were fitted, in which B coefficient and β standardized coefficient are presented. A standardized β coefficient compares the strength of the effect of each individual independent variable to the dependent variable. The multiple linear regression analyses are shown in Tables

6 and 7. The higher the absolute value of the β coefficient, the stronger the effect. For instance, in R6 or the sixth model, all variables are included, where being married has reduced symptoms of mental disorders by 1.2 points. Alternatively, one positive point in self-assessed mental health has reduced symptoms of mental disorders by 1.59 points. In these models, the highest effects on symptoms of mental disorders (either positive or negative) are brought about by self-assessed mental health (0.45), UCLA loneliness scores (0.33), being married (0.16), having close friends (0.09) and type of occupation (0.08).

5. Discussion

The present study aimed to investigate the prevalence of loneliness and social disconnectedness in relation to translators' general health and personal characteristics, with the goal of raising awareness about potential occupational repercussions for employers and practitioners. The findings were analyzed concerning variables such as age, gender, marital status, and type of occupation. For brevity and effective presentation, the discussion will focus on findings related to loneliness, social disconnectedness, and mental health status.

First, the job of a translator often requires distancing from friends and relatives (16, 17), as reflected by 41.5% of respondents who reported having only 2 to 3 close friends in this study. While the questionnaire did not

Table 3. Effects of Study Variables on Social Isolation and Loneliness

Variables	Loneliness		Social Isolation					
	UCLA Loneliness Scores	P-Value	Disconnectedness from Family	P-Value	Disconnectedness from Friends	P-Value	Total LSNS-6 Social Isolation	P-Value
Gender		0.07		0.89		0.42		0.71
Male	1.48 ± 0.16		6.73 ± 0.39		5.98 ± 0.39		12.04 ± 0.46	
Female	1.99 ± 0.15		6.52 ± 0.26		5.51 ± 0.25		12.71 ± 0.71	
Marital status		0.002		< 0.001		0.17		0.004
Single	2.05 ± 0.14		5.89 ± 0.29		5.45 ± 0.27		11.34 ± 0.50	
Married	1.46 ± 0.17		7.59 ± 0.31		6.00 ± 0.33		13.60 ± 0.60	
Degree		0.02		0.02		0.52		0.09
Bachelor's	2.25 ± 0.20		5.73 ± 0.40		5.39 ± 0.35		11.12 ± 0.66	
Master's	1.63 ± 0.16		6.91 ± 0.33		5.70 ± 0.34		12.61 ± 0.62	
PhD	1.54 ± 0.21		7.20 ± 0.41		6.01 ± 0.42		13.21 ± 0.77	
Occupation type		0.01		0.04		0.47		0.11
Certified translator	1.37 ± 0.40		8.26 ± 0.93		6.63 ± 0.91		14.89 ± 1.74	
Freelancer (written)	2.02 ± 0.14		6.24 ± 0.26		5.46 ± 0.24		11.70 ± 0.45	
Freelancer (oral)	1.80 ± 0.47		6.53 ± 0.77		6.00 ± 0.87		12.53 ± 1.57	
Translation instructor	1.04 ± 0.21		7.52 ± 0.48		6.12 ± 0.56		13.65 ± 0.97	
Working environment		0.03		0.28		0.41		0.33
Office	1.41 ± 0.34		6.93 ± 0.68		6.18 ± 0.67		13.11 ± 1.30	
Home	1.97 ± 0.13		6.41 ± 0.25		5.52 ± 0.24		11.93 ± 0.44	
Both home and office	1.20 ± 0.24		7.43 ± 0.61		6.20 ± 0.60		13.63 ± 1.14	
Working experience		0.07		0.17		0.75		0.37
Less than 5 years	1.98 ± 0.15		6.36 ± 0.30		5.56 ± 0.29		11.92 ± 0.52	
5 to 10 years	1.81 ± 0.21		6.26 ± 0.42		5.58 ± 0.40		11.84 ± 0.74	
10 to 20 years	1.56 ± 0.28		7.30 ± 0.56		5.85 ± 0.56		13.15 ± 1.06	
More than 20 years	0.85 ± 0.34		8.31 ± 0.86		6.85 ± 1.04		15.15 ± 1.81	
Close friends		< 0.001		< 0.001		< 0.001		< 0.001
No friends	3.46 ± 0.63		4.46 ± 0.87		3.46 ± 1.00		7.92 ± 1.72	
1 friend	1.91 ± 0.59		5.91 ± 0.87		2.54 ± 0.61		8.45 ± 1.33	
2 to 3 friends	2.26 ± 0.18		5.35 ± 0.31		4.74 ± 0.29		10.09 ± 0.52	
4 to 9 friends	1.34 ± 0.15		7.23 ± 0.37		6.40 ± 0.34		13.62 ± 0.63	
10 to 20 friends	1.24 ± 0.32		9.24 ± 0.51		7.86 ± 0.66		17.09 ± 1.09	
More than 20 friends	0.84 ± 0.27		9.74 ± 0.67		8.63 ± 0.81		18.37 ± 1.39	
Self-assessed mental health		< 0.001		< 0.001		< 0.001		< 0.001
Poor	4.14 ± 0.44		3.71 ± 0.77		3.29 ± 0.63		7.00 ± 1.23	
Average	2.61 ± 0.23		4.91 ± 0.40		4.56 ± 0.37		9.47 ± 0.69	
Good	1.67 ± 0.14		7.01 ± 0.32		5.69 ± 0.33		12.70 ± 0.56	
Very good	0.68 ± 0.13		8.43 ± 0.37		7.34 ± 0.42		15.77 ± 0.73	
Excellent	0.64 ± 0.27		8.00 ± 0.88		7.04 ± 0.86		15.04 ± 1.65	
Self-assessed Physical health		< 0.001		< 0.001		0.001		< 0.001
Poor	4.10 ± 0.79		4.70 ± 1.26		3.60 ± 1.15		8.30 ± 2.29	
Average	2.39 ± 0.25		4.74 ± 0.45		4.59 ± 0.43		9.32 ± 0.79	
Good	1.72 ± 0.16		6.79 ± 0.31		5.55 ± 0.31		12.34 ± 0.54	
Very good	1.34 ± 0.20		7.71 ± 0.46		6.89 ± 0.42		14.61 ± 0.77	
Excellent	1.16 ± 0.27		7.94 ± 0.63		6.59 ± 0.72		14.53 ± 1.26	

Abbreviation: LSNS-6, Lubben Social Network Scale-6.

focus on long-lasting friendships, about one-third of respondents claimed to have 4 to 9 friends (33.8%). Social interaction with friends can have significantly positive effects on health and well-being, particularly in areas such as a sense of belonging, self-confidence, and coping with stress and anxiety. However, if an occupation deprives individuals of social interactions (20), detrimental effects may follow (36). Previous studies have emphasized workplace loneliness and its occupational outcomes, such as absenteeism and work withdrawal (37, 38), but the issue is particularly

pronounced for freelance translators who spend hours working alone (19) at personal desks rather than in offices. Indeed, loneliness is a multifactorial and subjective experience that can threaten translators' health in the long run.

Second, the mean loneliness score was 1.8 ± 0.11 (ranging from 0 to 6), with a quarter of participants (scoring 3 or higher) feeling lonely. As the cut-off point for the scale varies by context, the sample mean was considered a convenient cut-off for determining the prevalence of loneliness among participants. Earlier

Table 4. Effects of Study Variables on General Health Questionnaire and Its Subscales

Variables	GHQ-12					
	Mental Health	P-Value	Mental Disorders	P-Value	Total	P-Value
Gender		0.44		0.004		< 0.001
Male	6.99 ± 0.29		4.98 ± 0.35		11.97 ± 0.31	
Female	7.27 ± 0.23		6.40 ± 0.30		13.67 ± 0.27	
Marital status		0.10		< 0.001		0.004
Single	6.98 ± 0.24		6.65 ± 0.32		13.63 ± 0.29	
Married	7.43 ± 0.27		4.80 ± 0.30		12.24 ± 0.28	
Degree		0.34		0.24		0.55
Bachelor's	7.07 ± 0.34		6.32 ± 0.44		13.39 ± 0.37	
Master's	7.02 ± 0.27		5.90 ± 0.34		12.92 ± 0.31	
PhD	7.54 ± 0.35		5.30 ± 0.44		12.95 ± 0.46	
Occupation type		0.06		0.002		0.09
Certified translator	7.64 ± 0.57		3.63 ± 0.70		11.32 ± 0.76	
Freelancer (written)	6.92 ± 0.22		6.30 ± 0.28		13.21 ± 0.25	
Freelancer (oral)	7.53 ± 0.88		6.73 ± 0.89		14.27 ± 0.90	
Translation instructor	7.95 ± 0.41		4.72 ± 0.51		12.67 ± 0.54	
Working environment		0.02		0.03		0.71
Office	7.52 ± 0.48		5.07 ± 0.68		12.59 ± 0.63	
Home	6.89 ± 0.20		6.23 ± 0.27		13.12 ± 0.24	
Both home and office	8.46 ± 0.55		4.54 ± 0.58		13.00 ± 0.60	
Working experience		0.04		< 0.001		0.03
Less than 5 years	7.18 ± 0.24		6.35 ± 0.31		13.53 ± 0.29	
5 to 10 years	6.60 ± 0.39		6.32 ± 0.50		12.92 ± 0.40	
10 to 20 years	7.56 ± 0.45		4.74 ± 0.52		12.30 ± 0.56	
More than 20 years	8.38 ± 0.54		2.85 ± 0.66		11.23 ± 0.76	
Close friends		0.01		0.03		0.66
No friends	5.85 ± 0.78		8.08 ± 0.98		13.92 ± 0.90	
1 friend	6.00 ± 1.03		5.64 ± 1.29		11.64 ± 0.83	
2 to 3 friends	6.74 ± 0.27		6.45 ± 0.38		13.19 ± 0.34	
4 to 9 friends	7.73 ± 0.33		5.14 ± 0.36		12.86 ± 0.33	
10 to 20 friends	7.24 ± 0.51		5.90 ± 0.93		13.14 ± 0.93	
More than 20 friends	8.53 ± 0.65		4.74 ± 0.67		13.26 ± 0.86	
Self-assessed mental health		< 0.001		< 0.001		< 0.001
Poor	4.57 ± 0.60		10.57 ± 0.74		15.14 ± 0.73	
Average	5.82 ± 0.27		8.17 ± 0.46		13.98 ± 0.44	
Good	7.04 ± 0.25		5.47 ± 0.28		12.52 ± 0.30	
Very good	9.23 ± 0.37		3.45 ± 0.34		12.68 ± 0.46	
Excellent	9.00 ± 0.70		2.54 ± 0.37		11.54 ± 0.76	
Self-assessed physical health		< 0.001		< 0.001		0.34
Poor	4.30 ± 0.77		8.70 ± 1.46		13.00 ± 1.18	
Average	5.91 ± 0.35		7.89 ± 0.48		13.81 ± 0.47	
Good	7.19 ± 0.25		5.67 ± 0.35		12.86 ± 0.30	
Very good	7.77 ± 0.39		4.77 ± 0.46		12.54 ± 0.50	
Excellent	9.19 ± 0.57		4.09 ± 0.49		13.28 ± 0.62	

Abbreviation: GHQ-12, General Health Questionnaire.

studies have recommended the upper two-thirds (scores 3 to 6 in this case) as indicative of participants feeling "lonely" (39). However, loneliness varied by social and individual factors such as marital status, educational level, type of occupation, working environment,

number of close friends, and self-perceived health status.

Third, the perception of one's mental health may be partly influenced by one's occupation. Some studies have identified health outcomes associated with remote working (40) and advised remote employees to mitigate

Table 5. Correlation Between Loneliness, Social Disconnectedness and General Health Questionnaire

	Loneliness (UCLA)	Lubben's Social Network Scale			GHQ-12		Total
		Disconnectedness from Family	Disconnectedness from Friends	Social Isolation	Mental Health	Mental Disorder	
Loneliness (UCLA)	1						
Lubben's Social Network Scale							
Disconnectedness from family	-0.42 (< 0.001)	1					
Disconnectedness from friends	-0.33 (0.001)	0.64 (< 0.001)	1				
Social isolation	-0.41 (< 0.001)	0.91 (< 0.001)	0.89 (< 0.001)	1			
GHQ-12							
Mental health	-0.41 (< 0.001)	0.34 (< 0.001)	0.28 (< 0.001)	0.34 (< 0.001)	1		
Mental disorder	0.55 (< 0.001)	-0.35 (< 0.001)	-0.28 (< 0.001)	-0.34 (< 0.001)	-0.51 (< 0.001)	1	
Total	0.26 (< 0.001)	-0.08 (0.18)	-0.01 (0.82)	-0.06 (0.34)	0.27 (< 0.001)	0.63 (< 0.001)	1

Abbreviation: GHQ-12, General Health Questionnaire.

Table 6. Linear Regression Analyses for General Health Questionnaire-12 Subscale (Mental Health)

Variables	R1		R2		R3		R4		R5		R6	
	B	β	B	β	B	β	B	β	B	β	B	β
Age	-0.005	-0.01	-0.008	-0.03	-0.01	-0.02	-0.008	-0.02	-0.009	-0.03	-0.01	-0.03
Gender	-0.75	-0.12	-0.81	-0.13	-0.72	-0.12	-0.77	-0.13	-0.77	-0.13	-0.81	-0.13
Marital	0.21	-0.04	0.13	0.02	0.05	0.02	0.16	0.03	0.11	0.02	0.06	0.02
Degree	-0.18	-0.03	-0.15	-0.04	-0.16	-0.04	-0.11	-0.03	-0.12	-0.03	-0.13	-0.02
Occupation	0.07	0.02	0.02	0.004	0.08	0.02	0.06	0.02	0.07	0.02	0.02	0.004
Working condition	0.31	0.06	0.35	0.06	0.33	0.06	0.37	0.06	0.36	0.06	0.37	0.06
Working experience	0.001	0.005	0.01	0.01	0.003	0.01	0.04	0.01	0.04	0.01	0.06	0.02
Close friends	0.25	0.09	0.15	0.06	0.11	0.04	0.09	0.03	0.06	0.02	0.04	0.01
Self-assessed mental health	1.20	0.43	0.90	0.2	1.03	0.37	1.05	0.38	1.05	0.38	0.83	0.30
Self-assessed physical health	0.40	0.14	0.39	0.13	0.34	0.12	0.35	0.12	0.35	0.12	0.35	0.12
UCLA	-	-	0.33	-0.2	-	-	-	-	-	-	-0.28	-0.17
LSNS-6 family	-	-	-	-	0.14	0.17	-	-	0.11	0.09	0.05	0.06
LSNS-6 friends	-	-	-	-	-	-	0.15	0.18	0.15	0.17	0.13	0.15
R ²	0.518		0.546		0.540		0.544		0.544		0.563	
ΔR ²	-		0.028		0.022		0.026		0.026		0.045	

these effects by taking appropriate measures (41). Additionally, research conducted in Peru attributed negative health outcomes among urban workers to informal employment conditions (42). In the present study, more than a third of translators rated their physical (40.4%) and mental (36.5%) health as "good", while only a small number rated them as "poor". One-third of participants rated their health as either "poor" or "average", while another portion rated their health as either "very good" or "excellent" (Table 2). These findings may be attributable to the inclusion of "interpreters" and "translation instructors", who generally have

opportunities for social interaction with clients. Moreover, certified translators often hire additional translators to maintain workflow efficiency and allocate personal time for social encounters. In contrast, freelance translators of written texts typically spend long hours in solitude to complete projects (43).

Fourth, the mean score of the social network scale (ranging from 0 to 30) was 12.28 ± 0.39, indicating that participants with scores above the mean had better social connections with family and friends, while those below the mean (n = 141 or 54.2%) were more socially disconnected. Previous studies suggested scores below

Table 7. Linear Regression Analyses for the General Health Questionnaire-12 Subscale (Mental Disorder)^a

Variables	R1		R2		R3		R4		R5		R6	
	B	β	B	β	B	β	B	β	B	β	B	β
Age	-0.04 *	-0.1	-0.02	-0.06	-0.03	-0.08	-0.04 *	-0.10	-0.03	-0.09	-0.02	-0.06
Gender	-0.45	-0.06	-0.32	-0.06	-0.60	-0.08	-0.50	-0.06	-0.60	-0.07	-0.40	-0.05
Marital status	-1.12 *	-0.15	-1.20 *	-0.16	-1.13 *	-0.15	-1.12 *	-0.15	-1.13 *	-0.15	-1.20 *	-0.16
Degree	0.51 *	0.10	0.35	0.07	0.37	0.07	0.51 *	0.10	0.37	0.07	0.36	0.07
Occupation type	0.19	0.04	0.39 *	0.08	0.18	0.04	0.19	0.04	0.18	0.04	0.39 *	0.08
Working environment	0.12	0.01	0.04	0.006	0.10	0.01	0.10	0.01	0.10	0.01	0.04	0.006
Working experience	-0.14	-0.03	-0.25	-0.06	-0.17	-0.04	-0.16	-0.04	-0.17	-0.04	-0.26	-0.06
Having close friends	0.16	0.05	0.34 *	0.09	0.27	0.08	0.22	0.07	0.27	0.08	0.31 *	0.09
Self-assessed mental health	-2.12 *	-0.60	-1.60 *	-0.45	-1.91 *	-0.54	-2.17 *	-0.60	-1.91 *	-0.54	-1.59 *	0.45
Self-assessed physical health	-0.12	-0.03	-0.07	-0.02	-0.04	-0.01	-0.09	0.02	-0.04	-0.01	-0.03	-0.008
Loneliness UCLA	-	-	0.70 *	0.33	-	-	-	-	-	-	0.70 *	0.33
Disconnectedness from family	-	-	-	-0.13 *	-0.12 *	-	-	-0.13 *	-0.12	-0.09	-0.09	-0.09
Disconnectedness from LSNS-6 friends	-	-	-	-	-	-	-0.05	-0.04	0.009	0.008	0.02	0.02
R ²	0.640		0.691		0.640		0.640		0.640		0.691	
ΔR ²	-		0.051		0		0		0		0.051	

^a * indicates $P < 0.005$ (significant at the 5% level).

12 as indicative of being "at risk for social isolation" (29, 44), which applies here and partly corroborates our decision to consider the mean as a convenient cut-off point. As noted earlier, the scale comprised two subscales (i.e., family and friends); social and individual variables such as marital status, number of close friends, and self-perception of health status affected participants' social disconnectedness (Table 3).

Fifth, the participants' mean GHQ-12 score was 13.05 ± 0.21 (ranging from 0 to 36), indicating that 113 participants (43.5%) were exposed to mental health problems. Earlier studies have recommended the upper two-thirds of participants (scores 13 to 36) as those exposed to mental disorders (45). Therefore, the mean GHQ-12 score may be regarded as a rough but convenient cut-off threshold (45, 46), suggesting that those who scored above the mean (43.5% of respondents) are likely to exhibit indications of mental health problems (34). As noted in Table 3, the mental health subscale was influenced by factors such as gender, marital status, years of work experience, and self-perception of health status. Conversely, the mental disorders subscale was affected by marital status, type of occupation, working environment, years of work experience, number of close friends, and self-perception of health status (Table 3). Further discussion of these findings may require additional studies.

Finally, it was noteworthy to find correlations between the scores of the UCLA Loneliness Scale and the

GHQ-12 (and its mental disorders subscale), as well as the LSNS-6 (and its friends and family subscales). While associations between translators' general health, loneliness, and social disconnectedness have not been previously reported, such correlations among the instruments used in this study and their subscales (Table 4) may validate our choice of instruments for this purpose, suggesting their application in occupational studies is advisable (47).

Furthermore, as displayed in Tables 6, and 7, the multiple linear regression analyses revealed other statistically significant associations. For instance, variables associated with the GHQ-12 mental disorders component are included in Table 6, and all variables are included in Table 7. Among all studied variables, being married reduced the mental disorders score by an average of 1.2 points; being married accounted for a 1.59-point reduction in mental disorders. Moreover, the strongest effects on mental disorders (as a subscale in the GHQ-12) were attributed to self-assessed mental health (0.45), loneliness (0.33), marital status (0.16), having a close friend (0.09), and type of occupation (0.08).

This study addresses an important issue in occupational health, but it is essential to acknowledge its limitations. While valuable insights were gathered through questionnaires, a richer understanding of translators and interpreters' experiences could be gained through in-depth interviews. Conducting

qualitative investigations would provide a more nuanced perspective on their lived experiences. Additionally, our findings are subject to the time and place of the research; therefore, other researchers may find different results.

5.1. Conclusions

The present study emphasized the importance of social interaction with friends and family members, even when occupational commitments lead to deprivation. It is recommended that translators (and those in similar occupations requiring long hours of solitary work) persistently care for their general health by reducing loneliness and expanding their social network size. To mitigate some negative health effects of remote working, strategies for managing work-home boundaries and balancing workload may also be recommended (41). The study aimed to answer its questions despite limitations; future studies may enhance our efforts by investigating other job categories and using qualitative methods to explore participants' deeper understanding and perception of loneliness and social disconnectedness.

Footnotes

Authors' Contribution: N. Sh., M. V. F., and M. H. R.: Study concept and design; M. V. F. and N. Sh.: Analysis and interpretation of data; N. Sh., M. V. F., B. L. H. and A. Kh.: Drafting of the manuscript; A. Kh., M. V. F., and B. L. H.: Critical revision of the manuscript for important intellectual content; M. H. R., and N. Sh.: Statistical analysis.

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