# Correlations of Loneliness among Nepalese Senior Citizens

Dr. Durga Bhusal[1*]
Dr. Hom Nath Chalise[2]
Dr. Keshab Prasad Adhikari[3]
Email: db67092@gmail.com

**Abstract :** *The Proportion of the elderly in Nepal is increasing rapidly. Senior citizens are prone to spirits of loneliness. It comprises both solitary life and life with the potential to participate in interaction with others. The purpose of the study was to analyze the loneliness situation among Nepalese young senior citizens. The subjects (n = 513) inhabitants of Butwal sub-metropolitan city having an age range of 60 to 74 (mean/SD = 65.86/4.20) years were female dominated (52.6 percent). Data were collected through frontal interviews using 20 statements of the loneliness scale developed by the University of California, Los Angeles (UCLA). The data were analyzed using correlation bivariate, multiple regression analysis, and independent sample t-test. The study observed that 29.63 percent reported experiencing low levels of loneliness, 21.25 percent experienced moderate levels, and 49.12 percent reported high levels of loneliness. These levels of loneliness were categorized based on the scoring range: scores below 30 indicated low loneliness, scores of 30 to 39 indicated moderate loneliness, and scores of 40 or higher indicated high levels of loneliness. A statistically significant correlation was found between feelings of loneliness, sex, family type, marital status, education, social participation, and property ownership. Results of multiple regression analysis displayed property ownership, marital status, type of family, and sex standing as significant factors of loneliness. The present results indicate remarkable Nepalese young senior citizens were experiencing loneliness. It is necessary to assess the levels of loneliness of young senior citizens and pursue an intervention to reduce these problems.*

*Keywords:* aging in Nepal, correlates of loneliness, loneliness, Nepali older people, young senior citizens

### Correlations of Loneliness among Nepalese Senior Citizens

Federal democratic republic Nepal (Constitutional Assembly Secretariate, 2015) has a 0.92 annual growth rate of population for the census year 2021 (National Statistics Office, 2023). The population of senior citizens aged 60 years and above in 2021 reached 10.21% of the total

---

1    Assistant Professor, Department of Population Studies, Butwal Multiple Campus, Tribhuvan University, Butwal, Nepal
2    Faculty Member of MPhil Leading Program, Central Department of Population Studies, University Campus, Tribhuvan University, Kathmandu, Nepal
3    Professor, Department of Population Studies, University Campus, Tribhuvan University, Kathmandu, Nepal

population (Hom Nath Chalise, 2023) which was 8.13% in the census 2011 (Singh, 2014). Aging of the populations around the world is at a faster pace than in the past which will be the most rapid and maximum increment of senior citizens in the developing world during the healthy aging decade (United Nations, 2019). The need to foster healthy aging is to change how we think, feel, and act about age and aging (World Health Organization, 2021). Augmented longevity deprived of good health becomes worthless (Temkin, 2008). Despite many contributions to society, negative attitudes about older people through stereotyping (how we think), Prejudice (how we feel), and Discrimination (how we act) advance deleterious effects on their well-being. The determination of health and well-being occurs not only due to gene-guiding personal characteristics but also due to the friendly living environment created by others that help to improve the mental capacity of older people (Tiraphat et al., 2017). This helps to infer that an older individual with stronger mental capacity may not feel lonely even if he/she is alone. However, weaker mental capacity compels the individual even in a group of persons to feel lonely. The way of perceiving the social environment of the people is a subjective rather than an objective reality (Bofill, 2004). Human beings are social creatures involved in social relations and meet the situation of isolation from two factors, one is from others where relationships take a negative turn, and the second is the attitude of the individual to society (Rokach & Neto, 2000).

The elderly population in Nepal is experiencing significant and swift growth, and this trend is expected to continue in the future (Hom Nath Chalise, 2023). The newest census, population census 2021, in Nepal showed the annual population growth rate for senior citizens aged 60 years and above at 3.1 percent. This increasing trend of senior citizens is because of the entry of a large number of working-aged people in the past and improved health facilities and services. The length of the prospective age of the elderly is increasing with increasing remaining life expectancy at age sixty. The large part of senior citizens performing in the informal area is not only a matter in Nepal but also in Asia, and that is common to the world. It is a motivational feature of Nepalese that descent acts as a safeguard at the old age of parent is historical and that it remains a bit different at present pointing need for extra managerial skill for the future. Providing care to get help in any emergency of parents is the filial responsibility of the sons and daughters-in-law (H. N. Chalise et al., 2010), and the eroding values and norms in the recent generations in Nepal towards their elders particularly in joint and larger family systems are behind our cultural norms values and expectation (H. N. Chalise & Rai, 2013). The result of urbanization and modernization in a few decades of recent past has shown the trend of family-type transformation from extended nature to nuclear particularly in urban communities and the modern social environment has made the family members busy with their own work without leaving the time to interact with the older member living in the family (Acharya, 2011). *Vanaprastha* requires the individual to gradually withdraw from the known practical and social aspects of life (Van Willigen et al., 1995) is the third of four; *brahmacharya* (student life), *gṛihastha* (family life), *vanaprastha* (retired life), and *sannyasa* (life of renunciation); stages of human life of 100 years explained in Hindu philosophy. *Vanaprastha* comprises young senior citizens is the consideration taken into account for this study population. The population growth rate based on the senior citizens in Nepal is 3.59 percent per year which reflects the scenario of the presence of double elderly people in about two decades, and loneliness developed among them because of miniature communication with offspring and thereby creating feelings of ignorance wide spreading (H. N. Chalise, 2021).

Loneliness is a universal phenomenon embedded in the human experience and is closely associated with changing life circumstances (Lim & Kua, 2011). Breaking social relations of intimates (either rejection or withdrawal), lack of social network to connect with trusted people due to lack of the feeling of closeness in relation, and weaker links with the social group due to lack of sense of group identity are the three factors leading to define loneliness (Austin, 1983; Hawkley et al., 2005). Loneliness is a paradoxical human experience because it comprises both decrements in activity and the potential to be interactive (Weeks, 1994). The way through which people enter into their social relationships, their own level of interaction, and social engagement have made loneliness complex in its conceptual as well as theoretical ground, where it is a prevalent social problem, which is normally experienced unrelatedly on race, sex, age, or custom (Rokach & Neto, 2000). All of the symptom characteristics for the feeling of loneliness can be grouped together in lower-order factors, which helps to promote the clear understanding that loneliness seems to be a unidimensional construct on the surface and may have many different faces (Kwiatkowska et al., 2017). "The survival of the human species depends on social abilities to speak, understand, and work with other individuals" (Hawkley et al., 2005). People are motivated to form relationships that lead to the acquisition of social identities and to the incorporation of close others into their self-construal (Baumeister & Leary, 1995).

The incongruity between desired level and the actual position of social exchanges is the foundation of loneliness (Hawkley & Kocherginsky, 2018)but a large proportion remains relatively unscathed by loneliness. To date, research examining both protective and risk factors for loneliness has not included data from the United States. The present study used the first two waves of data from the National Social Life, Health, and Aging Project to examine sociodemographic, structural, and functional factors thought to be associated with loneliness in older adults. Functional limitations and low family support were associated with an increase in loneliness frequency (as were more strained friendships. Unfriendly social stimuli pull the attention of lonely persons (Bangee et al., 2014)with earlier work (Jones & Carver, 1991, and they review social actions differently applying a negative angle. The subjective unpleasant feeling of poor social relations is treatable (Weeks, 1994). The intrapersonal spiritual retreat tries to get more clarity on the discrepancies through intimate attachment with god. Thereby drawn enjoyment of life is the positive effect of loneliness. The minor link between isolation from society and loneliness (Coyle & Dugan, 2012) points out that inhibition from the opportunity advances loneliness. The positive angle of loneliness comprises the voluntary withdrawal from the daily disturbances of life and orientation towards higher goals, such as reflection, meditation, and communication with God, whereas the unpleasant experience that occurs when a person's network of social relationships is deficient in some important way, either quantitatively or qualitatively is regarded as negative (de Jong Gierveld, 1998). Social nourishment supports appreciating personal skills to reverse the current of loneliness because it is the moral imperative of society (Weeks, 1994).

Senior citizens are susceptible to feelings of loneliness (Kim et al., 2009). Loneliness may carry a stigma that affects the behavior of people who feel lonely, but also the attitude of others (Tiikkainen & Heikkinen, 2005). The younger generation has not become fruitful to perform their duty full of honesty regarding the gradual withdrawal of young senior citizens. In one way, the advancement of science and technology causes the longer remaining life of the person at age 60, and in another way, the offspring who are supposed to be caregivers of their parents, have to

engage differently to maintain their modern life. The way of life, where traditional values and customs are not pursued by the newer generation has added tension to senior citizens as a specific cause of loneliness. There are no comprehensive studies concentrated on loneliness among young senior citizens in Nepal. The researcher has therefore focused on this problem to facilitate policy formulation to promote the strength of the mental capacity of young senior citizens in Nepal. This study has aimed to analyze the loneliness situation among Nepalese young senior citizens.

## Methods and Materials

This methods and materials section includes a detailed description to outline the materials, instruments, data collection techniques, and data analysis methods utilized to ensure the reliability of the findings.

## Sample

The execution of this cross-sectional field survey was in Butwal sub-metropolitan city during May-July 2021. The key reason for the selection of the study site was that Butwal sub-metropolitan city is a more effective trade center as an economic hub of the nation than that in other cities of the Lumbini province with diversified demographic, social, cultural, and economic characteristics. During the study period, the research site included 10,392 individuals as the study population, comprising approximately 77.14 percent of the total number of people aged 60 years and above. The target of the study was young senior citizens and loneliness on them because of their economic potential restricting to be introduced as dependent based on their age and physical activities in the Nepalese scenario. The sampling frame was taken from the office of the sub-metropolitan city and from which sample size was calculated using Cochran's formula—$n0 = Z2.p.q/e2$ and $n = n0 / (1 + n0/N)$ (Cochran, 1953). The final sample size was 513. Older people of three age groups 60-64, 65-69, and 70-74 were purposively chosen for this study.

The inclusion criteria for this survey were 1. Individuals 60-74 years, 2. Those who can communicate in the Nepali language, 3. Not having any serious mental disorders. In this survey, young senior citizens from all 19 wards with 27 individuals per ward were respondents for the purpose of data collection. Door-to-door visit to 436 households for 513 respondents was performed where 97 households were comprised of double respondents.

Loneliness was measured by the idea of UCLA loneliness scale (D. Russell et al., 1978) of 20 statements with a 4-point scale ranging from Never (1) to Often (4), with a total score of 20–80. Based on the idea of the revised UCLA loneliness scale (D. Russell et al., 1980), the symbolic letters were with the meaning that O indicates "I often feel this way", S indicates "I sometimes feel this way", R indicates, "I rarely feel this way", and N indicates "I never feel this way." The sum scale variable with a score ranging from 20 to 80 was transformed into three levels of loneliness as low as scoring less than 30, moderate consisting the value range of 30 to 39, and high as scoring 40 or higher (Cacioppo & Patrick, 2008). Then the 'loneliness sum scale' variable was used in linear regression analysis. The sum scale variable for loneliness created from the four-point scale was allowed for regression tests keeping loneliness as the dependent variable. Lastly correlation between 'loneliness' and 'final say in household decision-making process' was taken into account to meet the additional target of this research article.

The UCLA loneliness scale shows high internal consistency for a scale of only 20 items. For the total sample of 513 young senior citizens, reported Cronbach's alpha coefficient was 0.945.

### Variables

In this study, firstly, loneliness was a dependent variable, and independent variables were age, sex, family status, type of family, marital status, cash-earning activity, education, social participation, physical health status, mental health problem, and functional disability, type of income, social security allowance, and property ownership.

Confounding factors for this study were detected based on the literature review and regression analysis. Six significant variables that appeared in Table 3 were tested whether they were with confounding effects. Cumulative entries of the six variables sex, family type, marital status, education, social participation, and property ownership appeared in six models in Table 4 showing the remarkable change in B value for the particular variable with the companionship of other variables. Therefore, we noted that sex, family type, marital status, and property ownership are confounding factors having significant F-change values. The age variable was not entered in the models determining confounding effect because of its insignificant feature appearing in the correlation as shown in Table 3.

Data were analyzed using SPSS (Version 20.0). Firstly, the significance of independent variables through correlation regarding loneliness was analyzed, and then linear regression to find the degree of contribution in variance. An independent sample t-test was performed to show comparisons in the dichotomous indicators designed for the respective socioeconomic and demographic variables. Bivariate logistic regression analysis was applied between loneliness as the continuous independent variable and the final say of the respondents in their household decision-making process as the dichotomous dependent variable.

Nepal Health Research Council (NHRC) approved the study protocol through a letter with reference number 917/ 2020. The officer of the local level sub-metropolitan office, Butwal had given permission with letter number 4569/2021 for this study. Participants had given verbal informed consent before the face-to-face interview at their homes.

### Results

The representation of selected features with the selected indicator of the respondents is in Table 1. The age of 513 respondents in the range 60-74 was in ordinal scale variables. Males (47.4 percent) were in less number than females. Among the family relation to the head, household heads were 327 (63.7 percent of total respondents). Respondents related to the nuclear family type were 114 (22.2 percent). This showed that the majority of the respondents were in joint and extended family structures. All the respondents were married. Among dichotomous indicators of spouseless and with the spouse, senior citizens living with a spouse were about two-thirds. Respondents who participated in cash-earning activities were 42.7 percent, and those taking part in social activities were 39.6 percent. All the levels of educational attainment with literate were categorized into literate+ (73.5 percent) where illiterate was about one-fourth. More than fifty percent were reporting "diseased" in physical health conditions and mental health problems, while less than one-fourth had a functional disability. Income used to address the daily expenses through self-earned were 32.7 percent. Some respondents aged 60 to 69 years were not eligible for social security allowance due to the governmental policy of Nepal. Those taking social security allowances was only 35.7 percent. Young senior citizens have the less functional limitation seen in their property ownership, which comprised 80.9 percent. The hold of senior citizens in the household decision-making process was 55.9 percent.

**Table 1. Some Selected Background Features of the Young Senior Citizens in Butwal**

| Characteristics | N | Percent | Mean | SD | Range |
|---|---|---|---|---|---|
| Age | 513 | 100.0 | 65.86 | 4.20 | 60-74 |
| Sex (Male) | 243 | 47.4 | | | |
| Family status (Head) | 327 | 63.7 | | | |
| Family type (Nuclear) | 114 | 22.2 | | | |
| Marital status (Spouseless) | 132 | 25.7 | | | |
| Cash earning activity (Participated) | 219 | 42.7 | | | |
| Education (Literate+) | 377 | 73.5 | | | |
| Social participation (Yes) | 203 | 39.6 | | | |
| Physical Health problem (Diseased) | 281 | 54.8 | | | |
| Mental health problem (Yes) | 349 | 68.0 | | | |
| Functional disability (Yes) | 120 | 23.4 | | | |
| Income type (Self-earned) | 168 | 32.7 | | | |
| Social Security Allowance (Yes) | 183 | 35.7 | | | |
| Property ownership (Own) | 415 | 80.9 | | | |
| Hold in decision-making (Yes) | 287 | 55.9 | | | |

*Note.* N = Total Number, SD = Standard Deviation

The three categories of loneliness as observed in a study conducted by Cacioppo and Patrick (2008, p. 272) are displayed in Table 2. In this study, the researchers categorized participants into three levels of loneliness based on their scores, with the scoring range being less than 28 for the low level, 33 to 39 for the moderate level, and 44 or higher for the high level (Cacioppo & Patrick, 2008). However, to ensure a more comprehensive classification without gaps in the scoring range, slight adjustments were made. The revised scoring range now includes less than 29 for the low level, 30 to 39 for the moderate level, and 40 or higher for the high level of loneliness.

**Table 2. Loneliness Situation of Respondents**

| Level of loneliness | Cases | | | |
|---|---|---|---|---|
| | Frequency | Percent | | |
| Low | 152 | 29.63 | | |
| Moderate | 109 | 21.25 | | |
| High | 252 | 49.12 | | |
| Total | 513 | 100.00 | | |
| Loneliness variable | N | Mean/Median/Interquartile range | SD | Range |
| | 513 | 1.951/1.950/1.1 | 0.698 | 1–4 |

*Note*. The information of the last row in Table 2 was determined based on the loneliness mean scale variable. To create this variable, responses from the statements used in data collection

were combined, with each statement offering four response options to choose from the range 1–4 of the Likert Scale.

Correlation bivariate analysis to describe the strength and direction of the linear relationship between loneliness on a continuous scale and other variables in dichotomy nominal scales is in Table 3, where age, family status, work participation, physiological status, social security allowance, and income type were insignificant. Twelve variables mentioned in Table 3 were tested using Biserial correlation, and six of them appeared to be significant. Furthermore, among those six significant variables, four of them had a negative sign. A negative sign in significant correlation shows that a higher score of the dichotomous variable is associated with a lower loneliness score. Here among the significant variables, females, living in a nuclear family, having spouseless marital status, illiterates, not participating in social activities, and not having property ownership have appeared in relation to the higher score of loneliness.

**Table 3. Correlation Bivariate Analysis of Loneliness (N = 513)**

| Variables | N | Biserial correlation | p-value |
|---|---|---|---|
| Age (Aged 70-74 years/Else) | 95/341 | -0.059 | 0.180 |
| **Sex (Female/Male)** | 270/243 | 0.164** | 0.000 |
| Family status (Else/Head) | 186/327 | 0.077 | 0.080 |
| **Family type (Else/Nuclear)** | 399/144 | -0.102* | 0.021 |
| **Marital status (Spouse/Spouseless)** | 281/132 | -0.160** | 0.000 |
| Work participation (No cash/Cash earning) | 219/294 | 0.061 | 0.166 |
| **Education (Literate[+]/Illiterate)** | 377/136 | -0.088* | 0.046 |
| **Social participation (Yes/No)** | 203/310 | -0.091* | 0.040 |
| Physiological status (Diseased/Disease free) | 281/232 | 0.001 | 0.986 |
| Income type (Self-earned/Else) | 168/345 | -0.024 | 0.581 |
| Social security allowance (Yes/No) | 183/330 | 0.086 | 0.051 |
| **Property ownership (Else/Own)** | 98/415 | 0.150** | 0.001 |

*Note.* **$p < 0.01$, *$p < 0.05$

Multiple regression analysis, a statistical technique, was used to analyze the relationship between loneliness as the dependent variable and significant variables obtained from Table 3 as independent variables. These models were significant, among them model six presented $F_{(6, 506)} = 7.148$, $p < 0.001$ as shown by ANOVA Table. The R2 for model 6 was 0.078 with adjusted R2 = 0.067. The exposer of Table 4 is the presentation of the six models from the variables entered cumulative starting from sex for model 1, sex and type of family for model 2, the addition of marital status in model 3, education in 4, social participation in 5, and the property ownership was added in model 6. The individual contribution of significant factors on variance regarding loneliness is apparent in the distinct model where, responsibility for the variance on the loneliness of sex is 2.7 percent, type of family is 1.6 percent, marital status is 1.7 percent, and property ownership is 1.5 percent. Education and social participation were the significant variables in correlation that appeared insignificant in multiple regression. It could be due to the complexities that arise when examining the relationships between multiple variables simultaneously.

**Table 4. Multiple Regression of Loneliness (N = 513)**

| Model | Cumulative predictors | B | F change | p-value | $R^2$ change |
|:---:|---|:---:|:---:|:---:|:---:|
| 1 | **Sex** | 4.59 | 14.17 | 0.000 | 0.027 |
| 2 | **Family type** | -4.34 | 8.72 | 0.003 | 0.016 |
| 3 | **Marital status** | -4.36 | 8.97 | 0.003 | 0.017 |
| 4 | Education | -0.73 | 0.25 | 0.621 | 0.000 |
| 5 | Social participation | -1.45 | 1.30 | 0.256 | 0.002 |
| 6 | **Property ownership** | 4.67 | 8.45 | 0.004 | 0.015 |

*Note.* The P-value is the significance of the F-change.

Allowing females in sex, joint and extended in family type, living with a spouse in marital status, illiterate in education, not participating in social activities, and not holding ownership in property ownership were as group 1 and respective counterparts male, nuclear, spouseless, literate and above, social participants and property owner as group 2 while commanding the independent sample t-test. The magnitude of the t-test showing the difference in the means was significant that is in Table 5. Controlling the compounding effect of other variables, education appeared insignificant in Table 4 but achieved significance through the t-test, which is in Table 5.

**Table 5. Independent Sample T-test for Loneliness**

| Predictors | t-value | Degree of freedom | p-value | Mean difference | 95% CI of the difference |
|---|:---:|:---:|:---:|:---:|:---:|
| **Sex** | 3.764 | 511 | 0.000 | 4.59 | 2.19 — 6.98 |
| **Family type** | -2.312 | 511 | 0.021 | -3.41 | -6.31 — -0.51 |
| **Marital status** | -3.259 | 190.209 | 0.001 | -5.09 | -8.18 — -2.01 |
| **Education** | -2.000 | 511 | 0.046 | -2.79 | -5.52 — -0.05 |
| **Social participation** | -2.059 | 511 | 0.040 | -2.59 | -5.06 — -0.12 |
| **Property ownership** | 3.421 | 511 | 0.001 | 5.31 | 2.26 — 8.36 |

*Note.* CI = Confidence Interval

Finally, the researchers performed the investigation of the relationship between loneliness as an independent continuous variable and final-say in the household decision-making process as a dependent dichotomy variable to get their significant association. Binary logistic regression shows p = 0.007 with an odds ratio of 1.018 in a 95 percent confidence interval of 1.005 to 1.031. This shows that loneliness matters for the final say in the household decision-making process.

**Discussion and Conclusion**

In this study, we present the findings and interpretations of our research, followed by a comprehensive discussion of the results. Subsequently, we draw insightful conclusions.

**Discussion**

Distribution of cases instead of their responses in 20 statements measuring loneliness among 513 respondents in this study shows that the association of nearly 50 percent of respondents was at a high level of loneliness whereas nearly 22 percent were connected with its moderate level.

The level of loneliness was formulated from the sum value of 20 statements. The computation of the level of loneliness as low, moderate, and high comprises only the value assigned for the UCLA loneliness scale. Feelings of loneliness at a higher level reported in this study is 49.12 percent, which is a remarkable relation with a study of (Devkota et al., 2019) occurred in Nepal (n = 124, senior citizens ≥ 60 years) where more than half (55.6 percent) number of older people experienced loneliness. Loneliness in 186 (44.7 percent) of the participants of Netherland (Rius-Ottenheim et al., 2011) shows a bit smaller proportion compared with the loneliness result of the Nepalese people, although loneliness prevalence of our study in both high and moderate levels comprises the greater proportion 70.37 percent. The mean score for loneliness obtained in this study is 1.95 in a range of 1–4 with SD = 0.698 following the similar trend of a previous study having a mean score of 4.79 in a range of 3–9 with SD = 1.73 (H. N. Chalise et al., 2007). Sex, type of family, marital status, education, social participation, and property ownership are significantly apparent in the independent sample t-test regarding loneliness in Table 5.

This study results in terms of age according to the result of a previous study that age has an indirect effect on loneliness (Creecy et al., 1985). Age in this study among the 60–74 age range with a mean (SD) age of 65.86 (4.20) years showed insignificant results regarding loneliness that contradicts with a significant results of a previous study in Nepal the age range was 60–97 with a mean (SD) age of 68.81(7.19) years (H. N. Chalise et al., 2007). However, this accords with another study having participants of 416 men with a mean (SD) age of 74.8 (4.6) years in the age range 70–89 (Rius-Ottenheim et al., 2011). Moreover, even previous research could not show consistent findings of age regarding loneliness that can be understood from "college students had higher levels of loneliness than in older adults" (D. W. Russell, 1996), and "the older the individual, the greater loneliness experienced" (Fees et al., 1999).

The results shown in Table 3 on Biserial correlation that the female senior citizens felt more loneliness rather than the male, which is consistent with the previous research (H. N. Chalise et al., 2007) in Nepalese older people. An elderly individual feels happy, secure, and helped in their family and with their offspring (Ayla & Kanwal, 2018) accords the finding of this study that young senior citizens living in the nuclear family system, and spouseless after marriage were more likely to feel loneliness. The respondents reporting not having property ownership were more likely to feel loneliness. Illiterate senior citizens regarding loneliness appeared in the association of the higher value of loneliness in this study and that follows with the previous study that occurred in Finland among elderly people of 75 years and above (Savikko et al., 2005). This significant education variable regarding loneliness contradicts the result with the literate that was insignificant (H. N. Chalise et al., 2007) occurred in Nepal among senior citizens aged 60 years and above.

The square of semi partial correlation coefficient (SR2) through R2-change obtained in multiple regression analysis presented in Table 4 shows the individual contribution of the significant factors in the variance. Among the changed R2 values for the predictors in the distinct models, sex in model 1 showed a 2.7 percent contribution, and type of family with sex in model 2 showed a contribution of 1.6 percent. In model 3, added marital status showed 1.7 percent while property ownership appeared in model 6 executed a 1.5 percent contribution of the variance.

Almost all countries in the world at the time of the COVID-19 pandemic requested their inhabitants to keep social distancing. However, social researchers found that social isolation and

thereby created aloneness increase the risk to remain the poor physiological and mental health, and this problem for older adults can be improved by maintaining socially connected and keeping physical distancing (Wu, 2020). Social distancing regarding the pandemic has become mandatory and isolation is the result that became the cause of increased loneliness among socially isolated older adults is the confusing note indeed. Mental health problem among Nepalese young senior citizens based on their oral response is also measured with dichotomous six instruments insomnia, dementia, anxiety, depression, intellectual impairment, and feeling of insecurity provided by Cronbach's Alpha 0.711 in this study. Perceived mental health problems computed in the scale variable appeared positively correlated and significant regarding the loneliness scale variable ($r = 0.219$, $p < 0.001$) and appeared to follow the same trend of a previous study that appeared with a significant strong Spearman rank correlation ($r = 0.682$, $p = 0.001$) existed between loneliness and depression (Devkota et al., 2019) in Nepal.

Protection of functional respect for the young senior citizens is equally important along with their cultural respect of care by accessing the level of loneliness of the senior citizens to resolve it. Among significant predictors taken into account from correlation, lack of property ownership, spouseless senior citizens, females, and those living in the nuclear family system, were appeared more likely to suffer loneliness. Sex, type of family, marital status, and property ownership appeared as factors of loneliness from the multiple regression, which were significant even in the independent sample t-test. Our study on young senior citizens in Nepal focuses on property ownership while a study occurred on the elderly aged 65 years and above in Portugal confirms that work activity being the foundation of active aging is a defensive factor to protect the elderly from loneliness (Rocha-Vieira et al., 2019). The result of our study too is in favor of active aging for its promotion because of the significant correlation between functional disability regarding household chores and loneliness both in continuous scale with the magnitude $r = 0.122$, $p = 0.006$. Response alternatives were dichotomous "yes and no" in reporting functional disability through ten indicators bathing, dressing, toileting, eating, bedding, traveling, shopping, doing household works, taking medicines from medical, and banking (deposit/withdraw) provided Cronbach's Alpha 0.808 for the ten items to functional disability of this study.

Social isolation is a major hazard factor of loneliness in senior citizens (Wu, 2020) and is remarkable in Nepalese inhabitants. The positive correlation between loneliness and depression among the Nepalese older age group (Devkota et al., 2019) shows the existence of loneliness problems among the Nepalese elderly. Further, this study suggests the need for educated families and better healthcare services for acquiring healthy aging. Moreover, the existence of a heavy societal burden to take responsibility in addressing the requirements of senior citizens suffering due to loneliness (H. N. Chalise et al., 2007) points to another dimension of the elderly loneliness challenge in Nepal. This hostile subjective feeling affects not only the familial or societal environment but also a serious matter of nation for healthy aging in Nepal. Empty-nest, lack of filial responsibility, and poor opportunity to exercise the power of the household decision-making are the common risk factors of loneliness in senior citizens is the common understanding in Nepalese society.

Loneliness encountered in old age is a challenge (H. N. Chalise et al., 2010) favors this study because loneliness is significantly associated with the final say in the household decision-making process. The test value is apparent in binary logistic regression keeping the final say

dichotomous as the dependent variable and loneliness continuous as the independent variable with a Wald value of 7.331, p = 0.007, Exp(B) = 1.018. Delays in timely treatment of the feelings of loneliness creating stress could shorten the longevity of the person (Steptoe et al., 2013). Social behavior of the individual shaped in cultural, economic, and spatial contexts polished by human cognition helps older people not to feel lonely (Van Willigen et al., 1995). Accordingly, this study result shows that Nepalese young senior citizens who did not participate in social activities were more likely to feel loneliness, this statement became worthy from the correlation between the social participation of the young senior citizens and the loneliness they experienced. Senior citizens with stimulated loneliness are due to a lack of discussion and communication with their family fellows (Ayla & Kanwal, 2018). Furthermore, the significant result of social participation regarding loneliness among Nepalese senior citizens (H. N. Chalise et al., 2007) matches the result even in this study apparent in the independent sample t-test.

The examination of loneliness among Nepalese young senior citizens in this study has kept the first position in revealing loneliness in the household decision-making process. Nepal is developing in its economic nature, and the government is not able to satisfy senior citizens by providing adequate facilities. A familial environment supporting senior citizens based on filial responsibility makes the senior citizens happy in the Nepalese context. The prime role of senior citizens in the household decision-making process makes them parentally responsible for not feeling alone. Loneliness births from the expectation of the behavior of others can be verified from a study occurred in the United Kingdom that the value of social visits in middle and later life can protect against loneliness (Victor & Yang, 2012). Even a single individual free from the expectation may not feel lonely. With a representative sample of young senior citizens and a 100 percent response rate being the strength, this study has high analytical power to clarify the findings inconsistent with earlier studies that occurred in similar settings.

This cross-sectional study occurred in Butwal Sub-metropolitan City has several limitations along with the lacking of time-based comparison of result changed. The results were those obtained from this study of young senior citizens living in the Butwal sub-metropolitan city of Nepal. Therefore, findings of the limited area of a city may not be generalized everywhere but can be compared to similar cities having similar socio-economic and demographic features. The base of the information is a self-report, but not an objective measure. However, the information is the foundation to examine associations between self-reported information on loneliness and the final say in the household decision-making process. UCLA loneliness scale was used to collect information in Nepalese society without examining the validity of the scale but its uses in a similar context was taken into account. The higher reliability shown through Cronbach's alpha coefficient of 0.945 reveals that the findings of this study matter for similar environments.

**Conclusion**

This study found that young senior citizens inhabitants of a city of Nepal without property ownership were more likely to be lonely than females, spouseless after marriage, and living in a nuclear family. The prevalence of loneliness among young senior citizens who secured scores of 40 and more up to 80 was 49.12 percent, which is the categorization of the high level. Although the study was concentrated on young senior citizens of the age group 60 to 74, there was no significant relation to the change of age within the age range of 60-74. The present results indicate a large number of Nepalese young senior citizens experience loneliness. It is necessary

to assess the levels of loneliness of young senior citizens and pursue an intervention to reduce these problems to increase enthusiastic participation in the household decision-making process, which helps to increase the level of happiness in later life. The significant result in correlation for loneliness regarding the final say in the household decision-making process reveals that there is a significant association. More clearly, those senior citizens not taking part in the household decision-making process are more likely to feel loneliness.

## Acknowledgements

## Contributions of the Authors

Durga Bhusal took the lead in designing the study, gathering the necessary data, and creating the initial draft of the manuscript. Home Nath Chalise offered valuable input and made equal contributions to the finalization of the paper. Keshab Prasad Adhikari played a significant role in assisting with the design of the study and finalizing the questionnaire. Lastly, all authors collaborated in thoroughly reviewing and editing the paper before submission.

## Conflicts of Interest

The authors declare no conflicts of interest associated with the publication of this manuscript.

## Fund Support

## References

Acharya, P. (2011). The situation of population ageing and social security for elderly people in Nepal. *Health Prospect*, *10*, 61–63. https://doi.org/10.3126/hprospect.v10i0.5658

Austin, B. A. (1983). Factorial structure of the UCLA loneliness scale. *Psychological Reports*, *53*(3), 883–889. https://doi.org/10.2466/pr0.1983.53.3.883

Ayla, K., & Kanwal, S. (2018). Levels of loneliness and family structure among geriatrics. *Journal of Forensic Psychology*, *03*(01), 1–5. https://doi.org/10.4172/2475-319x.1000135

Bangee, M., Harris, R. A., Bridges, N., Rotenberg, K. J., & Qualter, P. (2014). Loneliness and attention to social threat in young adults: Findings from an eye tracker study. *Personality and Individual Differences*, *63*, 16–23. https://doi.org/10.1016/j.paid.2014.01.039

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Bofill, S. (2004). Aging and loneliness in Catalonia: The social dimension of food behavior. *Ageing International*, *29*(4), 385–398. https://doi.org/10.1007/s12126-004-1006-3

Cacioppo, J. T., & Patrick, W. (2008). *Loneliness: Human nature and the need for social*

*connection*. W. W Norton & Company. https://zlibrary.to/pdfs/loneliness-human-nature-and-the-need-for-social-connection-pdf

Chalise, H. N. (2021). Aging in Nepal. In H. Selin (Ed.), *Aging across cultures: Growing old in the non-western world* (Vol. 10, pp. 199–210). Springer. https://doi.org/10.1007/978-3-030-76501-9_13

Chalise, H. N., Kai, I., & Saito, T. (2010). Social support and its correlation with loneliness: A cross-cultural study of Nepalese older adults. *The International Journal of Aging and Human Development*, *71*(2), 115–138. https://doi.org/10.2190/ag.71.2.b

Chalise, H. N., & Rai, S. L. (2013). Prevalence and correlates of depression among Nepalese Rai older adults. *Journal of Gerontology & Geriatric Research*, *2*(4), 1–5. https://doi.org/10.4172/2167-7182.1000130

Chalise, H. N., Saito, T., & Kai, I. (2007). Correlates of loneliness among older Newar adults in Nepal. *Nihon Koshu Eisei Zasshi [Japanese Journal of Public Health]*, *54*(7), 427–433. https://doi.org/10.11236/jph.54.7_427

Chalise, Hom Nath. (2023). Aging trend and situation in Nepal. *Advances in Aging Research*, *12*, 39–48. https://doi.org/10.4236/aar.2023.123003

Cochran, W. G. (1953). *Sampling techniques* (3rd ed.). John Wiley & Sons, Inc. https://zlibrary.to/pdfs/sampling-techniques-3th-edition-william-g-cochran

Constitutional Assembly Secretariate. (2015). *Constitution of Nepal 2015*. Constituent Assembly Secretariat.

Coyle, C. E., & Dugan, E. (2012). Social isolation, loneliness and health among older adults. *Journal of Aging and Health*, *24*(8), 1346–1363. https://doi.org/10.1177/0898264312460275

Creecy, R. F., Berg, W. E., & Wright, R. (1985). Loneliness among the elderly: A causal approach. *Journal of Gerontology*, *40*(4), 487–493. https://doi.org/10.1093/geronj/40.4.487

de Jong Gierveld, J. (1998). A review of loneliness: Concept and definitions, determinants and consequences. *Reviews in Clinical Gerontology*, *8*(1), 73–80. https://doi.org/10.1017/s0959259898008090

Devkota, R., Mishra, K., & Shrestha, S. (2019). Loneliness and depression among older people living in a community of Nepal. *Journal of Nepal Health Research Council*, *17*(2), 185–192. https://doi.org/10.33314/jnhrc.v0i0.1561

Fees, B. S., Martin, P., & Poon, L. W. (1999). A model of loneliness in older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *54B*(4), p231–p239. https://doi.org/10.1093/geronb/54b.4.p231

Hawkley, L. C., Browne, M. W., & Cacioppo, J. T. (2005). How can I connect with thee? Let me count the ways. *Psychological Science*, *16*(10), 798–804. https://doi.org/10.1111/j.1467-9280.2005.01617.x

Hawkley, L. C., & Kocherginsky, M. (2018). Transitions in loneliness among older adults: A 5-year follow-up in the national social life, health, and aging project. *Research on Aging*, *40*(4), 365–387. https://doi.org/10.1177/0164027517698965

Kim, O., Byeon, Y.-S., Kim, J.-H., Endo, E., Akahoshi, M., & Ogasawara, H. (2009). Loneliness, depression and health status of the institutionalized elderly in Korea and Japan. *Asian Nursing Research*, *3*(2), 63–70. https://doi.org/10.1016/s1976-1317(09)60017-7

Kwiatkowska, M. M., Rogoza, R., & Kwiatkowska, K. (2017). Analysis of the psychometric

properties of the Revised UCLA Loneliness Scale in the Polish adolescent sample. *Current Issues in Personality Psychology*, *5*, 1–7. https://doi.org/10.5114/cipp.2017.69681

Lim, L. L., & Kua, E. H. (2011). Living alone, loneliness, and psychological well-being of older persons in Singapore. *Current Gerontology and Geriatrics Research*, *2011*, 1–9. https://doi.org/10.1155/2011/673181

National Statistics Office. (2023). *National population and housing census 2021: National report* (Vol. 01). Government of Nepal. https://censusnepal.cbs.gov.np/results/downloads/national

Rius-Ottenheim, N., Kromhout, D., Mast, R. C., Zitman, F. G., Geleijnse, J. M., & Giltay, E. J. (2011). Dispositional optimism and loneliness in older men. *International Journal of Geriatric Psychiatry*, *27*(2), 151–159. https://doi.org/10.1002/gps.2701

Rocha-Vieira, C., Oliveira, G., Couto, L., & Santos, P. (2019). Impact of loneliness in the elderly in health care: A cross-sectional study in an urban region of Portugal. *Family Medicine and Primary Care Review*, *21*(2), 138–143. https://doi.org/10.5114/fmpcr.2019.84550

Rokach, A., & Neto, F. (2000). Coping with loneliness in adolescence: A cross-cultural study. *Social Behavior and Personality: An International Journal*, *28*(4), 329–341. https://doi.org/10.2224/sbp.2000.28.4.329

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, *39*(3), 472–480. https://doi.org/10.1037/0022-3514.39.3.472

Russell, D., Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*, *42*(3), 290–294. https://doi.org/10.1207/s15327752jpa4203_11

Russell, D. W. (1996). UCLA loneliness scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20–40. https://doi.org/10.1207/s15327752jpa6601_2

Savikko, N., Routasalo, P., Tilvis, R. S., Strandberg, T. E., & Pitkälä, K. H. (2005). Predictors and subjective causes of loneliness in an aged population. *Archives of Gerontology and Geriatrics*, *41*(3), 223–233. https://doi.org/10.1016/j.archger.2005.03.002

Singh, M. L. (2014). Aspects of aging. *Population Monograph of Nepal*, *2*, 72–109.

Steptoe, A., Shankar, A., Demakakos, P., & Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*, *110*(15), 5797–5801. https://doi.org/10.1073/pnas.1219686110

Temkin, L. S. (2008). Is living longer living better? *Journal of Applied Philosophy*, *25*(3), 193–210. https://doi.org/10.1111/j.1468-5930.2008.00411.x

Tiikkainen, P., & Heikkinen, R. L. (2005). Associations between loneliness, depressive symptoms and perceived togetherness in older people. *Aging & Mental Health*, *9*(6), 526–534. https://doi.org/10.1080/13607860500193138

Tiraphat, S., Peltzer, K., Thamma-Aphiphol, K., & Suthisukon, K. (2017). The role of age-friendly environments on quality of life among Thai older adults. *International Journal of Environmental Research and Public Health*, *14*(3). https://doi.org/10.3390/ijerph14030282

United Nations. (2019). *World population prospects: 2019 revision*. UN; Department of Economic and Social Affairs.

Van Willigen, J., Kedia, S., & Chadha, N. K. (1995). Personal networks and sacred texts: Social aging in Delhi, India. *Journal of Cross-Cultural Gerontology*, *10*(3), 175–198. https://doi.

org/10.1007/bf00972239

Victor, C. R., & Yang, K. (2012). The prevalence of loneliness among adults: A case study of the United Kingdom. *Journal of Psychology: Interdisciplinary and Applied*, *146*(1–2), 85–104. https://doi.org/10.1080/00223980.2011.613875

Weeks, D. J. (1994). A review of loneliness concepts, with particular reference to old age. *International Journal of Geriatric Psychiatry*, *9*(5), 345–355. https://doi.org/10.1002/gps.930090502

World Health Organization. (2021). *UN decade of healthy ageing 2021-2030: Resolution-A/RES/75/131 adopted by the general assembly*. WHO. https://digitallibrary.un.org/record/3895802?ln=en

Wu, B. (2020). Social isolation and loneliness among older adults in the context of COVID-19: A global challenge. *Global Health Research and Policy*, *5*(27), 1–3. https://doi.org/10.1186/s41256-020-00154-3