Conference Paper

The Relationship Between Social Interaction and Loneliness in the Elderly

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Abstract.

The elderly are often prone to loneliness. The purpose of this study was to see whether social interaction has a relationship with loneliness in the elderly, using a correlational quantitative approach. The sampling technique used was purposive sampling, with a total sample of 133 elderly people in Sedarum Village. To collect data, two Likert scales were used, a social interaction scale of 15 items with a reliability coefficient of 0.688 and a loneliness scale of 12 items with a reliability coefficient of 0.560, which means that both scales are quite reliable. The results of this study obtained a significant value of 0.00 which is below 0.05. The data analysis used is the product moment correlation test, so there is a positive relationship between social interaction and loneliness in the elderly. That is, the higher the levels of interaction, the loneliness in the elderly is also high, and vice versa. The results of this study indicate that loneliness in the elderly is classified as moderate. This can be caused by the lack of quality interaction and communication that occurs in the family, and the low-quality social relationships that the elderly have in society are only an escape from loneliness. So social interaction is also in the medium category.

Keywords: Social Interaction; Loneliness; Elderly

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1. INTRODUCTION

Every human being must experience development starting from the prenatal period until the end of his life. Where this development will not be repeated and will affect the next stage of development [1]. The last developmental period experienced by humans is often referred to as old age. In this stage, old age or what is often referred to as the elderly is an individual who is 60 years old and above. A person who has entered the elderly period will usually experience the aging process [2]. Some development experts classify the elderly into 3 parts, namely early, middle and late elderly. The elderly group aged 60-74 years is called the early elderly, the elderly 75-90 years of the middle elderly group, and the age of 91 years and over the late elderly group [3]. In the development of life, the elderly will experience changes in physical, psychological and social aspects. Physical changes in the elderly such as starting to look wrinkled, hair looks white,

teeth that have been reduced, decreased visual function, and low immune system [3]. Psychological changes in the elderly such as behavioral changes due to decreased cognitive function, and anxiety disorders [4]. In social aspects, such as reduced social interaction, starting to lose roles in society, and reduced relationships [5].

Indonesia itself is a country with the 5th largest number of elderly people in the world, compared to 4 other countries including Japan, Italy, Finland, and Portugal. Based on the Central Bureau of Statistics in 2022, the elderly population in Indonesia is around 10.48%. East Java Province ranks first with 6 million elderly people compared to other provinces in Indonesia. Where there are elderly who live alone (7.15%) live with a partner (20.00%), live with their families (26.57%) live with children, grandchildren and their descendants (43.06%) and others 3.21% [6]. It is possible that many of the elderly feel lonely, even though they live with their families. With the activities or busyness of children, grandchildren, and close relatives of the elderly, so that they lack time to share with them and feel unnoticed. Likewise, the elderly who come to live with their children must adapt to changes and new environments [7]. So that these conditions can trigger loneliness in the elderly.

Based on the results of a preliminary survey conducted on January 27, 2023, in Sedarum village, by conducting short interviews with several residents, information was obtained that there are still many elderly people who do not get enough attention from their families. Especially attention from their children, even though the elderly still lives with their children. Because of the busyness of their children, the elderly do not have much time with family members, and have minimal communication. There are elderly people who admit that they are not close to their families and feel that they are forgotten because they are considered unreliable parents. So as to get pleasure for themselves, the elderly participates in social activities in the village. This is done by the elderly because they feel bored and lonely when they just stay at home.

Loneliness is a change in an individual's emotional and cognitive reactions to a condition where the individual feels loneliness, emptiness, and a sense of dissatisfaction with the social relationships experienced because it does not match their expectations [8]. These changes often occur in the elderly, which can disrupt their lives and become a serious problem [9]. Usually, this condition occurs when the elderly have lived apart from their family members, left behind by their spouses, reduced peers, lack of social activities in the community, and limited mobility in the elderly [10]. According to research by Wibowo and Rachman [11], loneliness can also occur even though the elderly lives with family, community or in nursing homes. This can be caused by factors such as incompatibility, making the elderly feel not close to anyone and feel lonely. Cases of

loneliness in the elderly according to Verawati [12], showed that the level of loneliness in the elderly living in nursing homes was 22.12%, those living with their children were 28.00%, and those living alone were 25.72%. So, it can be said that the elderly who live with their families also tend to experience loneliness.

Loneliness experienced by the elderly can be caused by two factors, namely situational factors and personal characteristics. Situational factors are events that can reduce social quantity or quality, such as ending close emotional relationships by being left by a life partner, changing status to unemployment due to job loss, parting with friends or family because their children are married, and reducing the quality of existing relationships. Meanwhile, personal characteristic factors are factors that come from within the individual, which can affect a person's behavior and thinking. Such as low self-esteem, thinking that he is unattractive or unwanted in certain social environments [13]. The aspects that can cause loneliness according to Russel [14] are personality, social desirability, and depression. Elderly people who experience loneliness usually feel unloved, unappreciated and cared for, and feel bored or bored [15]. That way, loneliness has an impact on the lives of the elderly which causes physical and psychological health problems [16]. Such as problems of depression, sleep disorders, stress, and decreased immune system [17].

When someone feels lonely, they can make social contacts, improve the quality or quantity of social contacts, or re-evaluate the gap between what they want and the actual reality, by doing social activities [13]. Likewise with the elderly, social interaction has an important role that can improve their quality of life [18]. Social interaction is a reciprocal relationship in which there are actions and communications that influence each other between individuals, social groups and communities that occur in everyday life [15]. Social interactions that can be carried out by the elderly can include participating in activities carried out inside or outside the home such as visiting peers, attending recitations, exchanging opinions, carrying out worship, and being friendly [19]. In research conducted by [20] conducted at the Bantul Yogyakarta district nursing home, interactions carried out by the elderly by holding an elderly *Posyandu* in which there are programs such as elderly sharing, elderly skills training, and games for the elderly. According to research by Andesty et al. [21], social interactions must be well developed to maintain social status and socialization skills. Group activities that result from social interaction can help the elderly build good interpersonal relationships in socializing [22]. Elderly people who experience a decrease in psychological and biological functions slowly cause them to withdraw and affect their daily social activities [23]. So that positive social relationships and networks do not materialize.

The existence of a relationship between social interaction and loneliness is in line with research conducted by Giena et al. [24] regarding social interactions that can affect the quality of life of the elderly at the Elderly Service and Assistance Center, when the elderly has limited social relationships, it will have an impact on their poor quality of life and are more likely to experience loneliness. This is in line with research conducted by Aldila and Mudjiran [25] that social support has an influence on loneliness experienced by the elderly, the low level of loneliness in the elderly is due to the support that comes from having good social relationships. Therefore, social interaction has a contribution in reducing loneliness in the elderly.

Based on the explanation of the background above, this study aims to determine the relationship between social interaction and loneliness in the elderly. There are several previous studies that are related to this research. When viewed from previous studies, this study has something new that focuses more on social interaction as a variable related to loneliness in the elderly. In addition, there is novelty from the measuring instrument used in this study, namely the researcher compiled his own measuring instrument based on the theory to measure the two variables to be studied. So that the novelty of the results of this study will also be seen.

2. LITERATURE REVIEW

2.1. Social Interaction

Social interaction is a reciprocal relationship between individuals and groups, in which there is a relationship that influences each other [26]. The condition for the occurrence of social interaction is characterized by social contact and communication. The types of social interaction are interactions between individuals and individuals, individuals and groups, and interactions between groups and groups [26]. In addition, social interaction is also defined as a person's active involvement in society, and a person's attachment to the social system which is characterized by active participation in society [27].

There are several aspects put forward by [28] namely aspects (1) independent where a person feels a sense of responsibility and self-motivation to approach other people and carry out healthy lifestyle activities. (2) social curiosity, the curiosity that individuals have in carrying out activities such as obtaining information from their environment. (3) interaction, how a person communicates with family, peers and other people. (4) participant in society, individual involvement in society such as participating in social

groups, neighboring activities, and playing an active role in society. (5) feelings of safety, having someone to provide support under any circumstances.

2.2. Loneliness

Loneliness according to Baron and Byrne [8], is an emotional and cognitive state in individuals who have few social relationships and feel unhappy because they do not meet their expectations. Loneliness as defined by Russel [14] is a condition that a person feels as a result of the absence of close social relationships. Peplau and Parleman [29] also define loneliness as an unpleasant individual experience due to the lack of quality and quantity of social relationships that are not as expected. So, it can be concluded that loneliness is a negative mental and emotional state of a person, the result of a lack of good communication because there is a discrepancy between reality and what is expected.

Sears [30] describes 2 types of loneliness, namely emotional loneliness caused by a lack of attachment to the closest people such as family, and social loneliness due to the absence of adequate social relationships. In addition, according to Russel [14], aspects of loneliness are divided into 3, namely aspects of personality, the personality of the individual that determines the characteristics of behavior and thoughts such as low self-esteem, discomfort, anxiety, and passivity. Both aspects of social desirability, expectations or targets owned by individuals to carry out social relations in their environment. The third is the aspect of depression, feelings such as self-pressure from individuals that can cause depression such as feelings of emptiness, sadness, depression, lack of enthusiasm, feeling alone and closing oneself.

2.3. The Relationship between Social Interaction and Loneliness

According to activity theory, it is explained that happiness in the lives of the elderly depends on how they participate and have an important role in their environment. Likewise, socioemotional selectivity theory reveals that the elderly will be motivated in establishing relationships with others to increase their emotional satisfaction [3]. So, from these two theories it can be said that the elderly who have good social relationships will feel emotionally satisfied and will feel happy. Where this can make the elderly not feel lonely.

Feelings of loneliness in the elderly will decrease if they have social relationships, because with these social relationships there is good social interaction between humans

and the community environment [31]. Kampreman et al. [32], also said that there is a relationship between social interaction and loneliness, which says that the elderly will experience social satisfaction if they have good social relationships and relationships to reduce the level of elderly loneliness. The high frequency of participating in social participation makes the elderly recognized, not withdrawing and having social support from the community [33]. In research conducted by Budiarti [18], elderly people who actively participate in activities held by nursing homes make the elderly interact with each other, communicate and work together in an activity so as to reduce loneliness in the elderly.

Based on the explanation above, the researcher suspects that social interaction has an important relationship and role with the level of loneliness in the elderly. So, from the two theories that have been described, the theory of socio-emotional selectivity is more relevant to this study, because the elderly are active and involved in the community environment, most likely because they want to fulfill their emotional satisfaction to get rid of their feelings of loneliness.

3. METHOD

3.1. Research Design

The type of research used in this research is a quantitative approach method with a correlational model. The analysis technique used is the Pearson product moment correlation analysis technique. There are two variables, namely the independent variable in this study is social interaction, and the dependent variable is loneliness. Based on the problems and objectives of the research, the researchers wanted to explore data regarding the relationship between variables, namely social interaction and loneliness in the elderly.

3.2. Population and sample

The population in this study were all elderly who live in Sedarum Village, Nguling District, Pasuruan Regency. The existence of the elderly who often participate in several activities in the community, and the lack of family attention to the elderly, made researchers interested in conducting research at that location. In determining the sample, the researcher used the slovin formula, and produced 133 samples used in the study. To obtain the sample, a purposive sampling technique was used. The research subjects as

samples based on the characteristics of (1) the elderly who live in the village of Sedarum, (2) aged 60 years and over, (3) are male or female. (4) often participate in community activities.

3.3. Research Scale

The instruments used in this study were two scales compiled by researchers using the Likert scale model. There are 2 variables including social interaction as variable (X) or independent variable, and loneliness as variable (Y) or dependent variable. The social interaction scale was compiled by researchers based on theories and aspects from [28] which have aspects of independence, social curiosity, interaction, participation in society in society, and feelings of safety. To measure the Y variable, the loneliness scale was also developed by researchers based on the theory and aspects of Russel. The loneliness scale has 3 aspects, namely personality, social desirability and depression aspects. Both of these scales use 4 answer choices for favorable statements, including (1) Never, (2) Rarely, (3) Often, (4) Always. Conversely, unfavorable statements, (1) Always, (2) Often, (3) Rarely, (4) Never.

The procedure for preparing the measuring instruments used by researchers follows the procedure described by [34], namely (1) identification of measurement objectives, such as collecting and determining the theory to be used. (2) limiting the measurement domain, formulating aspects of the theory that has been determined, (3) compiling blueprints, (4) writing item(s), (5) language trials conducted by expert judgment. In this study, researchers used 4 expert judgments from psychology lecturers at Malang State University. To see and assess whether the items written are in accordance with the theories and aspects used. (6) revise or improve the sentences of the items that have been assessed by expert judgment, (7) try out the items on a small sample of + 20 people. However, researchers conducted trials on 30 people. According to [35] at the language testing stage, content validity calculations can also be carried out using the Aiken's V index obtained from the results of expert assessments of n people. This aims to measure the extent to which the item can represent the construct being measured, if the value of V > 0.4 it can be said that the item is valid. In this study, the results obtained were that all items from the social interaction and loneliness scale were valid with a range of values of v 0.5 - 1.

After conducting trials on 30 subjects, the data obtained was then calculated to determine the validity and reliability of the two scales using statistical applications. On the scale of social interaction, out of 20 items, 5 items are invalid, and 15 items are valid.

Has a calculated r value ranging from 0.361 – 0.740 from r table 0.361. Meanwhile, on the lonely scale, out of 20 items there were items that fell, and 12 items were valid with an r count of 0.361 – 0.757. The results of the reliability of the social interaction scale with a cronbach alpha coefficient of 0.688. Meanwhile, the lonely scale has a Cronbach alpha coefficient value of 0.560, which means that both scales are reliable enough to be used in this study [36].

3.4. Data Analysis

Data analysis used in this study used the product moment correlation test which aims to determine the results of the two variables whether there is a relationship or not. In categorizing the data from the two variables, the researcher uses a hypothetical categorization based on [34]. Before carrying out the correlation test, an assumption test is carried out, namely the normality test and linearity test using the help of statistical applications.

4. RESULTS

4.1. Results Descriptive Subject Characteristics

TABLE 1: Description of the subject's gender.

Gender	Amount	Percentage
Women	77	57,9%
Male	56	42,1%
Total	**133**	**100%**

TABLE 2: Description of Subject Age.

Age	Amount	Percentage
60-74 years old	95	71,4%
75-90 years old	36	21,7%
>90 years old	2	1,5 %
Total	**133**	**100%**

Based on tables 1.1 and 1.2, it is known that most of the subjects aged 60-74 years (early elderly) were 71.4% (95 people). Subjects aged around 75-90 years (middle elderly) were 21.7% (36 people) and subjects aged 90 years and over (late elderly) were only 2 people. The classification of elderly subjects is based on [3]. Where the number of

female elderly subjects is more with a percentage of 57.9% compared to male subjects 42.1% (see table 1.1).

TABLE 3: Subject Job Descriptions.

Job	Amount	Percentage
work	60	45,1%
Not working	57	42,9%
Retired	16	12%
Total	**133**	**100%**

From the table above, most of the subjects are still working with a percentage of 45.1% (60 people), compared to those who are not working 42.9% (57 people), and those who are retired as much as 12% (16 people).

TABLE 4: Description Subject's Marital Status.

Status	Amount	Percentage
Married	67	50,4%
Not Married	5	3,8%
Widow	46	34,6%
Widower	15	11,3%
Total	**133**	**100%**

It can be seen from table 1.4 that the status of the subjects who are still married at most with a percentage of 50.4% is 67 people. Subjects who are widows are 34.6% (46 people), widowers are 11.3% (15 people). And the subjects who were not married were 5 people with a percentage of 3.8%.

TABLE 5: Description of the existence of research subjects.

Living Together	Amount	Percentage
Alone	13	9,8%
Child	17	12,8%
Children and grandchild	29	21,8%
Brother	11	8,3%
Partner	34	25,6%
Partner, Child, grandchild	20	15%
Child and Partner	9	6,8%
Total	**133**	**100%**

Based on the data in table 1.5, most of the elderly live with their partners, 25.6%, as many as 34 people. Subjects who live with their children and grandchildren are 21.8% (29 people), live with their spouse, children and grandchildren 15% (20 people). Living

with children 12.8% (17 people), living with relatives 8.3% and elderly living alone 9.8% (13 people).

4.2. Descriptive Statistical Test Results

TABLE 6: Empirical and Hypothetical Data Results.

Variable	N	Empirical data		Hypothetical data	
		Mean	SD	Mean	SD
Social Interaction	133	42,19	8,256	37,5	7,5
Loneliness data	133	32,26	5,170	30	6

In table 1.6 above, the results of the calculation of empirical data derived from the scores of research subjects on the social interaction and loneliness scales, namely Mean and SD as in the table. Meanwhile, hypothetical data is obtained from the summation of measuring instruments and the highest and lowest score ranges. Thus, obtaining Mean on empirical data 42.19 higher than the mean of hypothetical data.

TABLE 7: Categorization of Social Interaction.

Formula	Amount	Category	Percentage	Amount
X (M-1SD)	X < 30	Low	15,8%	21
(M-1SD) < X < (M+1SD)	30 < X < 45	Moderate	69,9%	93
M+1SD < X	X > 45	High	14,3%	19

From the results of the categorization data above, it is known that as many as 93 elderlies have moderate social interaction (69.9%), elderly who have social interaction in the high category are 19 elderly (14.3%) and those who have low social interaction are 21 elderly (15.8%).

TABLE 8: Categorization of Loneliness.

Formula	Amount	Category	Percentage	Amount
X (M-1SD)	X < 24	Low	18%	24
(M-1SD) < X < (M+1SD)	24 < X < 36	Moderate	82%	109
M+1SD < X	X > 36	High	0	0

It is known, in table 1.8 above, the loneliness experienced by the elderly shows a moderate level of loneliness as many as 109 people (82%), while 24 elderly subjects are at a low level of loneliness with a percentage of 18%.

4.3. Assumption Test

Before testing the hypothesis, an assumption test is carried out, namely the normality test and the linearity test. Both of these assumption tests are analyzed using the help of statistical applications. The following are the results of the assumption test, from the normality and linearity tests:

TABLE 9: Assumption Test Results.

Variabe	Significance	Explanation	Conclusion
Social Interaction and Loneliness	0,200	Sig > 0,05	Normally distributed
	0,151	Sig > 0,05	Linear

The normality test uses the One Sample Kolmogorov-Smirnov Test formula. Data is considered normal if the significance value is more than 0.05. However, if the significance is less than 0.05, it is considered not normally distributed. The results of the normality test show that the Social Interaction variable and the Loneliness variable obtain a significance value of 0.200 > 0.05, so the data is considered normal.

Linearity test using the ANOVA test. If the significance value of the deviation from linearity is more than 0.05, the research variable is considered linear. Meanwhile, if the significance value of the deviation from linearity is less than 0.05, the variable is considered non-linear. The results of the linearity test show a significant deviation from linearity value of 0.151 > 0.05, which means that the two variables are linear. So, it can be concluded that the data from the results of this assumption test are normal and linear.

4.4. Hypothesis testing

Hypothesis testing was conducted to determine the correlation between social interaction and loneliness using the product moment correlation test. The results show that the significance value is 0.00 <0.05 with a correlation coefficient of 0.748 which means that it has a correlation with a strong degree of correlation and a positive relationship. Thus, the higher the social interaction of the elderly indicates that the loneliness experienced by the elderly is also high. Thus, the results of the hypothesis testing of this study are that there is a strong correlation with a significant positive direction between social interaction and loneliness in the elderly.

5. DISCUSSION

Based on the results of descriptive analysis of social interactions, the interactions carried out by the elderly are classified as moderate. This means that the relationship owned by the elderly still looks less qualified and still looks shallow, or it can be said that the elderly is not so active. Moderate social interaction can occur because there are two prominent aspects, namely the interaction aspect and the feelings of safety aspect. This interaction aspect explains how individuals need communication within the family and other people in which there is a mutually beneficial relationship [16]. Based on the data, it was found that the interactions carried out by the research subjects in their families were not so intense. So, this condition can have an impact on the elderly's self-esteem or low self-esteem because they feel that they are not cared for in their family.

This is in line with the opinion of Veni [37] who said that the elderly is prone to experiencing low self-esteem due to changes in interpersonal relationships that assess themselves as no longer needed. Likewise, research by Harris [38] says that self-esteem in individuals affects and shapes the quality of their relationships with others. Thus, the elderly interacts with others by making social comparisons or comparing other people's lives with themselves. In line with Vogel et al. [39] research that someone who does social comparison, such as looking at other people's lives and ultimately judging their lives to be inappropriate, will tend to have low self-esteem which considers himself to have failed to meet expectations on himself. Then, moderate interaction in the elderly can also be caused by the lack of visible aspects of feelings of safety, such as the lack of getting a feeling of security and support from family and closest people. According to research from [40] attention and support from family and others, making the elderly optimistic and enthusiastic in living life, especially in interacting. And the feeling of comfort from this family can be done through respecting the elderly as part of the family, giving attention, and doing activities together [41].

Likewise, the results of descriptive analysis of loneliness in the elderly are also classified as moderate. Loneliness is a feeling of unhappiness that arises because the relationship does not match expectations. This is in line with the definition expressed by Russel [14], that loneliness is a condition that a person feels due to a lack of social connection. The social relationships owned by the elderly in this study are fairly moderate or less qualified, which means that the closeness of the relationships they have is sufficient. This condition can also be caused by factors of personal characteristics of the elderly themselves. As explained by Barran [42] loneliness can be caused by the individual himself, how they assess themselves so that it is manifested in thoughts and

feelings that consider themselves unappreciated. In addition, situational factors that change in the lives of the elderly can also be the cause of loneliness.

Situational factors such as changes in interactions and structural inconveniences in the family, where the family should be the main reinforcement and care for the elderly but do not have much time. Such as children who are busy working, have married and do not live together [43]. In line with Novitasari's research [44], that the elderly who live with children tend to experience loneliness than the elderly who live in Werdha homes. Where this is supported by the number of subjects who live with their spouses and nuclear families, rather than living alone, but still experience loneliness at a moderate level. In addition, situational factors of loneliness in elderly people who are still married can occur due to a lack of intimacy factors in husband and wife. Thus, causing them to build less harmonious relationships. In line with Gazadinda [45], that the existence of a romantic relationship affects the quality of life and loneliness in a person. Most of the subjects are elderly women rather than men, as according to [46], if women are more prone to loneliness than men. When viewed from the type of loneliness according to Sears and Peplau [30], the loneliness that occurs in these elderly people is included in emotional loneliness caused by a lack of intense closeness with family and partners [47].

According to the results of the research hypothesis, there is a very significant and positive relationship. So that the higher the social interaction among the elderly, it indicates that loneliness in the elderly is also high. Feelings of loneliness can affect behavior, Barran [42] explains two models of loneliness, namely the upward spiral model and the downward spiral model. The upward spiral model is like someone who experiences loneliness, realizes that there are negative feelings that cannot be changed, but he tries to have positive thoughts and make changes by increasing activities to reduce loneliness. However, in the downward spiral model, feelings of loneliness can cause a person to withdraw from contact with others, this is due to negative feelings and hopelessness that lead to longer periods of isolation. So, from the results of this study, the elderly tend to experience loneliness with an upward spiral model by doing social interaction to get out of loneliness. In addition, the interactions carried out by the elderly are in line with activity theory which explains that happiness in the lives of the elderly depends on them participating in society [3].

To divert feelings of loneliness, the elderly participates in activities held in the community, to get a feeling of pleasure and satisfaction from their emotions. Where this is also explained in the theory of socioemotional selectivity, that the elderly will be motivated to have relationships with others to increase emotional satisfaction in

themselves. In this study, the elderly tends to have social interactions with others to fulfill their emotional satisfaction due to the lack of intense closeness in the family. Research conducted by Fitriyadewi also says that the elderly will carry out social interactions to increase life satisfaction, which can eliminate feelings of exclusion in themselves [48]. So, from the explanation above, it can be concluded that there is an interrelated relationship between social interaction and loneliness. The more the elderly interact, the more it indicates that the elderly experience loneliness. Barran also said that individuals will feel loneliness caused by a lack of closeness with family even though they are in good social relationships [42].

6. CONCLUSION

Based on the overall results in this study regarding the relationship between social interaction and loneliness in the elderly, it is concluded that social interaction has a positive relationship with loneliness. The higher the social interaction, the higher the loneliness. In this study, the majority of subjects experienced social interaction and loneliness in the moderate category, which means that the social relationships carried out by the elderly were not too active and still seemed to lack quality. So that even though the elderly have social interactions such as participating in social activities, the elderly still feel lonely.

Sedarum village is expected to carry out activities or programs to create attachment between family members, especially children and the elderly. So that the elderly do not always feel lonely and get more attention from the family. For families, it is expected to always provide support and spend maximum time and attention so that the elderly do not feel excluded. For the elderly, it is hoped that they can increase positive thoughts on themselves, in order to improve the quality of their social relationships.

For future researchers, it is hoped that they can identify other factors of social interaction and loneliness that can be related. Then further researchers can develop measuring instruments from other theories, so that they can describe and explain these variables. And can approach more respondents to get information and data related to the results of the study.

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