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Evaluating Loneliness in an Older Adult Population

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Abstract

Problem: Loneliness and social isolation are severe burdens on global public health and can impair overall health outcomes. Unfortunately, both loneliness and social isolation are prevalent in the older adult population. The purpose of this quality improvement project was to evaluate loneliness in older adults enrolled in a weekly socialization program and its impact on loneliness.

Methods: A descriptive cohort design was utilized to analyze surveys completed three months apart. A convenience sample was used with older adults already enrolled in a weekly socialization program. The Iowa Model of Evidence-Based Practice was applied to evaluate and promote quality care in the weekly socialization program.

Results: A difference ($t = 2.42, p = .034$) in loneliness was observed using the DJGLS between the initial and secondary assessments. There was a change ($z = -2, p = .046$) in perceived quality of life within three months. There was no difference ($z = -1.89, p = .059$) in perceived loneliness between the initial and secondary assessments. There was not a difference ($t = -0.96, p = .356$) in social isolation using the LSNS-6 within three months.

Implications for Practice: Weekly socialization programs can positively impact older adults' loneliness and perceived quality of life. These programs could be used as a supplement to an older adult's established community of family and friends.

Keywords: older adults, loneliness, social isolation, socialization programs, quality of life

Evaluating Loneliness in an Older Adult Population

Loneliness and social isolation are severe burdens on global public health. In the U.S., 43% of adults older than 60-years of age reported loneliness, and 24% of adults older than 65-years of age reported social isolation (National Academies of Sciences, Engineering, and Medicine [NASEM], 2020; Ong, Uchino, & Wethington, 2016). Similar rates were also noted throughout Europe and Asia (Ong et al., 2016). Loneliness and social isolation are similar terms often used reciprocally to describe an absence of social relationships; however, they are distinctly different. Loneliness describes one's subjective or perceived feelings of being lonely, whereas social isolation is the objective state of minimal social relations with other people (Hwang, Rabheru, Peisah, Reichman, & Ikeda, 2020; Ong et al., 2016).

Loneliness and social isolation impact one's overall health outcomes and are associated with broad-based morbidity and higher rates of mortality (Ong et al., 2016). The likelihood of premature mortality is increased by 26% for loneliness and 29% for social isolation (Ong et al., 2016). Loneliness is also associated with impaired cognition, reduced physical activity, increased rates of cardiovascular and cerebrovascular disease, increased depression symptoms, and increased likelihood of nursing home admission. Furthermore, loneliness increases the risk of insomnia and suicide attempts among older adults and one's perceived quality of life is demonstrated to be worse (Hwang et al., 2020; Kobayashi & Steptoe, 2018; Ong et al., 2016; Yu et al., 2020). An insufficient quantity or quality of social relationships increases coronary artery disease risk by 29% and cerebrovascular accident risk by 32% (Yu et al., 2020).

A Visiting Nurses Association (VNA) began a weekly socialization program called Visit-A-Bit (VAB) in 2018. The VAB program's focus is on older adult loneliness and pairs older adults with volunteers to allow for one-on-one in-person visits. These visits can occur wherever the pair chooses, whether in the older adult's home or public spaces, such as parks, restaurants, or theaters. The visits are designed to supplement the older adult's interactions with their family, friends, and other relationships. The VNA had to halt the in-person visits for six months during the COVID-19 pandemic to follow social distancing guidelines and to limit the spread of the virus. During this time, volunteers and older adults were encouraged to use alternative methods to contact one another, including cellular phones or web-based video conferencing.

The VNA initiated the VAB program in a midwestern suburban community within the last two years. This was a quality improvement project for the VAB program to obtain information about the participants. The purpose of this project was to evaluate loneliness in older adults enrolled in the VAB program and its impact on loneliness over a three-month period. The aim of the project was to assess loneliness in at least 10-12 participants in the VAB program over a three-month period. The primary outcome measure of interest included the results of the 28-item VAB Screening Assessment Instrument, which includes the DeJong Gierveld Loneliness scale (DJGLS), the Patient Health Questionnaire-2 (PHQ-2), the Lubben Social Network Scale-6 (LSNS-6), and general questions about one's health determinants (see Appendix A). The question for study was: In older adults aged 65-years and older who are enrolled in the VAB program, what is the effect of the VAB program on their feelings of loneliness over a three-month period?

Review of the Literature

A comprehensive review of the current literature was conducted using the databases CINAHL, EBSCO, and PubMed returning 1778 scientific articles. Keywords used included *elderly, older adult, geriatric, senior, social isolation, loneliness, depression, social resources, quality of life, befriending, and weekly socialization*. The Boolean operators used included “elderly” or “older adult” or “geriatric” or “senior” AND “loneliness” AND “social isolation” OR “health” or “illness” OR “social” OR “depression” OR “quality of life” OR “befriending” or “weekly socialization”. Inclusion criteria included studies published between 2015 and 2020, articles written in English, studies with participants 65 years of age and older, and studies on loneliness in older adults. Exclusion criteria included studies published prior to 2015, articles not written in English, and studies with participants less than 65 years of age. A total of 14 peer-reviewed articles published between 2015 and 2020 were included in the final review. One meta-analysis, one combined meta-analysis and systematic review, three systematic reviews, one scoping review, four longitudinal cohort studies, one cross-sectional study, one quantitative study, one qualitative study, and one concept review.

Certain commonalities tend to be associated with feelings of loneliness, such as gender, socioeconomic status, and lack of social support networks (Cohen-Mansfield, Hazan, Lerman, & Shalom, 2016; Kobayashi & Steptoe, 2018). Loneliness is more common in older adults, women, unmarried, ethnic minorities, and those living alone (Cohen-Mansfield et al., 2016; Kobayashi & Steptoe, 2018). Loneliness was higher in those who live in senior living communities than those who live in traditional homes (Taylor, Wang, & Morrow-Howell, 2018). In those who have lower net wealth, a lower

level of completed education, a deficit in quality social relations, and poor self-rated health, loneliness was demonstrated to be more common (Cohen-Mansfield et al., 2016; Kobayashi & Steptoe, 2018; Taylor et al., 2018). Those who were lonely were more likely to have limiting chronic illness (i.e., chronic obstructive pulmonary disease, cardiovascular disease), history of cerebrovascular accidents, arthritis, impaired mobility, and symptoms of depression (Kobayashi & Steptoe, 2018). Older adults reported a possible relationship between feelings of loneliness and apathy, bereavement, inactivity, and mental health issues, including shame and trepidation (Cohen-Mansfield et al., 2016; O'Suilleabhain, Gallagher, & Steptoe, 2019). One's environment can play a role in loneliness, including neighborhoods high in crime, with inaccessible housing, and lacking resources (Cohen-Mansfield et al., 2016).

Likewise, there are parallels between loneliness and those who report social isolation. Social isolation is more common in those who are unmarried with a lower educational level and lower net wealth (Kobayashi & Steptoe, 2018). Age, gender, and ethnicity were not significantly correlated to social isolation. Those with chronic lung illnesses and symptoms of depression are more likely to experience social isolation. Socially isolated older adults also reported poor diets lacking enough fruits and vegetables (Kobayashi & Steptoe, 2018).

Those reporting loneliness or social isolation tend not to have a well-balanced diet or engage in regular exercise. Older adults who reported social isolation or loneliness demonstrated reduced physical activity and a higher likelihood of smoking (Kobayashi & Steptoe, 2018; Schrepft, Jackowska, Hamer, & Steptoe, 2019). Moreover, socially isolated or lonely adults had a decreased likelihood of being continually overweight or

obese, and less likely to drink alcohol daily (Kobayashi & Steptoe, 2018). Furthermore, mortality rates are increased among those with social isolation or loneliness related to health behaviors (Schrempft et al., 2019).

Older adults can begin to feel alienated from society due to multiple factors, including living alone, financial insecurity, difficulty accessing medical services or community resources, and loss of physiological functioning (Ng et al., 2015). Living alone does not necessarily indicate one is lonely, although living alone has been associated with higher mortality in men and those who are single, widowed, or divorced (Ng et al., 2015; Ong et al., 2016). The loss of physiological functioning occurring with age also plays a role in feeling alienated (Perissinotto, Holt-Lunstad, Periyakoil, & Covinsky, 2019). Addressing the potential existing socialization barriers is important, including the use of hearing aids for those who have a hearing impairment or transportation services for those who have mobility impairments (Perissinotto et al., 2019). Older adults may feel left behind, which is especially evident with technological advances. Likewise, older adults may begin to feel more socially isolated and lonely as their children move out, family and friends pass away, and careers end with retirement (Wong, Chau, Fang, & Woo, 2017). In all of these situations, a facet of their social circle has weakened or disappeared.

The utilization of socialization or befriending programs can have positive outcomes for those who actively participate. These programs for older adults are typically a one-on-one experience between an older adult and a volunteer (Gardiner, Geldenhuys, & Gott, 2018). However, group activity interventions are also possible (Poscia et al., 2018). Befriending projects, whether in-person or via the telephone, were found to have

at least some success in alleviating loneliness through creating a sense of belonging (Gardiner et al., 2018; Poscia et al., 2018; Siette, Cassidy, & Priebe, 2017).

Individualization of these programs is critical for the success of the older adults in reducing loneliness, as the loneliness experienced by older adults varies depending on the person (Fakoya, McCorry, & Donnelly, 2020; Perissinotto et al., 2019). Performing an early assessment is recommended to determine the individual's needs and the factors contributing to the loneliness, with tailoring the program to fit the needs of the individual (Fakoya et al., 2020; Perissinotto et al., 2019). Maintaining these socialization programs can be challenging, most commonly with volunteer recruitment and program promotion (Gardiner et al., 2018).

There are various screening instruments designed to assess loneliness in a population, including the UCLA Loneliness Scale and the DJGLS, and neither of these scales referred to the term loneliness. Underreporting can occur when using the term loneliness due to the associated stigma. These scales did not ask about a time frame for the older adult's experience of loneliness but asked the items broadly (Ong et al., 2016). The DJGLS has items on both the 6-item and 11-item questionnaires pertaining to emotional and social dimensions of loneliness (Ong et al., 2016). The UCLA Loneliness Scale does not differentiate between the emotional and social dimensions of loneliness.

There are screening instruments demonstrated to assess social isolation and depression within a population. The OARS Social Resources Scale assesses older adults' perceived access to social support (Valtorta, Kanaan, Gilbody, & Hanratty, 2016). The Lubben Social Network Scale questions older adults specifically about the social support system surrounding them, while the OARS Social Resources Scale determines the

functional status of adults (Valtorta et al., 2016). The PHQ-2 is a two-item questionnaire designed to assess for depression and has demonstrated good validity for the older adult population (Taylor et al., 2018).

The Iowa Model of Evidence-Based Practice (EBP) was chosen as the framework for this quality improvement project. This model is often used in health care settings as a guide through the change process (Brosnan, 2017). This project was based on a problem-focused trigger and not a knowledge-focused trigger because it arose from a clinical problem. In this case, assessing loneliness in older adults was the clinical problem and was a priority to the VNA evidenced by the development of the VAB program to decrease loneliness in older adults. The review of the literature allowed for evidence-based research to be thoroughly gathered and reviewed, and it was determined there was a sufficient research base to move ahead with a pilot to change practice. The change to be piloted in practice is the implementation of the 28-item VAB Screening Assessment Instrument, which will assess loneliness scale results over time. The Iowa Model of EBP promotes quality care through change and is befitting the needs of this project.

Loneliness is a poorly understood phenomenon occurring in older adults globally (Ong et al., 2016). There was limited information found in the literature regarding which interventions are most successful in alleviating loneliness or social isolation, and whether they can be generalized to all older adults. Similarly, there was limited information about socialization programs such as the VAB program.

Methods

Design

A descriptive cohort design was utilized for this project. The assessments

analyzed were those completed between November 2020 and May 2021.

Setting

The non-profit organization was located in a small, suburban, midwestern community. In addition to the weekly socialization program, the organization also provided home health care, palliative care, hospice care, and vaccination services. The United States Census Bureau [USCB] (2019) estimated the population of the community in which the weekly socialization program resides to be 26,956 people, of which 14.7% are older than 65 years of age. In this community, 94.3% of households have a computer, and 87.7% have a broadband Internet subscription (USCB, 2019).

Sample

There was a convenience sample of 12 participants out of the 25 active older adults enrolled in the weekly socialization program. The inclusion criteria were adults older than 65-years of age, English-speaking, those with telephones, and those enrolled in the weekly socialization program. The exclusion criteria were adults less than 65-years of age, non-English speaking, those without telephones, and those not enrolled in the weekly socialization program. The desired sample size was a minimum of 10 assessments.

Procedures

Preliminary work for the project included convening with key stakeholders (Chief Executive Officer, program manager, program director) and reviewing the processes of the screenings of adults enrolled in the weekly socialization program. Weekly meetings were held with the program manager with the goal to develop a VAB screening

instrument for the organization. The VAB Screening Assessment Instrument was created and implemented in November 2020.

Data Collection and Analysis

All potential participants were de-identified and coded by the VNA according to an assigned number to ensure confidentiality. Those who participated had completed two assessments with the VAB Screening Assessment Instrument. Demographic information obtained included age, gender, race, relationship status, and highest education level obtained. The data the VAB Screening Assessment Instrument collected included perceived quality of life and loneliness, and screening for loneliness, depression, social network compilation, and health determinants.

Data analysis was performed using Microsoft Excel and Intellectus Statistics. Demographic information was analyzed and reported using descriptive frequencies and percentages. In addition, the data analysis methods used were two-tailed paired samples *t*-tests and two-tailed Wilcoxon signed-rank tests.

The project occurred from November 2020 through May 2021, with two assessments completed three months apart for each participant. VNA and Institutional Review Board (IRB) approval were both obtained prior to data collection and analysis.

Approval Processes

The approval of the student's doctorate committee of graduate studies, VNA, and IRB was obtained to conduct the study. There were no known ethical considerations.

Results

A total of 12 older adults ($N=12$) participated in the study, with 58% being female ($n=7$), and 42% being male ($n=5$). Participants' age ranged from 68- to 95- years of age

with a mean of 82.08 years ($SD=9.24$) (see Appendix B). The most frequently observed race was Caucasian at 67% ($n=8$), followed by African American at 25% ($n=3$), and Interracial (Caucasian/African American) at 8% ($n=1$). The highest education level was high school at 25% ($n=3$); associates degree 17% ($n=2$), bachelors degree 17% ($n=2$), graduate degree 17% ($n=2$), some college 17% ($n=2$), and 8% ($n=1$) with an 8th grade education level. The relationship status of the older adults was 67% ($n=8$) widowed, 17% ($n=2$) divorced, 8% ($n=1$) married, and 8% ($n=1$) single (see Appendix C).

The VAB Screening Assessment Instrument screened for use of transportation system, food availability, safety in the home environment, need for utility or food resources, phone access, Internet access, and interest in visit tasks (volunteer assists with tasks). The most frequent transportation system used in both the initial 58% ($n=7$) and secondary assessments 50% ($n=6$) was the use of their own or family personal car. In the initial screening, the use of both personal and public transportation was at 25% ($n=3$), and the use of public transportation was at 17% ($n=2$). In the secondary screening, public transportation was used 33% ($n=4$), and both personal and public transportation were used 17% ($n=2$). All participants had enough food every day of the month (100%, $N=12$), felt safe in their home environment (100%, $N=12$), and did not need information on utility or food assistance (100%, $N=12$). The participants who use both a cell phone and a landline were 50% ($n=6$), while 33% ($n=4$) use only a cell phone and 17% ($n=2$) only use a landline. At the initial assessment, 75% ($n=9$) of the participants had Internet access, and 25% ($n=3$) did not have Internet access; at the secondary screening, 67% ($n=8$) had Internet access, and 33% ($n=4$) did not have Internet access. Out of all of the participants

(100%, $N=12$), 92% ($n=11$) were not interested in visit tasks, and 8% ($n=1$) were interested in visit tasks (see Appendix C).

There were a total of 63 activities performed to reduce loneliness reported by the participants. The most frequently reported activity to reduce loneliness was spending time with family, friends, or neighbors 17.5% (11 of 63 activities). The second most frequently reported activity was spending time with pets 12.7% (8 of 63 activities), followed by spending time with volunteers 9.5% (6 of 63 activities), watching TV 9.5% (6 of 63 activities), and reading and doing puzzles 9.5% (6 of 63 activities) (see Appendix D).

A two-tailed Wilcoxon signed-rank test was conducted to examine whether there was a significant difference at the beginning and end of the three-month time period for Perceived Quality of Life; Perceived Loneliness; “After someone visits with you, when do you begin to feel lonely again?”; “When do you feel most lonely?”; DJGLS EL; DJGLS SL; and PHQ-2. Based on an alpha value of 0.05, Perceived Quality of Life ($z = -2$, $p = .046$) and DJGLS SL ($z = -2.06$, $p = .039$) were different. Initially, the scores for Perceived Quality of Life were lower, but the scores increased with the secondary assessment, demonstrating an improvement in quality of life. The scores for DJGLS SL were initially higher, but the scores decreased in the secondary assessment. As higher scores for the DLGLS mean more severe loneliness, a score decrease indicates a reduction in loneliness. There was no difference for Perceived Loneliness ($z = -1.89$, $p = .059$), “After someone visits with you, when do you begin to feel lonely again?” ($z = -1.34$, $p = .180$), “When do you feel most lonely?” ($z = -1.34$, $p = .180$), DJGLS EL ($z = -0.38$, $p = .705$), and PHQ-2 ($z = -0.50$, $p = .618$).

A two-tailed paired samples *t*-test was conducted to examine if there was a difference between the beginning and the end of the three-month period for the DJGLS Composite; LSNS-6 Family; LSNS-6 Friends and Neighbors; and LSNS-6 Composite. Based on an alpha value of 0.05, there was a difference for DJGLS Composite ($t(11) = 2.42, p = .034$). The scores for DJGLS Composite were initially higher, but the scores decreased in the secondary assessment. As higher scores for the DLGLS mean more severe loneliness, a score decrease indicates a reduction in loneliness. There was no difference for LSNS-6 Family ($t(11) = -0.43, p = .678$), LSNS-6 Friends and Neighbors ($t(11) = -1.13, p = .283$), and LSNS-6 Composite ($t(11) = -0.96, p = .356$).

Discussion

The purpose of this quality improvement project was to evaluate the effect of three months of participation in the VAB program on feelings of loneliness in older adults aged 65 years and older. There was no difference in perceived loneliness between the initial and secondary assessments ($p = .059$). However, there was a difference in loneliness using the DJGLS between the initial and ending assessments ($p = .034$). Furthermore, there was a change in perceived quality of life between the initial and ending assessments ($p = .046$). There was not a difference in social isolation using the LSNS-6 between initial and secondary assessments ($p = .356$). Whether or not the results showed changes, the older adults expressed their love for the program, how the program helped to alleviate their loneliness, and their volunteers, which are important to them, and have become members of their families (Gardiner et al., 2018; Poscia et al., 2018; Siette et al., 2017).

A limitation of this quality improvement project was the small sample size. Furthermore, the number of visits between the older adult and volunteer was limited by the COVID-19 pandemic, as the ability to visit in-person was restricted by social distancing guidelines. Recommendations for further study include using a larger sample size and studying over a longer period-of-time. In addition, the study of newly enrolled older adults and the impact of the VAB program over time on loneliness outcomes is suggested. Implementation of additional interventions, such as weekly pet therapy or virtual book club meetings with other older adults, could be considered to assess whether specific interventions impact feelings of loneliness (Gardiner et al., 2018).

Conclusion

The utilization of weekly socialization programs as a supplement to an older adults' established community of family and friends can be beneficial for their loneliness and perceived quality of life. The participants of this quality improvement project expressed how meaningful the program has been in their life. They also verbalized how the conversations with their volunteer have helped reduce their loneliness, along with having conversations with their family and friends. The promotion of developing and maintaining relationships through use of a weekly socialization program can positively impact older adults as indicated by the results of this study.

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Appendix A**Visit-A-Bit Screening Assessment Instrument**

Senior #: _____

Date: _____

Initial visit Months: 3 6 9 12 **General Questions**

1. Currently, how would you describe the quality of your life?
 Poor Fair Good Excellent
2. How often do you feel lonely?
 Never Rarely Sometimes Often
3. After someone visits with you, when do you begin to feel lonely again?
 24 or more hours 12-23 hours 7-12 hours 1-6 hours
4. When do you feel most lonely?
 Morning Afternoon Night N/A
5. What activity or activities help you to reduce your loneliness? _____

DeJong Gierveld Loneliness Scale (DJGLS)

6. Do you experience a general sense of emptiness?
 Yes More or less No
7. Do you miss having people around you?
 Yes More or less No
8. Do you often feel rejected?
 Yes More or less No
9. Are there plenty of people to rely on when you have problems?
 Yes More or less No
10. Are there many people you can trust completely?
 Yes More or less No
11. Are there enough people you feel close to?
 Yes More or less No

Patient Health Questionnaire-2 (PHQ-2)

Over the last two (2) weeks, how often have you experienced any of the following?

12. Little interest or pleasure in doing things?

- Not at all (0) Several days (1-6) More than half of the days (7-10) Nearly every day (11-14)

13. Feeling down, depressed or hopeless?

- Not at all (0) Several days (1-6) More than half of the days (7-10) Nearly every day (11-14)

Lubben Social Network Scale-6 (LSNS-6)

14. How many relatives do you see or hear from at least once a month?

- Five or more Three or four One or two None

15. How many relatives do you feel at ease with that you can talk about private matters?

- Five or more Three or four One or two None

16. How many relatives do you feel close to such that you could call on them for help?

- Five or more Three or four One or two None

17. How many friends or neighbors do you see or hear from at least once a month?

- Five or more Three or four One or two None

18. How many friends or neighbors do you feel at ease with that you can talk about private matters?

- Five or more Three or four One or two None

19. How many friends or neighbors do you feel close to such that you could call on them for help?

- Five or more Three or four One or two None

Other Questions

20. What transportation system do you use?

- Personal Public If public, what type? _____

21. Do you have enough food every day of the month?

- Yes No If no, explain? _____

22. Would you like some information on utility or food assistance?

- Yes No

23. Do you feel safe in your home environment?

- Yes No If no, explain? _____

24. Do you use a cell phone or landline?

Cell phone Landline

25. Do you have Internet access?

Yes No

26. Are you interested in visit tasks?

Yes No

27. Do you have any preferences for your volunteer?

Yes No If yes, explain? _____

28. How satisfied are you with your current volunteer?

Very dissatisfied Dissatisfied Satisfied Very satisfied

Thank you for answering this questionnaire!

Appendix B**Table 2***Summary Statistics Table for Interval and Ratio Variables*

Variable	<i>M</i>	<i>SD</i>	<i>n</i>	<i>SE_M</i>	Min	Max	Skewness	Kurtosis
Age in years	82.08	9.24	12	2.67	68.00	95.00	-0.25	-1.17

Note. '-' indicates the statistic is undefined due to constant data or an insufficient sample size.

Appendix C

Table 1*Frequency Table for Nominal Variables*

Variable	<i>n</i>	<i>%</i>
Gender		
Female	7	58.33
Male	5	41.67
Missing	0	0.00
Highest Education Level		
Some College	2	16.67
Bachelors	2	16.67
High School	3	25.00
8th grade	1	8.33
Graduate	2	16.67
Associates	2	16.67
Missing	0	0.00
Race		
Caucasian	8	66.67
African American	3	25.00
Interracial (Caucasian/African American)	1	8.33
Missing	0	0.00
Relationship Status		
Widowed	8	66.67
Single	1	8.33
Married	1	8.33
Divorced	2	16.67
Missing	0	0.00
What transportation system do you use? Initial screening		
Personal	7	58.33
Personal and Public	3	25.00
Public	2	16.67
Missing	0	0.00
What transportation system do you use? Secondary screening		
Personal	6	50.00
Personal and Public	2	16.67
Public	4	33.33
Missing	0	0.00

Do you have enough food every day of the month?		
Yes	12	100.00
Missing	0	0.00
Would you like some information on utility or food assistance?		
No	12	100.00
Missing	0	0.00
Do you feel safe in your home environment?		
Yes	12	100.00
Missing	0	0.00
Do you use a cell phone or landline?		
Cell phone and Landline	6	50.00
Cell phone	4	33.33
Landline	2	16.67
Missing	0	0.00
Do you have internet access? Initial screening		
No	3	25.00
Yes	9	75.00
Missing	0	0.00
Do you have internet access? Secondary screening		
Yes	8	66.67
No	4	33.33
Missing	0	0.00
Are you interested in visit tasks?		
No	11	91.67
Yes	1	8.33
Missing	0	0.00

Note. Due to rounding errors, percentages may not equal 100%.

Appendix D

Figure 1

Pareto Chart of Activities Performed to Reduce Loneliness

