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## Letters Against Loneliness: The Effect of a Pen Pal Program Uniting Older Adults and College Students on Perceived Loneliness

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### Citation

Miriani, A., & Crawford, C. (2021). Letters Against Loneliness: The Effect of a Pen Pal Program Uniting Older Adults and College Students on Perceived Loneliness. *The Eleanor Mann School of Nursing Undergraduate Honors Theses* Retrieved from <https://scholarworks.uark.edu/nursuht/153>

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LETTERS AGAINST LONELINESS

**Letters Against Loneliness: The Effect of a Pen Pal Program Uniting Older Adults and  
College Students on Perceived Loneliness**

An honors research project submitted in partial fulfillment of the requirements of the degree of  
Bachelor of Science of Nursing

By

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May 2021

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## LETTERS AGAINST LONELINESS

### **Abstract**

In 2019, Cigna published a survey of 20,000 U.S. adults over 18 years of age in which 50% of participants reported feeling alone or left out some or all the time. They also found that the youngest generation (18-22) reported the highest levels of loneliness (Bruce et al., 2019). Another population that experiences high levels of loneliness is older adults who live alone, are homebound, or live residential care setting, reporting rates of 22-42% compared to ten percent reported by older adults living in the community (Simard & Volicer, 2020). This is a major public health concern as Simard and Voicer (2020) report that loneliness is linked to increased risk of depression, alcoholism, suicidal thoughts, aggressive behaviors, anxiety, and impulsivity. The findings of this literature review underscore the parity of evidenced based interventions to address loneliness. The purpose is to develop a loneliness intervention involving the two population above based on available research. The paper outlines a pen pal program between old and young adults aiming to decrease loneliness as well as other social and emotional predictors of health in both groups. The proposed program matches participants with members of the opposite demographics and facilitates eight weeks of letter writing with a weekly prompt. Participants would answer a survey regarding their experience of loneliness before and after the program. Due to time constraints, the research facilitators were unable to implement the intervention, but did reach out to individuals within each population and have included logistical recommendations for researchers aiming to implement the program in the future.

## **I. INTRODUCTION**

### **Background and Significance**

Research on the long-term effects of social isolation and loneliness indicates that it is a risk factor for mortality comparable to more established risk factors such as obesity and smoking

## LETTERS AGAINST LONELINESS

(Holt-Lunstad, 2015). Perceived loneliness is also correlated with physical health problems, higher rates of depression, and even increased physical pain (National Institute on Aging, 2019). Research on perceived loneliness indicates that it may produce prolonged stress and inflammation on a molecular level which has been linked to chronic disease and mortality (Cole, 2015). Conversely, research shows that warm, quality relationships are among the largest predictors of overall health, longevity, and life satisfaction (Buettner, 2012; Harvard Medical School, 2017).

There is limited research on the effectiveness of interventions addressing loneliness. Our project aims to combine interventions that have been found effective in the past by developing an intergenerational pen pal program that includes a survey to measure the intervention's effects on perceived loneliness, personal value, happiness, and overall health.

### **Purpose of Study**

Our purpose is to develop an intervention that successfully decreases loneliness among residents of nursing homes, home-bound older adults, and college students through purposeful engagement and relationship building. We are hopeful that the experience will also encourage participants to adjust their involvement, attitudes, and values to support greater personal health and well-being even after the program has ended.

To fully accomplish the purpose of this study, it will be necessary to implement the intervention and answer the following research question:

Does the implementation of a guided pen pal program uniting community dwelling older adults and college students aged 18-22 decrease perceived loneliness experienced within each population?

## **II. LITERATURE REVIEW**

## LETTERS AGAINST LONELINESS

Forced social isolation during the Covid-19 pandemic has brought the issue of loneliness as a public health issue back into the public eye with news outlets once again proclaiming a loneliness epidemic. While social isolation is linked to loneliness, it is important to recognize the difference. Social isolation is a lack of regular contact with others; loneliness is a subjective state in which there is a disparity between a person's ideal quantity and quality of social interaction and their reality (Perlman & Peplau, 1981). Decades before Covid-19, research on loneliness was already beginning. In 1996, the UCLA (University of California, Los Angeles) Loneliness Scale (Version 3) was developed and remains a valid and reliable measure widely used in research on loneliness. The tool is a four-point Likert scale that includes 20 statements utilized to measure participants' subjective feelings of loneliness. The scores from the UCLA-LS range from 20 to 80 with higher scores indicating increased feelings of loneliness, while lower scores represent a lower loneliness level (Eskimez et al., 2019).

In 2018, Cigna employed the UCLA-LS scale in an online survey of 20,000 adults in the U.S. Nearly half reported feeling alone or left out some or all of the time. Loneliness was most prevalent among respondents ages 18-22 who had an overall loneliness score of 48.3. The overall score decreased by about three points with each age group through 72+ (Bruce et al., 2019). It is important to consider the possibility that using an online survey method could have biased the older adult sample towards those with stronger connections within younger generations and greater functional ability which may allow them to be more socially engaged. This finding about older adults' conflicts with recent survey data from four different western European studies which found the relationship between age and loneliness to be a u-shaped curve with the highest rates of loneliness being among the youngest and oldest adults (Victor & Yang, 2011; Richard et

## LETTERS AGAINST LONELINESS

al., 2017). Other studies have found that older adults may be more likely to experience feelings of loneliness due to retirement, bereavement, or children leaving the home (Wrzus et al., 2013). Compared with older adults in the community, those living in nursing homes are twice as likely to experience loneliness (Prieto-Flores et al., 2011; Victor et al., 2012). This relationship may be partly attributed to shared risk factors for loneliness among institutionalized individuals such as spousal loss or feeling alone (Eskimez et al., 2019). Research suggests that relocation can also play a significant role as residents often lose their social environment, access to activities they previously enjoyed, and the physical environment that prompted positive memories and a sense of belonging (Roos & Malan, 2012; Roos & Klopper, 2010).

The prevalence of loneliness is increasingly concerning as more research emerges linking loneliness with mental health problems, chronic disease, and morbidity, including cardiovascular disease, HTN, depression, and sleep disruption (Cacioppo et al., 2015). It is believed that humans evolved to rely on secure social surroundings for survival. When individuals believe they lack this, they enter a state of hypervigilance in which they are unconsciously more aware and suspicious of potential danger. Since this extends to social settings as well, lonely individuals are more likely to interpret social interactions negatively therefore it is harder for them to form relationships or experience positive social interactions in day-to-day life. Biologically, hypervigilance involves sustained stimulation of the sympathetic nervous system, which is associated with prolonged stress, inflammation at a molecular level, diminished sleep quality, and suspicion of others, all of which negatively affect health outcomes (Cole, 2015; Hawkey & Cacioppo, 2010). Multiple meta-analyses have revealed a significant association between loneliness and mortality risk among young- and middle-aged participants. However, literature

## LETTERS AGAINST LONELINESS

examining the association between mortality and older adults is either weaker or nonexistent. A potential reason for this is increased resilience in older adults is that they have a greater capacity for managing and overcoming stress due to a lifetime of doing so successfully and finding the coping and management skills that work well for them (Lara, E., et al, 2020; Holt-Lunstad, 2015). While further research is required to confirm this finding, it further emphasizes the importance of the UCLA Loneliness Scale in acquiring further data about loneliness experienced among different populations to develop the most effective interventions.

Though the importance of effective interventions against loneliness is clear, there is limited literature on the subject. A major difficulty in designing interventions for loneliness is that the primary risk factors vary between different developmental stages and environments (Luhmann & Hawkley, 2016). For this reason, the literature review included here will be limited to either generalizable interventions or those that include our target demographics: young adults aged 18-22 and older adults in nursing homes. Another challenge in developing interventions is that the intuition of most healthy (i.e., not lonely) people often fails to address the deeper problems experienced by lonely people, such as change in thought processes about others due to unconscious hypervigilance, a phenomenon discussed in the paragraph above.

One meta-analysis divided treatments by type and reviewed the effectiveness of each category. Categories included interventions designed to increase opportunity for social interaction, improve social skills, enhance social support, and address maladaptive social perception, usually through some variation cognitive behavioral therapy (CBT). Interventions based on increasing opportunity for interaction and improving social skills were not found effective. Enhancing social support had a small, but significant reduction in loneliness.

## LETTERS AGAINST LONELINESS

Addressing maladaptive social cognition was by far the most effective, lowering overall loneliness levels more than three and a half times as much as social support, the only other effective intervention type. A key component to this intervention was bringing awareness to automatic negative thoughts about others and oneself during and following an interaction and reframing them as “possibly faulty hypotheses that need to be verified.” All interventions were more successful when they gave individuals the opportunity to give support as well as receive it (Cacioppo et al., 2015). These results led to the development of an intervention called Loneliness Interventions using Story Theory to Enhance Nursing sensitive outcomes (LISTEN) intended to target maladaptive cognitive processes in any age or population. LISTEN is a small group therapy (three to five people) modeled after CBT and delivered in five sessions. The sessions encourage participants to evaluate their past and present experiences with belonging, relationships, behavioral responses to loneliness (getting in or staying out), and the ups and downs of loneliness. The final session encouraged participants to find meaning in the experience of loneliness while also identifying what might help diminish it. The small group structure allows participants to hear different perspectives as well as support and receive support from other people (Theeke & Mallow, 2015). An initial study of 27 older adult women in Appalachia with moderate to high UCLA-LS scores found the intervention effective in reducing loneliness, depression, and hypertension over four months. Participants reported enhanced perception of social support as well, likely due to many choosing to join community organizations and exercise courses. Further research involving larger and more diverse samples are necessary to discover the true effectiveness and generalizability (Theeke et al., 2016).

## LETTERS AGAINST LONELINESS

Reminiscence therapy is well documented as a successful intervention for loneliness. A study in a Taiwanese nursing home implemented group reminiscence therapy consisting of weekly 90-minute sessions for eight weeks led by two experienced leaders. Sessions focused on sharing memories, recognizing and expressing emotions, identifying positive relationships from the past and aspects from them that could be applied in the present, recalling family history, reflecting on life transitions, reflecting on personal accomplishments and goals, and an overall review of the sessions. Group leaders consistently emphasized that the participants' memories and life experiences were valuable. The study found a reduction in loneliness and depression attributed to recalling and sharing memories which validated a sense of self, belonging, and meaning (Chiang et al., 2010). Intergenerational reminiscence therapy has also been shown to improve the younger generations' perception of older adults and have various positive effects on older adult health depending on the intervention. An intervention in which the older adults' role was explicitly framed as teaching a group of students decreased feelings of loneliness and increased empowerment after three two-hour sessions (Gaggioli et al., 2014). Since evidence about loneliness and related mortality indicates that older adults may have developed good management and overcoming skills over their lifetime, participating in reminiscence therapy may also help equip younger participants with the skills and wisdom required to effectively manage loneliness. Another meta-analysis on loneliness among older adults categorized interventions by stated goals such as contact and social participation. Effectiveness was not consistent among the categories, though "purposeful activity" was identified as an essential factor and suggested as a target goal in developing future interventions (O'Rourke et al., 2018). It has also been suggested that interventions incorporating multiple strategies are generally more successful (Poscia et al., 2018).

## LETTERS AGAINST LONELINESS

Another potentially useful area of research in developing interventions (particularly preventative) is observed protective factors against loneliness and general health deterioration. The Harvard Study of Adult Development began in 1938 with 268 teenage males and has used interviews and questionnaires to track the lifestyles, priorities, and health of the original participants and their descendants since then. Close relationships have emerged as the best predictor of longevity and happiness. Observational research on a global scale has identified six key factors for predicting healthy aging including, “having mature mechanism to cope with life’s ups and downs.” (Mineo, 2017). National Geographic Fellow Dan Buettner researched longevity through cultural analysis of communities throughout the world with exceptional longevity, happiness, and health termed Blue Zones. He identified nine primary commonalities between blue zones, including healthy social networks, prioritizing close relationships, and having a sense of purpose (Buettner, 2012).

As a result of the Covid-19 pandemic, many nursing homes are no longer allowing visitors to reduce the spread of the virus and protect the residents. Because of this, there has been a significant effect on the quality of life of residents. There is limited or no socialization with other residents, and they can no longer visit with family and friends. The strict limitations force the nursing home residents to turn to alternative forms of communication, such as emails, phone, and video calls (Wammes et al., 2020). It is necessary to consider these limitations and the potential for exacerbated loneliness in nursing home when designing and evaluating interventions during the pandemic.

In designing our intervention, we aimed to incorporate a variety of strategies with the primary goal of reducing loneliness as measured by the abbreviated UCLA-LS Version 3 (see

## LETTERS AGAINST LONELINESS

Appendix A). Related targets include providing an opportunity for meaningful connection, emotional processing, reminiscence, and purposeful activity in young adults ages 18-22 and older adults living in nursing homes or home-bound. Throughout the course of eight weeks, participants will write and receive one letter from their partner. Participants are encouraged to spend time to writing long letters and approach it as an opportunity for reflection as well as connection. The content of each letter is ultimately up to the participant, but each week there will be a prompt similar to a reminiscence question. Pen pals are also encouraged to respond to the information shared in the letter they receive.

### **III. METHODOLOGY**

#### **Research Design and Methods**

The purpose of this study is to develop a pen pal program uniting stationary older adults and college students and a way to evaluate the intervention's effect on perceived loneliness experienced in both populations. Each older adult participant will be matched with a college student (18-22). Every Monday for eight weeks, participants will receive a writing prompt and be asked to write a letter to their pen pal by the end of the week. Participants should be encouraged to write letters that respond to what their pen pal shared in their last letter as well as answer the writing prompt thoughtfully and honestly. Writing prompts were developed using the principles of reminiscence therapy and the LISTEN intervention topics as a guide. The prompts for the eight weeks are as follows:

Week One: Introduce yourself to your pen pal. Share some of your current or past interests.

These can be anything from music, sports, hobbies, career, travel, reading, etc. Include some of your favorite memories related to these interests.

## LETTERS AGAINST LONELINESS

Week Two: Tell your pen pal about someone who you are grateful for and is a part of your life story. They do not have to be someone you still interact with. What makes them so special to you? What are some of your favorite memories with them? Why do you think you had/have such a good relationship? You are welcome to share about more than one person.

Week Three: Tell your partner about your family. Share as much of your story as you feel comfortable with. Include any silly or sweet memories that come to mind.

Week Four: Describe a big transition in your life. What are some positive emotions you felt throughout the transition? Negative? Can you identify any strategies that have helped you find contentment and happiness wherever you are in life? If not, are there any you would be interested in trying? Share any stories from the process that come to mind.

Week Five: What is something you have accomplished or aspects of who you are that you are proud of? Why do they matter to you? How did you achieve these things? Share any stories from the process that come to mind.

Week Six: What are some personal goals or hopes you have for yourself or your life? Why are they important to you? How do you plan to accomplish them? Have you already begun? Share any stories from the process that come to mind.

Week Seven: What is some of the best advice you have ever been given? Who gave it to you? How has it effected in your life? If you were to give advice to others, what would you focus on and why? Share any stories from the process that come to mind.

Week Eight: Reflect on your experience as a pen pal. What are some of your favorite things about getting to hear from and share with your pen pal? Take this opportunity to share any stories or memories you think your pen pal might be interested in.

## LETTERS AGAINST LONELINESS

In the abbreviated version of the intervention, drop boxes were set up in central locations for participating students. On Sunday evenings, completed letters from younger adults were to be collected from drop boxes. On Monday, organizers delivered the letters to older adult participants or partner organizations and picked up their letters for their younger pen pal. These letters were available for pick up by college student participants on Monday and Tuesday. The pick up needed to be in person to ensure confidentiality. Coordinating the delivery of the letters in this way allowed the researchers to be certain when documenting which participants are sending and receiving letters, shortened the time between sending and receiving letters, and removed the need to provide stamps.

The authors of this paper suggest using a quasi-experimental design to answer the research question in which electronic and paper survey options are administered to participants before the intervention and then again eight weeks after, aligning with the completion of letter writing. The suggested pre-study and post-study surveys are qualitative surveys developed utilizing Version Three of the UCLA (University of California Los Angeles) Loneliness Scale (Perlman & Peplau, 1981) with an optional “additional comments” section. The pre-study survey should be given before receiving the first letter prompt, and the post-study survey will be given after the eight weeks of letter writing. The pre-study and post-study surveys will be the same and will take about five minutes to complete. Descriptive statistics can be utilized to analyze the data from the pre-study and post-study surveys. This study design has previously received approval by the University of Arkansas Institutional Review Board. Consent to participate must be obtained by each member of the study by signing a consent form.

## LETTERS AGAINST LONELINESS

The authors have established a relationship with Butterfield Trails Nursing Home and the Meals on Wheels program, both residing in Northwest Arkansas, and are willing to help recruit older adult participants and distribute letters. They found the most success in getting college student (18-22) participants by reaching out to University of Arkansas Greek life and the Volunteer Action Center.

### **IV. RESULTS**

#### **Discussion**

Due to time constraints, the study has not been completed to its fullest extent, but research and experience through a piloted study can be utilized as a guide for students aiming to continue this research in the future. Logistics of the study may need to be altered to best facilitate letter delivery for the organizers. Providing participants with a schedule of letter delivery and retrieval dates may assist in timely letter exchange. If funding allows, future researchers should consider providing participants with stamps and stationery and utilizing the postal service. This will reduce workload on organizers and add a layer of excitement that comes with sending and receiving mail. Participants are collected on a volunteer basis; therefore, it is difficult to ensure all participants follow through with completion of the study. Contingent on research funding, aspects such as stationary specific to the project, postage for mailing of letters or incentives for participants to complete the study may encourage study execution. The authors also recommend recruiting participants well in advance of projected start date.

For our piloted version, we had four pen pal sets, or four older adults and four college students. The older adults scored an average of five and a half out of nine on the initial survey while the college students scored an average of six out of nine. Though the pilot only ran for one

## LETTERS AGAINST LONELINESS

letter exchange, feedback from participants was generally positive about the idea, though they expressed that it would have been easier for them if a schedule had been available in advance.

### **Limitations**

The designed study has many limitations that should be considered. First, the study is conducted based on a volunteer basis, therefore demographics of participants vary, and participants may not follow through with completion of the study. Also, the self-reported data within the surveys distributed to participants may not have been truthful and could have been impacted by external influences. This suggests potential survey bias, due to the responses lacking representation of the specified population. The current design also does not ask participants to disclose any demographic information apart from their age.

### **Conclusion**

This paper reviews available data on the prevalence of loneliness in college students and stationary older adults, the health consequences of loneliness, and effective loneliness interventions. It also outlines a loneliness intervention developed using this data. Due to time constraints, the intervention was not able to be fully implemented; therefore, the research question cannot be answered at this time. In the future, recruitment should begin well in advance of the program start date, a schedule should be provided to participants, and logistics should be altered to best facilitate letter delivery and encourage participation by both groups. This intervention and study design may be utilized as a guide for future researchers in measuring the effectiveness of a pen pal program uniting stationary older adults and college students on perceived loneliness.

## LETTERS AGAINST LONELINESS

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## LETTERS AGAINST LONELINESS

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## LETTERS AGAINST LONELINESS

## Appendix A

**Survey**

Please answer the following questions by writing the number that corresponds with you most accurate answer in the blank.

1 = Hardly ever | 2 = Some of the time | 3 = Often

1. How often do you feel that you lack companionship? \_\_\_\_\_
2. How often do you feel left out? \_\_\_\_\_
3. How often do you feel isolated from others? \_\_\_\_\_