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Developing a Curriculum to Combat Loneliness as a Public Health Concern in Businesses

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Developing a curriculum to combat loneliness as a public health concern in businesses.

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Loneliness has been considered a public health epidemic affecting people across the world. Elderly populations have historically been considered most at risk for loneliness, but it is becoming evident that loneliness is not so selective. Younger generations show more signs and symptoms of loneliness than older generations. This often overlooked condition is attributable to decreased mental and physical health and can weaken performance in the workplace.

This capstone project creates a concise curriculum addressing loneliness for dissemination in the workplace, ensuring appropriate health literacy for the priority population. Understanding the pervasive nature of loneliness, identifying symptoms, and methods to counteract the effects of loneliness form the foundational topics for the curriculum. Appropriate and engaging education could help reduce the prevalence of loneliness and create social norms for openly discussing this root issue that influences many other health problems, while improving workplace performance and job satisfaction.

CHAPTER 1 - INTRODUCTION

Creating a concise curriculum addressing loneliness for implementation in the workplace to create a platform for empowering individuals to reduce the prevalence of loneliness.

Loneliness has often been overlooked or minimized as a health concern. However, this project will bring attention to the far-reaching effects of loneliness on social, mental, and physical health. Recognizing the impact of loneliness and normalizing conversation around loneliness is the first component of the curriculum. Next, the participant will learn the symptoms and signs of loneliness that can often be mistaken or underestimated. After the symptoms of loneliness are shared, resources and methods to counteract loneliness can be offered to the participant. Additionally, this curriculum will validate loneliness as a legitimate health concern, thus empowering the individual to engage in self-care options and/or seek professional assistance.

Utilizing the reach of wellness coordinators in the business sector for dissemination offers benefits to both entities. The health of their workforce at a population level aims to be improved both physically and mentally, while workplace productivity and job satisfaction are likely to improve.

To achieve the best utilization of the curriculum, it shall be concise and provide elements of interactivity either at a digital or in-person level. Options for both could prove valuable, especially in the workplace environment.

CHAPTER 2 - BACKGROUND AND LITERATURE REVIEW

Loneliness may be the least understandable of all psychological phenomena (Akçit & Barutçu, 2017). It is not limited to a simple definition that it either classifies as or does not, but rather “evolves from cognitive, emotional, and behavioral elements rooted in the need to meaningfully connect with others” (Wright & Silard, 2020). As a baseline, loneliness is often described by researchers as a negative feeling that results when the relationships that one desires are not fulfilled by the perceived relationships one has (Mann, et al., 2017). There is a discrepancy between actual and desired relationships (Barreto, et al., 2021). It is often assumed by researchers that loneliness and social isolation are strongly related; however, there is only a weak correlation (Altschul, et al., 2021). While social isolation can be objectively determined by access and proximity to others, loneliness is more related to the quality of relationships (Mihalopoulos, et al., 2020). Loneliness varies from individual to individual, as it is inherently subjective (Wright & Silard, 2020).

Loneliness has long been stigmatized, trivialized and ignored among society and as a public health concern (Cacioppo & Cacioppo, 2018). With the vast amount of mental and physical health risks associated with loneliness, it is necessary to bring loneliness the attention it deserves. Loneliness can lead to a cognitive deficit, depression, and anxiety, as well as physical health conditions like decreased immunity, increased inflammatory response, increased blood pressure, and progression of Alzheimer's Disease (Lim, et al., 2019: Mann, et al., 2017). In addition, loneliness has been noted as a risk factor for generalized anxiety disorder and dementia (Jeste, et al., 2020). Loneliness is associated with increases in systolic blood pressure, body mass index,

and HDL cholesterol (King, 2018). A study in 2018 supported the serious implications of loneliness sharing that loneliness can lead to irritability, depression, and premature mortality (Cacioppo & Cacioppo, 2018). Xia and Li (2018) maintain that loneliness is a mortality risk factor. In addition, increased comorbidity associated with loneliness could mean there is a risk for accelerated biological aging (Jeste, et al., 2020; Xia,& Li, 2018). Finally, loneliness produces a 26% increase in early death, equivalent to smoking 15 cigarettes a day or obesity (King, 2018).

Loneliness is not limited to the elderly population, as once assumed. Studies have found that younger generations experience more loneliness than their elders. Less than ten percent of those classified as older generation reported severe loneliness compared to 20-48% of adolescents and young adults (Beam & Kim, 2020). Another study shares that individuals report experiencing more loneliness during their late 20's, mid 50's, and late 80's (Jeste, et al., 2020). Due to the varied spikes of heightened feelings of loneliness, there may be an etiologic benefit to providing interventions earlier in life and targeting non-elderly populations for loneliness intervention to prevent physical and mental disabilities (Bessaha, et al., 2020).

Additionally, loneliness appears to be a pervasive and growing public health concern. Seventy-six percent of adults in California report moderate to severe loneliness, leading to worse physical, cognitive, and mental health (Jeste, et al., 2020). In the United Kingdom over three-fourths of family doctors report seeing up to five patients per day with a primary complaint associated with loneliness (Mann, et al., 2017). Other European countries are also feeling the reaches of loneliness. Researchers estimate in one study that 55% of persons living in Eastern European countries struggle with

loneliness (Rico-Uribe, et al., 2018). From a cost perspective, a study in the United Kingdom found that chronically lonely people cost an additional 11,725 pounds over 15 years compared to those that are not lonely (Mihalopoulos, et al., 2020). This increased cost can be attributed to residential care needs, a higher rate of accessing health care, and the development of concurrent health concerns (Mihalopoulos, et al., 2020). The United Kingdom has already declared loneliness a public health epidemic and Dr. Vivek Murthy, the 17th Surgeon General of the United States, has shared a growing concern for the epidemic of loneliness.

Workplaces are a population subgroup that may readily see benefits of implementing a concise loneliness curriculum. Loneliness in the workplace results in decreased performance and less organizational commitment (Akçit, Volkan 2017; King, Marissa 2018; Wahyuni & Muafi, 2021). Loneliness can amplify feelings of stress, which perpetuates loneliness by reducing social interaction and ultimately leading to a desire to leave the company (Wahyuni, & Muafi, 2021). Additionally, employees that do not feel connected to the team require a longer onboarding time (King, 2018). Creating a workplace environment with less loneliness leads to higher trust equating to 74% less stress, 50% increase in productivity, 40% less burnout, 13% fewer sick days, and 29% increased life satisfaction (King, 2018).

Antecedents to workplace loneliness are not isolated to external and societal factors. They can also include variances of social and interpersonal skills and differences in individual needs and emotional regulation (Wright & Silard, 2020). Similarly, as individuals experience different desires for close relationships in various societal situations, there is an opportunity to recognize loneliness in social situations outside of

the workplace and apply methods to reduce such feelings (Wright & Silard, 2020). Ultimately, a loneliness intervention in the workplace is mutually beneficial for the employee and the employer.

Therefore, it is evident that an intervention is significantly warranted and that the workplace provides an opportunity to intervene to address loneliness, providing an ideal audience to affect population health.

CHAPTER 3 - METHODS

Loneliness is pervasive, affecting a wide variety of individuals; because of this, the loneliness curriculum was developed for broad use at businesses, non-profits, and government agencies in the Lincoln, Nebraska, metropolitan area. The opportunity to provide feedback and pilot the curriculum was offered to members of the Tobacco Free Lancaster County Business/School Task Force. This group consists of business leaders, wellness professionals, and public health advocates and chosen to represent the stakeholder group as there is a relationship of higher tobacco use in populations with mental health concerns.

Needs Assessment

A needs assessment survey (Appendix A) was shared electronically with the stakeholder group, consisting of nine questions. The primary goal of the needs assessment was to indicate the level of interest and importance of loneliness as a health concern in local businesses and to determine the appropriate method of delivery for such a curriculum.

The survey collected minimal demographic data asking to indicate the type of business (private sector, non-profit, government, academia, or other) and approximate number of employees/staff (fewer than 20, 20 to 99, 100 to 499, or more than 500).

Respondents were then asked to provide insight regarding preferred distribution of wellness education. Six methods for distribution were presented and respondents asked

to rate preference utilizing a four-point Lickert scale ranging from do not prefer at all to definitely prefer, as well as an option to write in any other method preferences. The six methods offered on the survey included email, printable handouts/flyers, digital graphics, videos or animations, interactive digital activity, and in-person courses (ie: lunch and learn). The survey then asked respondents to identify the ideal number of sessions, length of time per session, and ideal frequency to dedicate to a specific wellness curriculum in a business setting. Options for the number of sessions included one, two, three, four, and five or more. Length of time options included less than five minutes, five to ten minutes, ten to fifteen minutes, and more than 15 minutes. Ideal frequency ranged from daily, weekly, biweekly, and monthly.

Next, the survey asked questions regarding loneliness as a health and a business concern; both garnering responses based on a five-point Lickert scale ranging from not important to very important. In order to recognize desired content and topics for recruitment, respondents were asked what information would be needed to prioritize loneliness as part of their wellness programming. Respondents were asked to check all that apply from the following list: association with physical health, association with mental health, effects on productivity, effects on absenteeism, effects on presenteeism, return on investment, and an option to write in other requests.

Finally, respondents were asked to indicate if they were interested in piloting the loneliness curriculum and to provide their email address if so.

Curriculum Development

The needs assessment data was analyzed (see results section) and it was determined that the loneliness curriculum would consist of three educational sessions with supporting email education, video and/or animation segment, and corresponding handout or worksheet. Each session lasts approximately five to ten minutes with additional resources available for those that wish to further their understanding. Content was divided into the following three sessions:

- **Session One | What is loneliness?** This initial session describes a definition of loneliness, what it might look like, and the impact it can have on work performance, mental health, and physical health.
- **Session Two | What does loneliness look like?** In session two participants discover why people experience loneliness, who might be more at risk of chronic loneliness, and what it can look like in daily life.
- **Session Three | Tips & Resources** In the final session of the curriculum participants learn tips and resources to reduce feelings of loneliness at work and in a personal environment.

The developed loneliness curriculum utilized peer-reviewed literature to create manageable lessons appropriate for the workplace population. Specifically, these articles helped to inform methods of implementation offered in the needs assessment and content produced. Criteria for literature included populations that are appropriate and comparable to those currently in the workplace. Additionally, skills and techniques necessary for the best reduction of feelings of loneliness were compiled from resources

including the Centers for Disease Control and Prevention, Harvard Business Review, Loneliness NZ, and The Greater Good Science Center at Berkeley. Each week provided a call to action to contact a doctor or employee wellness professional if one felt like loneliness was significantly impacting quality of life, recognizing needs beyond the scope of the curriculum. All components of the curriculum were original, created specifically for this project.

Curriculum Pilot

The loneliness curriculum was tested on a small pilot group. A solicitation email was sent to the five respondents of the needs assessment that had volunteered to participate in the pilot program (Appendix B). The solicitation email contained information regarding the physical and mental health risks of loneliness as well as the impact loneliness can have on productivity in the workplace. Participants were asked to share the solicitation email with any colleagues that may be interested.

Taking into consideration the results from the needs assessment as well as the necessary timeline for this project, it was determined to pilot the curriculum on a weekly basis beginning the first week February 2022. Participants received the curriculum via weekly emails designed to be forwarded to employee/staff that contained a link to an informative video and a PDF of a corresponding worksheet (Appendix C). The animated videos were approximately five to seven minutes in length, while the corresponding worksheets offered highlights of the presentation and prompts for further thought and

discussion (Appendix D). One participant indicated that they shared the curriculum on a digital wellness board at their place of employment.

The video portion of the curriculum linked to a recorded presentation on Canva, which allowed analytical data to be gathered. Both the number of views and unique views were captured.

Curriculum Evaluation

Upon completion of the final session, participants were asked to complete a short, anonymous survey following the Kirkpatrick method (Appendix E). After asking if the respondent completed all 3 loneliness sessions, the survey asks to indicate the level of agreement to eight statements utilizing a five-point Lickert scale. The statements asked to be evaluated included:

I enjoyed this course overall.

I found the course content engaging.

This course provided content that is relevant to my professional life.

This course provided content that is relevant to my personal life.

This course enhanced my knowledge of loneliness.

This course affected my attitude towards loneliness.

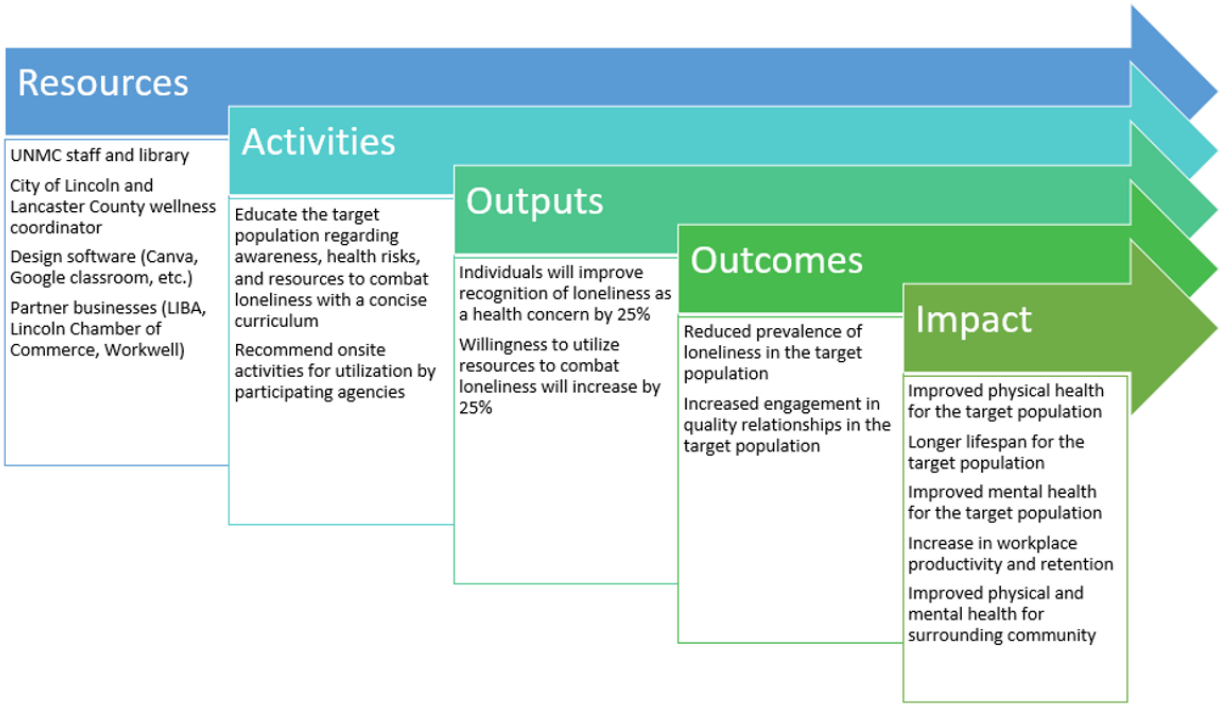
I will interact with others differently as a result of this course.

I would recommend this course to others.

Links to the survey were available in both the session three email and at the end of the session three video. A follow up email request for completion of the survey was sent one week later.

The following logic model shows the anticipated outputs, outcomes, and impact of the curriculum (Figure 1).

Figure 1: Logic Model for Loneliness Curriculum



CHAPTER 4 - RESULTS

Needs Assessment

Over half the stakeholder group (10 out of 19) responded to the needs assessment survey request.

Demographic data collected shows fifty percent of respondents represented non-profit organizations, forty percent represented government agencies, and ten percent represented the private sector (Figure 2). While forty percent of respondents staffed more than 500 employees, thirty percent staffed 100 to 499 employees, ten percent staffed 20 to 99 employees, and twenty percent staffed fewer than 20 employees (Figure 3).

Figure 2: What best describes your type of business?

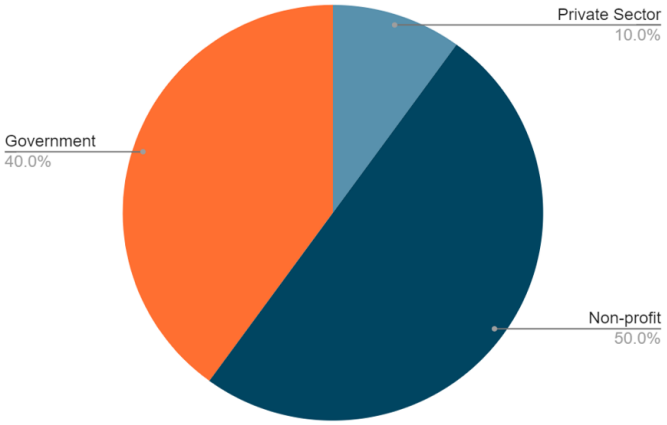
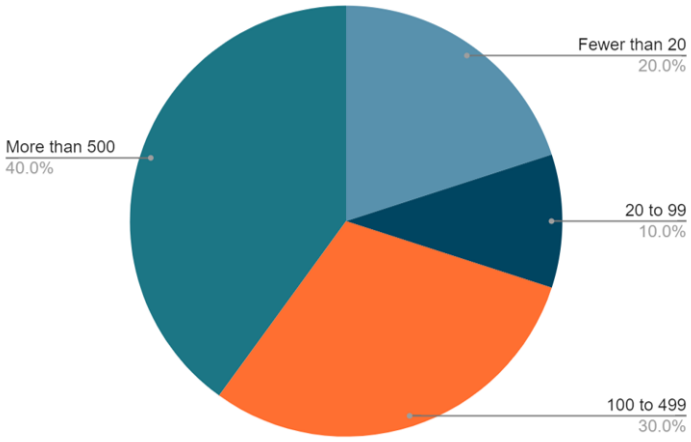


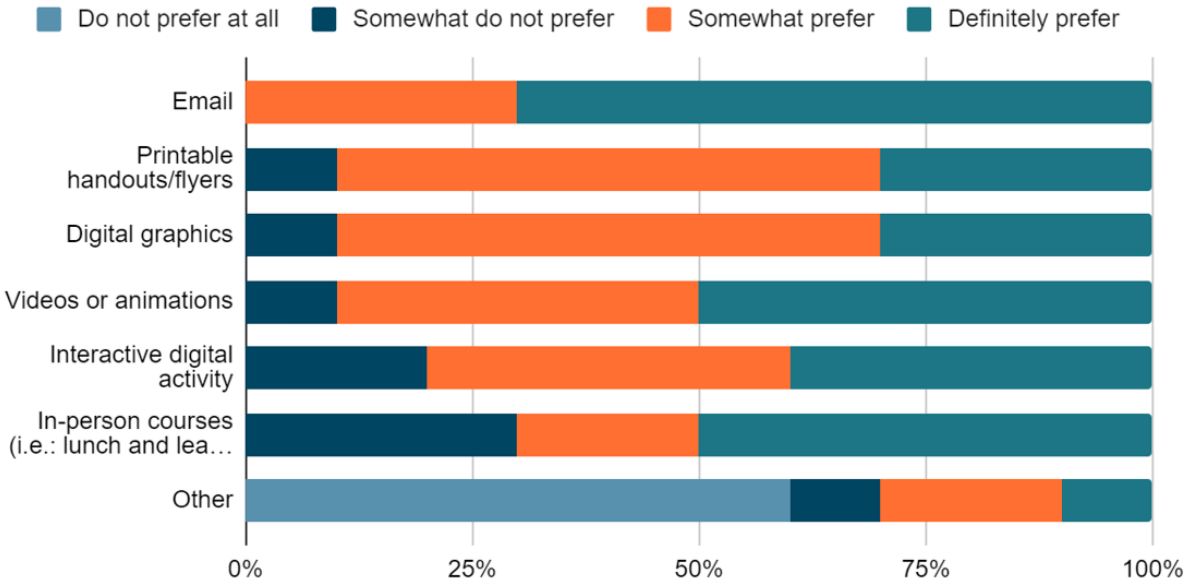
Figure 3: Number of employees/staff



Respondents were then asked to provide insight regarding preferred distribution of wellness education. Six methods for distribution were presented and respondents were asked to rate preference utilizing a Lickert scale.

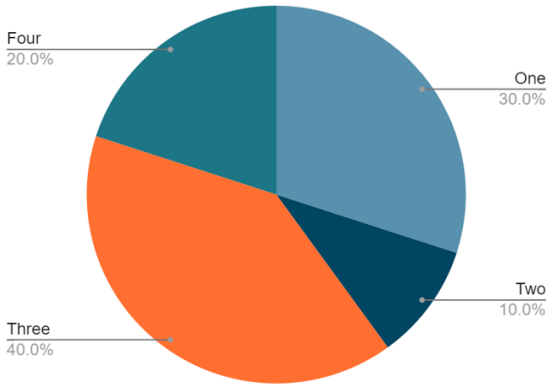
Additionally, there was an option to write in any other method(s) for delivery they prefer to use. Figure 4 shows most preference was given to email and videos or animations.

Figure 4: What method do you prefer for distribution of wellness education? (check all that apply)



The ideal number of sessions for a specific wellness curriculum was reported at three total sessions (40%), followed by one session (30%), four sessions (20%), two sessions (10%), and no preference given for five or more sessions (Figure 5). Fifty percent of respondents reported the preferred length of time per session was greater than 15 minutes, while thirty percent preferred 10 to 15 minute sessions, twenty percent choosing 5 to 10 minute sessions, and no preference given to sessions lasting less than 5 minutes

Figure 5: What is the ideal number of sessions to dedicate to a specific wellness curriculum in a business setting (i.e.: loneliness)?



(Figure 6). Figure 7 shows that half of respondents prefer biweekly frequency, thirty percent choosing weekly, and twenty percent opting for monthly educational wellness curriculum options.

Figure 6: What is the ideal length of time per session for a specific wellness curriculum in a business setting (i.e.: loneliness)?

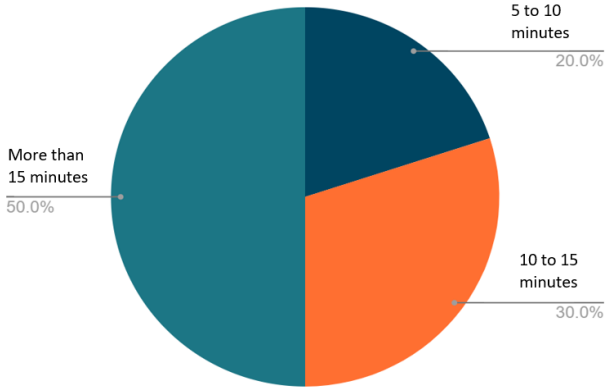
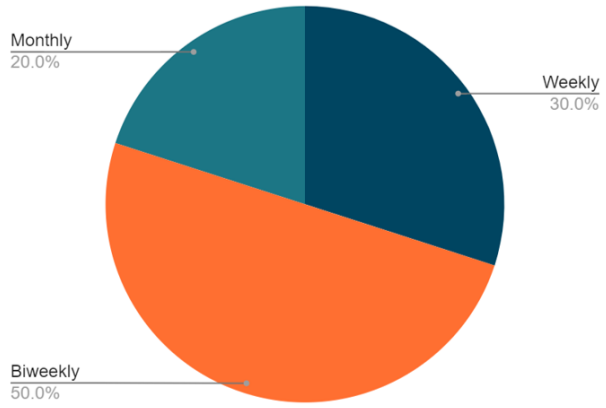
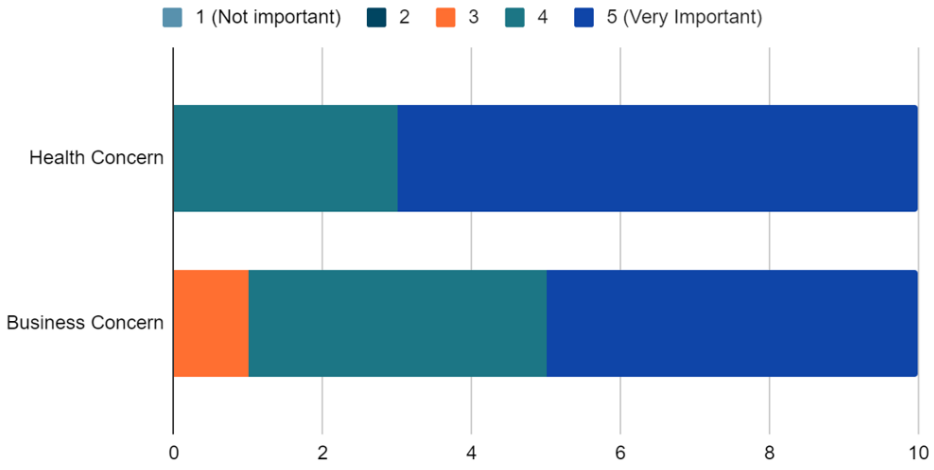


Figure 7: What is the ideal frequency for a specific wellness curriculum in a business setting (i.e.: loneliness)?



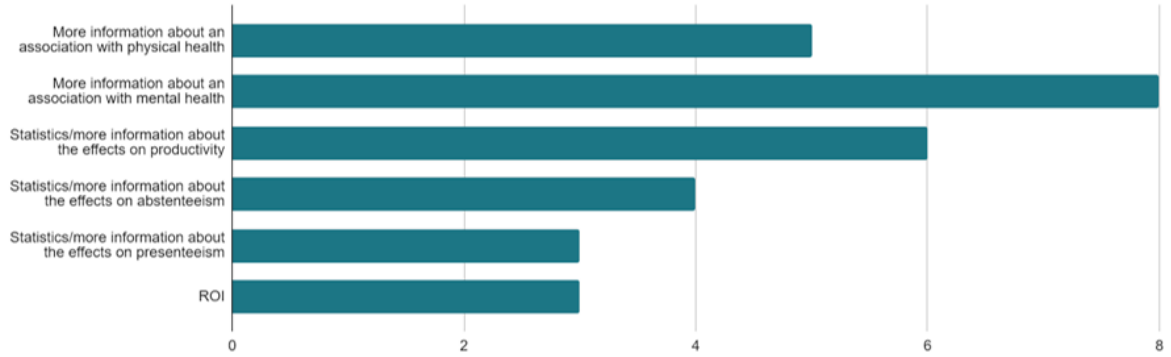
In addition to better understanding preferences for material distribution, the survey asked respondents to rate the importance of loneliness as a health concern and as a business concern. All respondents reported loneliness as an important health concern and nine out of ten reported loneliness as an important business concern with one neutral response (Figure 8).

Figure 8: How important do you feel loneliness is as a health and/or business concern?



In an effort to determine information that could motivate business leaders and wellness professionals to prioritize loneliness as a part of wellness programming, survey respondents were asked to indicate which, if any, statistical or educational information was desired. Options included more information about the association between loneliness and physical and/or mental health; statistics or information about the effects of loneliness on productivity, absenteeism, or presenteeism; information about return on investment; and an option to include any other information that would help persuade loneliness curriculum as a priority. Figure 9 shows great emphasis on the association between loneliness and mental health, closely followed by the effects of loneliness on productivity, and any association with physical health.

Figure 9: What information would you need to prioritize loneliness as part of your wellness programming? (check all that apply)

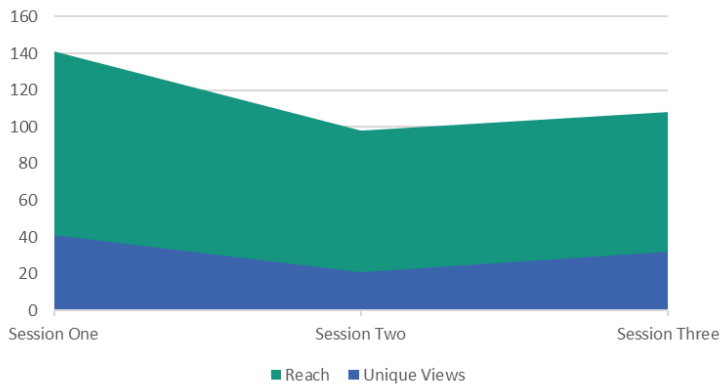


Curriculum Pilot

As part of the needs assessment survey, participants were asked to indicate if they were interested in piloting the curriculum. Five respondents agreed to pilot the curriculum and were asked to share the opportunity with employees and any colleagues

that may be interested. One participant shared that they posted the curriculum on a digital wellness board at their place of business. This organic referral process resulted in a total reach (those that saw any portion of the curriculum: email narrative, handout, and/or video) of 141 for session one, 98 for session two, and 108 for session three. The number of unique views for the video animations reached 41 for session one, 21 for session two, and 32 for session three. Figure 10 compares reach and unique views to show engagement ranging from 21.4 to 29.6 percent.

Figure 10: Loneliness Curriculum Pilot Participation



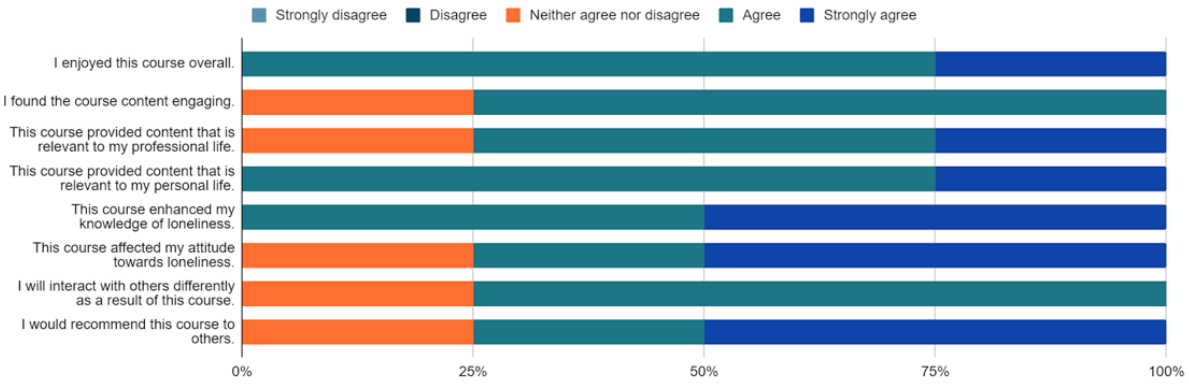
Curriculum Evaluation

Upon completion of the final session, participants were asked to complete a short, anonymous survey following the Kirkpatrick method (Appendix E). Links to the survey were included in the email and at the end of the video in the session three materials. A follow up email request for completion of the survey was sent one week later.

Four participants completed the evaluation and indicated they completed all three sessions of the curriculum. Figure 11 shows the results from the content evaluation. All respondents to the evaluation agreed or strongly agreed that they enjoyed the course overall, felt the course enhanced their knowledge of loneliness, and provided content relevant to their personal life. Three out of four respondents agreed or strongly agreed

that the course content was engaging, is relevant to their professional life, and affected their attitude towards loneliness. Furthermore, most respondents agreed or strongly agreed they would interact with others differently as a result of the course and would recommend the course to others.

Figure 11: Loneliness Curriculum Evaluation



When asked what one thing they would do differently as a result of this course respondents shared thoughtful comments with simple acts to establish more connection and ease loneliness. Responses include:

- *Make an effort to speak to more people. I learned that loneliness is more pervasive than I thought. So, just having a short conversation or saying hello to someone could help both of us to have that connection and combat loneliness.*
- *Speak positive*
- *Try to say hello or smile to everyone I meet in the hallway. I try to do this anyway, but I will be more conscious of it now.*

This kind of life application was the desired output to help recognize loneliness as a health concern and normalize conversations and utilization of resources surrounding loneliness.

CHAPTER 5 - DISCUSSION

The expected outcomes for the loneliness curriculum include reducing the prevalence of loneliness while increasing engagement in quality relationships in the target population. Given the results from the pilot study, it is indicated that these outcomes were achieved. However, the pilot study was small and evaluation responses were limited. Despite the small size, it is promising to know that a digital option for loneliness intervention can make an impact. Additionally, it should be noted that a curriculum that requires little time and effort from business leaders and wellness professionals makes it easy to share and can provide opportunity for broader use.

The curriculum offers easy-to-use materials that can be utilized on-demand and available throughout the year. Business leaders and wellness professionals can implement at any time appropriate to their program scheduling and could even be used in a small group on an individual basis. However, there are a few limitations to the program. The content depends on access to a computer and internet access. This could limit reach for those that do not work in office settings. Also, the curriculum is currently only available in English, therefore anyone that has limited English proficiency would experience little benefit from the curriculum.

Due to the foundational nature of the information shared, regular updates to the curriculum will not likely be necessary. Therefore, the curriculum can be utilized for an extended period without additional efforts by those implementing the curriculum. Timing for this project was limited, therefore the ability to incorporate the curriculum into existing programmatic planning during the pilot program was challenged.

It is recommended to recruit organizations for a soft launch of the curriculum to the entire organization. Dissemination across an organization will better determine organic participation efforts and offer opportunity for a greater evaluation response to make any necessary adjustments to the curriculum.

APPLICATION OF PUBLIC HEALTH COMPETENCIES

The public health foundational competency, *MPHF19: Communicate audience-appropriate public health content*, both in writing and through oral presentation, will be integrated into this capstone project by the creation of original content for the loneliness curriculum. The curriculum will be formatted appropriately for the intended audience and written and presented in a meaningful and understandable way. Oral presentation will be utilized during the recruitment and development phase with participating stakeholders.

The public health concentration competency, *HPROMPH2: Analyze and address contexts and key factors relevant to the implementation of evidence-informed health promotion strategies*, will be integrated into this capstone project as an integral part of creating the loneliness curriculum. Successful implementation of interventions to improve loneliness in our community is dependent upon the proper analysis of key factors.

The public health concentration competency, *HPROMPH3: Develop rigorous projects to improve public health outcomes, community wellbeing, and reduce health disparities*, will be integrated into this capstone project as the primary goal of the intervention is to improve public health outcomes related to loneliness. Increasing the knowledge of loneliness and improving social norms to speak openly and address loneliness will improve community wellbeing.

SUPERVISION AND FACILITIES

not applicable

HUMAN SUBJECTS

IRB review not required. Human subject participation limited to post-curriculum survey with no personal information requested.

BIBLIOGRAPHY

Akçit, V., & Barutçu, E. (2017). The relationship between performance and loneliness at workplace: A study on academicians. European Scientific Journal, Special Issue, 235-243.

Altschul, D., Iveson, M., & Deary, I. J. (2021). Generational differences in loneliness and its psychological and sociodemographic predictors: An exploratory and confirmatory machine learning study. Psychological Medicine, 51(6), 991-1000.

Barreto, M., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2021). Loneliness around the world: Age, gender, and cultural differences in loneliness. Personality and Individual Differences, 169, 110066. doi:https://doi.org/10.1016/j.paid.2020.110066

Beam, C. R., & Kim, A. J. (2020). Psychological sequelae of social isolation and loneliness might be a larger problem in young adults than older adults. Psychological Trauma: Theory, Research, Practice, and Policy, 12(S1), S58.

Bessaha, M. L., Sabbath, E. L., Morris, Z., Malik, S., Scheinfeld, L., & Saragossi, J. (2020). A systematic review of loneliness interventions among non-elderly adults. Clinical Social Work Journal, 48(1), 110-125.

Cacioppo, J. T., & Cacioppo, S. (2018). The growing problem of loneliness. The Lancet, 391(10119), 426. doi:https://doi.org/10.1016/S0140-6736(18)30142-9

Centers for Disease Control and Prevention. (2021, April 16). *Loneliness*. Centers for Disease Control and Prevention. Retrieved February 24, 2022, from https://www.cdc.gov/howrightnow/emotion/loneliness/index.html

Jeste, D. V., Lee, E. E., & Cacioppo, S. (2020). Battling the modern behavioral epidemic of loneliness: Suggestions for research and interventions. JAMA Psychiatry, 77(6), 553-554. doi:10.1001/jamapsychiatry.2020.0027 [doi]

King, M. (2018). Working to Address the Loneliness Epidemic: Perspective-Taking, Presence, and Self-Disclosure,

Loneliness New Zealand Charitable Trust. (2021, December 8). *Welcome to loneliness New Zealand*. Loneliness NZ. Retrieved February 24, 2022, from https://loneliness.org.nz/

Mann, F., Bone, J. K., Lloyd-Evans, B., Frerichs, J., Pinfold, V., Ma, R., . . . Johnson, S. (2017). A life less lonely: The state of the art in interventions to reduce loneliness in people with mental health problems. Social Psychiatry and Psychiatric Epidemiology, 52(6), 627-638.

Mihalopoulos, C., Le, L. K., Chatterton, M. L., Bucholc, J., Holt-Lunstad, J., Lim, M. H., & Engel, L. (2020). The economic costs of loneliness: A review of cost-of-illness and economic evaluation studies. Social Psychiatry and Psychiatric Epidemiology, 55(7), 823-836.

Murthy, V. (2017). *Connecting at Work*. Harvard Business Review. Retrieved February 24, 2022, from https://hbr.org/magazine

Rico-Uribe, L. A., Caballero, F. F., Martín-María, N., Cabello, M., Ayuso-Mateos, J. L., & Miret, M. (2018). Association of Loneliness with all-cause mortality: A meta-analysis. *PLOS ONE*, *13*(1). https://doi.org/10.1371/journal.pone.0190033

The Greater Good Science Center at the University of California, Berkeley. (2022). *The science of a meaningful life*. Greater Good Magazine. Retrieved February 24, 2022, from https://greatergood.berkeley.edu/

Wahyuni, D., & Muafi, M. (2021). Effects of workplace loneliness and perceived organizational support towards intention to leave mediated by organizational commitment. International Journal of Research in Business and Social Science (2147-4478), 10(4), 01-16.

Wright, S., & Silard, A. (2020). Unravelling the antecedents of loneliness in the Workplace. *Human Relations*, *74*(7), 1060–1081. https://doi.org/10.1177/0018726720906013

Xia, N., & Li, H. (2018). Loneliness, social isolation, and cardiovascular health. Antioxidants & Redox Signaling, 28(9), 837-851.

Appendix A: Needs Assessment

Loneliness Survey - Business

Thank you for taking a few minutes to complete this short survey.

Loneliness is a foundational concern that contributes to poorer mental and physical health in individuals, as well as reduced productivity and satisfaction in the workplace. As part of a Capstone project for my Master of Public Health at UNMC, I am creating a curriculum to help identify and destigmatize loneliness, increase understanding of the physical and mental health effects of loneliness, and provide recommendations to combat loneliness.

The goal of the survey is to better understand how HR and wellness professionals in business could benefit from and utilize this curriculum.

* Required

1. What best describes your type of business?

Mark only one oval.

- ◯ Private sector
- ◯ Non-profit
- ◯ Government
- ◯ Academia
- ◯ Other

2. Number of employees/staff

Mark only one oval.

- ◯ Fewer than 20
- ◯ 20 to 99
- ◯ 100 to 499
- ◯ More than 500

3. What method do you prefer for distribution of wellness education? (check all that apply) *

Check all that apply.

	Do not prefer at all	Somewhat do not prefer	Somewhat prefer	Definitely prefer
Email	☐	☐	☐	☐
Printable handouts/flyers	☐	☐	☐	☐
Digital graphics	☐	☐	☐	☐
Videos or animations	☐	☐	☐	☐
Interactive digital activity	☐	☐	☐	☐
In-person courses (i.e.: lunch and learn)	☐	☐	☐	☐
Other	☐	☐	☐	☐

4. If other, please describe.

5. What is the ideal number of sessions to dedicate to a specific wellness curriculum in a business setting (i.e.: loneliness)? *

   Mark only one oval.

   - One
   - Two
   - Three
   - Four
   - Five or more

6. What is the ideal length of time per session for a specific wellness curriculum in a business setting (i.e.: loneliness)? *

   Mark only one oval.

   - Less than 5 minutes
   - 5 to 10 minutes
   - 10 to 15 minutes
   - More than 15 minutes

7. What is the ideal frequency for a specific wellness curriculum in a business setting (i.e.: lonliness)?

   Mark only one oval.

   - Daily
   - Weekly
   - Biweekly
   - Monthly

8. How important do you feel loneliness is as a health concern? *

   Mark only one oval.

	1	2	3	4	5	
Not important						Very important

9. How important do you feel loneliness is as a business concern? *

Mark only one oval.

	1	2	3	4	5	
Not important	◯	◯	◯	◯	◯	Very important

10. What information would you need to prioritize loneliness as part of your wellness programming? (check all that apply) *

Check all that apply.

- [ ] More information about an association with physical health
- [ ] More information about an association with mental health
- [ ] Statistics/more information about the effects on productivity
- [ ] Statistics/more information about the effects on abstenteeism
- [ ] Statistics/more information about the effects on presenteeism
- [ ] ROI
- [ ] Other: _____

11. If other, please describe:

_____

_____

_____

_____

_____

12. I am interested in piloting the curriculum being developed to address loneliness as a health concern. *

Mark only one oval.

- ◯ Yes
- ◯ No

13. If yes, please provide your name and email.

_____

Thank you!

Appendix B: Solicitation email

Solicitation Email

Did you know that a 2019 study shows that 61% of Americans say they experience loneliness? You may be thinking that while that number sounds really high, it's likely the growing elderly population is contributing to the increase. In reality, no one is immune to loneliness. There appears to be spikes in loneliness during the late twenties, mid fifties, and late 80's, which means there are likely people around you experiencing loneliness.

What may be more concerning is the fact that the chronic stress that loneliness places on the body can impact both mental and physical health. As a physical response, we see higher blood pressure, cholesterol, and body mass index. In addition to an increased risk of heart disease and diabetes, it can accelerate signs of aging and increase the risk of early death by 26%. Chronic stress associated with loneliness can also hijack the prefrontal cortex which is responsible for decision making, planning, emotional regulation, analysis, and abstract thinking. This increases risk of depression and anxiety and reduces productivity at work.

Since the workplace is a primary source for regular interaction, it serves as a logical place to incorporate some strategies to reduce feelings of loneliness. Another great reason is that teams that are more connected and less lonely experience some amazing benefits including 74% reduced stress, 50% increase in productivity, 40% less burnout, 13% fewer sick days, and 29% higher total life satisfaction.

The good news is simply building awareness of loneliness as a health concern can reduce stigma and improve opportunities for connections. In this loneliness curriculum you will find materials for 3 weeks focused on learning more about what loneliness is and the impact of loneliness, who is affected and what signs of loneliness might look like, and tips and resources to reduce loneliness. Each week you'll receive an email with a summary and link to a short video to forward on to your employees as well as a PDF of a worksheet with notes and thoughts to consider.

Please contact Sophia Yelkin at sophia.yelkin@unmc.edu to get access to this exciting new curriculum and with any questions.

Appendix C: Weekly emails

Registration Email

SUBJECT: Loneliness Curriculum

Thank you for agreeing to pilot the loneliness curriculum developed for businesses. Your participation and feedback is incredibly valuable as we address loneliness as a health concern in our community.

The curriculum is designed to be shared at any point throughout the year, but the pilot program will be launched during February 2022. The curriculum is available in the attached document for your review and to share. Additionally, for your convenience each week you will receive an email that is ready to forward on to your employees that contains a brief summary of the video, a link to the video, and a PDF of a corresponding handout.

The curriculum is free to use, I simply ask you to complete the short evaluation survey that is available in session three.

Thank you for your participation and support!

Session One Email

SUBJECT: Loneliness | What is loneliness?

Have you ever thought much about loneliness? Although we have the technology to communicate at our fingertips, loneliness has continued to become a growing concern. With 61% of Americans stating they felt lonely in a 2019 study, it is likely that you or someone you know is experiencing loneliness.

This week we are taking a closer look at loneliness as a health concern. In this short video you'll learn about what loneliness is, what it might look like, and the impact it can have on your work performance, mental health, and physical health.

Thanks for taking a moment to learn more about loneliness. If you feel like loneliness might be significantly impacting your quality of life, talk to your doctor or employee wellness professional about resources to connect with a licensed therapist.

Appendix C: Weekly Emails

Session Two Email

SUBJECT: Loneliness | What does loneliness look like?

Welcome back to another lesson about loneliness. I hope that session one helped you understand the impact loneliness can have not only on your performance at work, but also your mental and physical health.

In this week's short video we will discover why we experience loneliness, who might be more at risk of chronic loneliness, and what it can look like in our lives. Having a better understanding of what loneliness is can help each of us take action to create more connection with those around us.

Thanks for taking a moment to learn more about loneliness. If you feel like loneliness might be significantly impacting your quality of life, talk to your doctor or employee wellness professional about resources to connect with a licensed therapist.

Session Three Email

SUBJECT: Loneliness | Tips & Resources

After our first two sessions, you should have a better understanding of what loneliness is, the impacts it has on our social, mental, and physical health, and feel more comfortable recognizing what loneliness might look like.

In our final session this week's short video will share tips and resources to reduce feelings of loneliness at work and in your personal life. Even if you're thinking it's just not in your nature to be social, you may be surprised to learn some strategies to help train your brain for more connection.

When you've completed the session, please take a few minutes to complete this 2 minute survey. (There's also a link in the video.)

Thank you for learning more about loneliness as a health concern. I hope you feel inspired to find opportunities for connection in our community. If you feel like loneliness might be significantly impacting your quality of life, talk to your doctor or employee wellness professional about resources to connect with a licensed therapist.

LONELINESS

SESSION ONE

IMPACT OF LONELINESS

AT WORK LONELINESS CAN

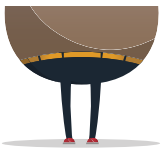
- DECREASE PERFORMANCE
- INCREASE STRESS
- LONGER ONBOARDING TIMES
- MORE SICK DAYS
- LOWER ORGANIZATIONAL COMMITMENT

SOCIAL HEALTH

- CAN IMPACT ABILITY TO BUILD HEALTHY CONNECTIONS

MENTAL HEALTH

- DEPRESSION
- ANXIETY
- EATING DISORDERS
- PROBLEMS SLEEPING



PHYSICAL HEALTH

- INCREASED BLOOD PRESSURE
- HIGHER CHOLESTEROL
- HIGHER BMI
- ACCELERATE SIGNS OF AGING
- INCREASE RISK OF EARLY DEATH

HOW WOULD YOU DEFINE LONELINESS?

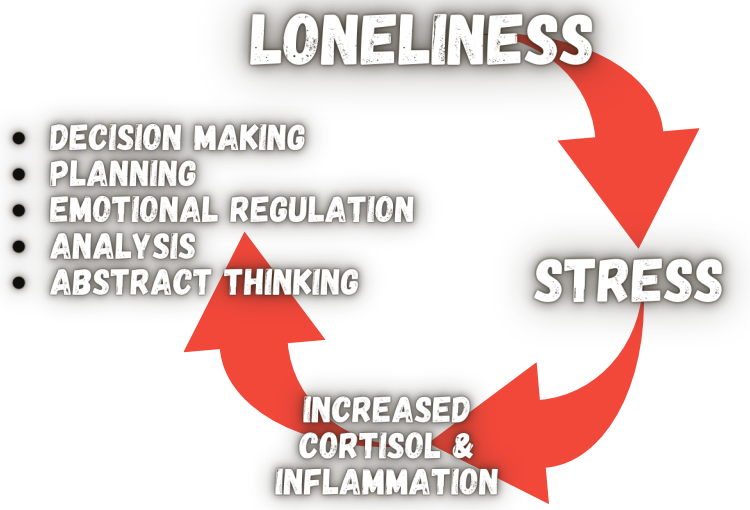
Loneliness expresses the pain of being alone and solitude expresses the glory of being alone.

- Paul Tillich -

WHAT ARE YOUR RELATIONSHIP NEEDS?

LONELINESS

SESSION TWO



WHO DO YOU PICTURE AS LONELY?

WHAT MIGHT LONELINESS LOOK LIKE?

INTERACTING WITH OTHERS

- TRANSACTIONAL COMMUNICATION
- POOR JUDGMENT
- INTERRUPTING
- ATTENTION-SEEKING
- OVER-FOCUSING ON KIDS OR PETS
- WITHDRAWING

PERSONAL HABITS

- NOT GETTING ENOUGH SLEEP OR FEELING TIRED ALL THE TIME
- LONG, HOT SHOWERS
- BINGE-WATCHING
- OVEREATING

WITHIN YOURSELF

- INCREASED STRESS
- NOT FEELING COMFORTABLE ON YOUR OWN
- FEELING MISUNDERSTOOD
- NO LONGER CARING
- STRUGGLING IN SOCIAL SITUATIONS

RISK FACTORS

LOSS OF FAMILY OR FRIENDS
LIVING ALONE
WORKING AT HOME
LIMITED ACCESS TO AFFORDABLE HOUSING
INADEQUATE RESOURCES
INDIVIDUALISM

LONELINESS

SESSION THREE

EVALUATE YOUR ENVIRONMENT

WHO DO YOU FEEL CLOSE TO?

WHO WOULD YOU LIKE TO KNOW MORE?

WHAT OPPORTUNITIES DO YOU SEE?

WHAT DOES YOUR RESPONSE TO LONELINESS LOOK LIKE?

TIPS TO COMBAT LONELINESS

EMBRACE LONELINESS

- FEEL THE EMOTION
- SILENCE
- MEDITATION

APPRECIATE YOURSELF

- TAKE CARE OF YOUR BODY
- LOVE YOURSELF

UNDERSTAND HEALTHY RELATIONSHIPS

- PRIORITIZE SOCIAL CONNECTIONS
- BE NICE TO PEOPLE
- INVEST IN EXISTING RELATIONSHIPS

We are social creatures. We have a social muscle. the more we exercise it, the healthier we will be.

-John & Stephanie Cacioppo -

SOCIAL FITNESS PLAN

UNPLUG

SAY NICE THINGS

SMALL FAVORS

MEET NEW PEOPLE

SAY HELLO

Appendix E: Evaluation Survey

Evaluation | Loneliness

Thank you for completing the loneliness curriculum. Please take a few minutes to evaluate the program.

* Required

1. Did you complete all 3 loneliness sessions?

   Mark only one oval.

   - ◯ Yes
   - ◯ No

2. Please indicate how much you agree or disagree with the following statements. *

   Mark only one oval per row.

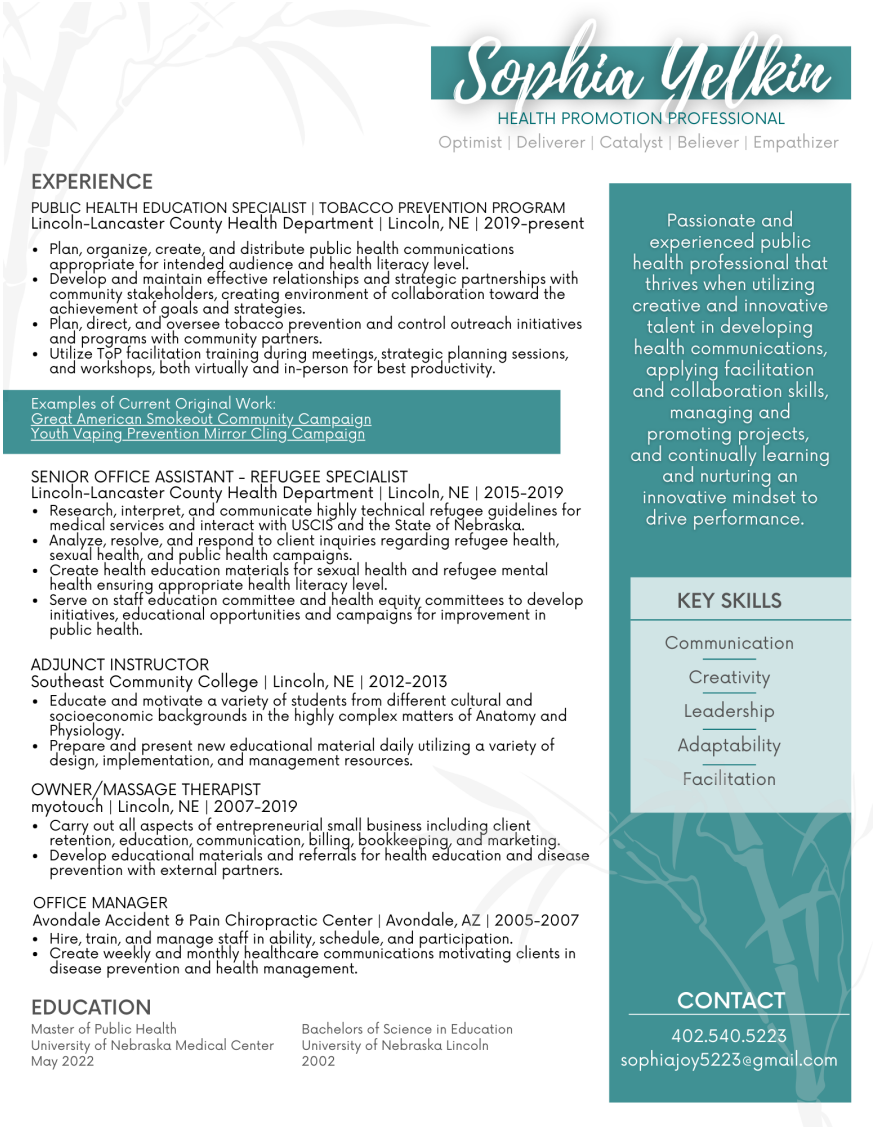
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I enjoyed this course overall.	◯	◯	◯	◯	◯
I found the course content engaging.	◯	◯	◯	◯	◯
This course provided content that is relevant to my professional life.	◯	◯	◯	◯	◯
This course provided content that is relevant to my personal life.	◯	◯	◯	◯	◯
This course enhanced my knowledge of loneliness.	◯	◯	◯	◯	◯
This course affected my attitude towards loneliness.	◯	◯	◯	◯	◯
I will interact with others differently as a result of this course.	◯	◯	◯	◯	◯
I would recommend this course to others.	◯	◯	◯	◯	◯

3. What is one thing you will do differently as a result of this course

Thank you for your participation and feedback.

BIOGRAPHY & CV

Sophia Yelkin serves as a Public Health Educator for the Tobacco Prevention Program at the Lincoln-Lancaster County Health Department. She specializes in assisting and supporting businesses and schools to develop and maintain tobacco, smoke, and e-cigarette/vape free campus policies. She previously taught anatomy and physiology labs, has published two books, and is trained in TOP (Technology of Participation) facilitation methods. She studied Exercise Science at the University of Nebraska Lincoln and is completing her Master of Public Health at the University of Nebraska Medical Center. Sophia chooses to work in public health because she believes that education is power, and that with accurate information the community is empowered to make healthy and safe choices. Outside of her professional life, she enjoys axe-throwing, home improvement projects, and spending time outside with her daughter and dog.



Sophia Yelkin

HEALTH PROMOTION PROFESSIONAL

Optimist | Deliverer | Catalyst | Believer | Empathizer

EXPERIENCE

PUBLIC HEALTH EDUCATION SPECIALIST | TOBACCO PREVENTION PROGRAM
Lincoln-Lancaster County Health Department | Lincoln, NE | 2019-present

- Plan, organize, create, and distribute public health communications appropriate for intended audience and health literacy level.
- Develop and maintain effective relationships and strategic partnerships with community stakeholders, creating environment of collaboration toward the achievement of goals and strategies.
- Plan, direct, and oversee tobacco prevention and control outreach initiatives and programs with community partners.
- Utilize ToP facilitation training during meetings, strategic planning sessions, and workshops, both virtually and in-person for best productivity.

Examples of Current Original Work:
Great American Smokeout Community Campaign
Youth Vaping Prevention Mirror Cling Campaign

SENIOR OFFICE ASSISTANT - REFUGEE SPECIALIST
Lincoln-Lancaster County Health Department | Lincoln, NE | 2015-2019

- Research, interpret, and communicate highly technical refugee guidelines for medical services and interact with USCIS and the State of Nebraska.
- Analyze, resolve, and respond to client inquiries regarding refugee health, sexual health, and public health campaigns.
- Create health education materials for sexual health and refugee mental health ensuring appropriate health literacy level.
- Serve on staff education committee and health equity committees to develop initiatives, educational opportunities and campaigns for improvement in public health.

ADJUNCT INSTRUCTOR
Southeast Community College | Lincoln, NE | 2012-2013

- Educate and motivate a variety of students from different cultural and socioeconomic backgrounds in the highly complex matters of Anatomy and Physiology.
- Prepare and present new educational material daily utilizing a variety of design, implementation, and management resources.

OWNER/MASSAGE THERAPIST
myotouch | Lincoln, NE | 2007-2019

- Carry out all aspects of entrepreneurial small business including client retention, education, communication, billing, bookkeeping, and marketing.
- Develop educational materials and referrals for health education and disease prevention with external partners.

OFFICE MANAGER
Avondale Accident & Pain Chiropractic Center | Avondale, AZ | 2005-2007

- Hire, train, and manage staff in ability, schedule, and participation.
- Create weekly and monthly healthcare communications motivating clients in disease prevention and health management.

EDUCATION

Master of Public Health
University of Nebraska Medical Center
May 2022

Bachelors of Science in Education
University of Nebraska Lincoln
2002

Passionate and experienced public health professional that thrives when utilizing creative and innovative talent in developing health communications, applying facilitation and collaboration skills, managing and promoting projects, and continually learning and nurturing an innovative mindset to drive performance.

KEY SKILLS

Communication
Creativity
Leadership
Adaptability
Facilitation

CONTACT

402.540.5223
sophiajoy5223@gmail.com