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ENGAGING WISDOM: A COMPARISON OF
COGNITIVE AND INTERPERSONAL INTERVENTIONS ON
ELDERLY MENTAL HEALTH

by

Kade Downs

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Engaging Wisdom: A Comparison of Cognitive and Interpersonal
Interventions on Elderly Mental Health

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Abstract

In the United States the population of individuals over the age of 60 is large and expected to increase (Administration on Aging, 2009). Mental disorders (e.g., dementia) are especially prevalent in elderly populations (WHO, 2012). Considering the relatively small amount of research examining elderly populations in the United States, this prevalence highlights the potential and necessity for intervention research specifically designed for elderly individuals. This study examines the effectiveness of a cognitive as well as an interpersonal intervention on the mental health of a sample of individuals over the age of 60 at residential eldercare facilities. Results showed no significant differences between intervention groups. Data does highlight a promising future for cognitive and interpersonal interventions for elderly samples.

Keywords: elderly mental health, wisdom, dementia, intervention

Engaging wisdom: A comparison of cognitive and interpersonal
interventions on elderly mental health

Cognitive and interpersonal principles are central to wisdom as a construct. While difficult to define and quantify, wisdom facilitates the processing of life experience because it allows individuals to both think about and share their experiences with others. The purpose of this study was to investigate the effectiveness of two wisdom-based interventions, one combined cognitive/interpersonal and the other interpersonal, on the mental health of individuals living in eldercare facilities. The presence of both a need for intervention (e.g., rates of dementia, depression and suicide) and a possibility for success (e.g., effects of cognitive/interpersonal interventions) made the elderly population an excellent candidate for participation. We compared two interventions to a control group to assess whether a focus on wisdom correlates with appreciable improvements in self-reported mental health. We also assessed to what degree these interpersonal and combined cognitive/interpersonal interventions generated potential for improvement. Twenty-four participants were divided equally into the three groups and monitored for a period of six weeks. We compiled this data, ran statistical analyses, and are now reporting the results.

Elderly Population

The definition of *elderly* varies across sources, from persons 50 years of age and older (World Health Organization [WHO], n.d.) to 60 and older (United Nations [UN], 2009) or 65 and over (U.S. Census Bureau, 1995). For the purposes of this study *elderly* was defined as being at least 60 years of age, any gender, race/ethnicity, or sexual orientation, currently living in a residential eldercare facility at time of screening, and a native speaker of either English and/or Spanish. There were 39.6 million persons 65 years of age and older in the United States in 2009

accounting for 12.9% of the population. It is estimated that by 2030 the elderly population will double to about 72.1 million and account for 19% of the population (Administration on Aging, 2009).

The ratio of those 65 and older living in institutional settings such as long term care homes represent a proportionately low percentage (3.5%) and number (1.5 million) of the total population of elderly (Administration on Aging, 2012). This proportion increases rapidly with age. Persons 65 to 74 are only 1% of the total, which increases to 3% for those 75 to 84 and again to 10% for those aged 85 and older. For those 85 and over, many individuals require more specialized care with activities of daily living (e.g., eating or bathing) due to advanced age or severe cognitive limitations such as Alzheimer's Disease or other types of dementia (Administration on Aging, 2012).

There is little research on elderly populations within the United States in comparison with foreign nations, possibly due to the strong individualist culture in the United States which prioritizes care of the self over care for the family or community (The Hofstede Centre, n.d.). This individualistic orientation may in part explain why older adults make up 12% of the population in the United States yet account for 18% of total suicide deaths. The issue is compounded by the fact that elderly people who commit suicide have a higher rate of completion than their younger counterparts, creating what the American Association for Marriage and Family Therapy (n.d.) calls "a major public health priority." There are specific developmental challenges associated with aging. Challenges include mental and physical decline, which can limit effective communication.

It is important to consider how aging affects communication, especially if a person completely loses the ability to hear, speak, or interact appropriately in a social setting. Sensory

impairments are an issue for the older generation in the United States, as one in six has vision problems, one in four has hearing problems and three of four struggle balancing. These issues increase with age: sensory impairments double in people over 80 versus those 70 to 79 (Dillon, Gu, Hoffman, & Ko, 2010). In a survey of Medicare beneficiaries 41.99% of elderly patients reported hearing problems and 26.06% reported writing problems. Overall, 55% (more than 16 million people) had some type of communication disability (Hoffman et al., 2005). Cognitive decline can also negatively affect communication due to the prevalence of such conditions and difficulty in avoiding them, such as the aforementioned propensity of dementia (Raz, 2009). Age has also been documented to be the most impactful factor for cognitive impairments (Ansado, Marsolais, Methqual, Alary, & Joannette, 2013).

While numerous challenges can present themselves in the aging process, aging is also accompanied by opportunity. Elderly persons, with a lifetime of positive and negative experiences contributing to wisdom, can often respond to trials with more confidence. Benefits of aging include increased experience in social, intellectual, and other areas of functioning. One important construct that captures this experience in sum is wisdom. Sternberg (2004) discussed wisdom as an individual's use of intelligence to balance interpersonal, intrapersonal, and extrapersonal interests as well as perform in current environments and adapt to new environments across both long and short periods of time. Wisdom is not simply interaction with people and environments, but understanding how to perform these operations and knowing why they are valuable. Consequently, wisdom is inherently social in nature (Staudinger, Kessler, & Dörner, 2006), it correlates positively with mental health (Webster, Westerhof, & Bohlmeijer, 2014) and has also been shown to relate to perception of benefits and coping skills in later life (Jennings, Aldwin, Levenson, Spiro, & Mroczek, 2006). This evidence suggests that capitalizing

on wisdom, a particular strength for elderly persons as a developmental cohort, may provide an opportunity to buffer against the negative effects on psychological wellbeing produced by disorders such as dementias and depression.

Prevalence of Mental Illness

Of United States citizens in 2012 an estimated 18%, about 43 million people, age 18 and older suffered from mental illness in the previous 12 months. Adults ages 26 to 49 made up the greatest portion of these cases (21.2%) while adults age 50 and older made up about 15%. Of the adult population in the United States in 2012, 14.5%, about 34 million people, received mental health services (e.g., therapy or treatment) within the previous year, an increase of almost three million people compared to 2011 (Substance Abuse and Mental Health Services Administration, 2013). An approximate 35.6 million people live with dementia. This figure is projected to double every two decades, meaning that by the year 2050 a surprising 115.4 million people will suffer from the disease (WHO, 2013).

Fewer sources document the prevalence of mental illness in elderly populations. The prevalence of neurological or mental disorder for individuals ages 60 and older is more than 20%, the most common being depression or dementia. Depression is suspected not to be diagnosed nor treated properly in primary care settings, an important statistic to consider as unipolar depression affects 7% of the elderly population (Institute for Health Metrics and Evaluation, 2013).

Some factors are unique to elderly populations, such as polypharmacy and dementia. Managing polypharmacy or sensitivity to medication can make treatment difficult (Kim, Tofade, & Peckman, 2009). Dementia is found more often in older populations (WHO, 2012); hence the effects of the disease on perception and memory could make treatment difficult due to confusion

or fear of methods being used. Elderly people with serious mental disorders such as schizophrenia or major depressive disorder have also exhibited higher rates of emergency care, longer stays in hospital settings, higher likelihood of falling. Substance abuse issues in relation to peers of the same age without mental disorders is also a concern (Hendrie et al., 2013).

Treatment for Mental Illness

For the general population, depending upon the diagnosis, various psychotherapies have shown moderate to strong effects in treatment of psychological disorders: Acceptance and Commitment Therapy, Cognitive Behavioral Therapy, Family or Couple Based Treatment, Motivational Interviewing among others (Society of Clinical Psychology, n.d.). Other therapies that have been reported to be effective in the treatment of people with dementia include existential/humanistic and process-work/transpersonal psychotherapies, which are perception-based talk therapies based in principles like acceptance, experience and relationships (Spalding & Khalsa, 2010). Something as simple as a walking program was effective for elderly adults with depressive symptoms, providing the two-fold benefit of improved cognitive function while relieving depressive mood (Maki, Ura, Yamaguchi, Takahashi, & Yamaguchi, 2012). Social support and self-efficacy have also been important interventions to improve coping capability (Tovel & Carmel, 2014).

Mental health is influenced positively by both cognitive and interpersonal interventions. Wisdom as a construct can efficiently combine the two together, yielding what would be expected to be a greater improvement to mental health than either a cognitive or interpersonal intervention alone. The purpose of this study was to investigate that claim and assess the degree to which an interpersonal as well as a cognitive plus interpersonal intervention influenced the mental health of an elderly sample. We hypothesized that the mental health of the participants in

each condition would improve across the four weeks of the experimental phase, with the greatest improvement experienced by the participants in the cognitive plus interpersonal condition. We also expected the improvement to remain across the two weeks following the end of intervention.

Methods

Participant Characteristics

Thirty-seven individuals ($M_{age} = 84.02$) were screened at four separate eldercare facilities in order to obtain the sample ($N = 24$) comprised of eight males ($M_{age} = 85.75$) and 16 females ($M_{age} = 85.38$) who were randomly assigned to one of three groups of eight: A control group (C), an interpersonal interview group (INT), and a journaling plus interpersonal interview group (J+I). Throughout the four-week intervention one participant chose to withdraw participation due to health concerns and one other was withdrawn by researchers for the same reason, resulting in seven missing data points, 7.87% of the total 89 points gathered. Of those who reported their income only two reported earning \$70,000.00 or more per year, 13% of the total reporting. Of those reporting that they journaled at all on their own prior to the intervention, all six were female and they were all randomly assigned to the control group. All participants reported White/European American ethnicity and heterosexual/straight sexual orientation.

Procedures

Participants were eligible to enroll in the study if they were of any gender, race/ethnicity, or sexual orientation, at least 60 years of age or older, currently living in a residential eldercare facility at time of screening, and were native speakers of either English and/or Spanish. The age 60 years or older was selected following the standard set forth by the United Nations because of their consideration of multiple cultures and demographics (UN, 2009). Interpersonal communication skills, journaling ability and providing informed consent were necessary in order

to participate. Elderly persons with cognitive impairments (e.g., dementia) or any who lacked the physical ability to verbally communicate or communicate in writing in either English or Spanish were excluded from this study.

Participants were selected using convenience sampling, stratified by home and participant sex, at four local eldercare facilities. The Institutional Review Board at Utah State University reviewed and approved this study prior to recruitment. The premise of the study was presented to residents asking for voluntary participation. Those who volunteered were screened for language competence, writing ability and cognitive integrity until the total number of 24 subjects was obtained for the sample. Eligible participants were randomized into one of three groups when eligibility was determined (C, INT, J+I). Twenty-four numbers were randomly generated, creating the three groups of eight; one number was then drawn as participants enrolled, randomly sorting them into the experimental conditions. Once participants were enrolled, demographic and mental health data was collected at baseline (time 1 or T1), midway through the intervention (end of week two, time 2 or T2) and at the end (week four, time 3, or T3). Two weeks after the intervention ended a final mental health assessment was collected (week 6, time 4, or T4).

Financial compensation was not offered for participation in the study; however, the mental health benefits illustrated in previous research was discussed (Eshkoo, Hamid, Nudin, & Mun, 2014; Muramatsu, Yin, & Hedeker, 2010; Webster et al., 2014). Before beginning, those persons who volunteered were required to read and sign an appropriate informed consent form.

Sample Size

Twenty-four elderly persons were recruited for the study. The sample size was similar to pilot efforts in intervention activities (Hertzog, 2008; Johanson & Brooks, 2010). Participants remained in their assigned groups for the duration of the study; there was no reassignment when

one individual chose to withdraw participation or when the researchers withdrew another (each due to health concerns). Both participants had been assigned to the J+I group and were not replaced.

Measures and Covariates

Demographics. Participants were asked to provide their age, sex, ethnicity, income, sexual orientation, education, marital status, previous/current profession, and current medications as general information. The demographics form also assessed how much each participant currently exercised wisdom cognitively (through journaling) and interpersonally (through social interaction).

Dementia screening. The Mini-Cognitive Assessment Instrument (Mini-Cog; Borson, Scanlan, Brush, Vitaliano, & Dokmak, 2000) was used to screen participants to ensure they met cognitive criteria. The Mini-Cog has been shown to effectively detect cognitive impairment (Borson, Scanlan, Watanabe, Tu, & Lessig, 2006) and remains consistent across languages and levels of education (Borson et al., 2000). It is considered a more robust assessment than the often-used Mini-Mental State Exam (Borson, Scanlan, Watanabe, Tu, & Lessig, 2005). The Mini-Cog can be administered without any specialized training. Of the 37 persons screened for the study, 13 failed the Mini-Cog and were excluded from the study.

Writing screener. Writing ability was assessed at the time of enrollment. On the demographics form participants were asked to list their previous profession and any medications they were currently taking to ensure they could write. If the participant could write down sufficient responses they were considered to meet criteria. The product was retained as a writing sample for each participant. No participants were screened out based on writing ability.

Verbal communication screen. Verbal ability was assessed at the time of enrollment. Participants who were clearly capable of communicating during the informed consent and screening process were considered to meet criteria. No participants were screened out based on verbal ability.

Mental health. Mental health was measured using the Patient Health Questionnaire – 9 (PHQ-9; Pfizer, 1999). Respondents provided ratings of physical and mental subjective experience from the previous two weeks on a scale of 0 (*not at all*) to 3 (*nearly every day*) on each of nine statements (e.g., “feeling tired or having little energy”). The PHQ-9 has established and adequate reliability, as well as construct and criterion validity, while also being able to report significant correlations in patients over the age of 65 (Kroenke, Spitzer, & Williams, 2001). For example, in a sample of elderly Korean persons convergent validity was significant with the Geriatric Depression Scale (GDS; $r = 0.74$) and Center for Epidemiological Studies Depression Scale ($r = 0.66$; Han et al., 2008). In another study of 71 primary care elderly persons ($M_{age} = 78$) the PHQ-9 compared equally if not better than the PHQ-2 and the 15-item GDS (Phelan, 2010). It has also been shown not to bias for gender (Thibodeau & Asmundson, 2014). The PHQ-9 was found to have acceptable internal consistency for the present sample at T1 (.782), T2 (.779), T3 (.820) and T4 (.840).

Journaling and interpersonal interaction tracking. Participants in the J+I group were not required to disclose journaling content. This encouraged a private environment in which participants could write without feeling limited or embarrassed. They were, however, asked to record the total number of pages written at the end of each week. The total number of pages written overall was gathered at the end of the four-week experimental phase. The interpersonal interactions with participants in the INT and J+I groups were recorded by the volunteer in a brief

synopsis of the interaction along with the prompts used and any notes/concerns the volunteer had.

Research design. The study followed a six-week longitudinal, experimental design. Mental health data was collected a total of four times: three times during the experimental phase and also one time to assess for stability in the hypothesized impact. The independent variable (IV) was the experimental group (C, INT, J+I). The dependent variable (DV) was mental health assessed bi-weekly using the PHQ-9.

Interventions

Control (C). Participants in the control group received a weekly newsletter containing facts about psychology, mental health and aging. Facts included but were not limited to information about wisdom. No other intervention was given.

Interpersonal interaction (INT). Participants took part in a semi-structured interview one time per week in which they discussed personal wisdom gained one-on-one with a researcher. The focus of these interviews was either the individual's own experiences or the experiences of others that had affected them directly throughout the lifespan. At the beginning of each interview participants were reminded about their informed consent and their right to stop the interview or change the subject at any time if they felt the need to (e.g., feeling distress or discomfort). Standard questions or prompts that were used include: "Tell me about one of the most important lessons you have learned in your life so far" and "How did that experience contribute to your own personal wisdom?" The interaction had no minimum time requirement, but it did have a time limit of 30 minutes and was completed in any space in which the participant felt most comfortable (e.g., living quarters, common area, outside). It was hypothesized that the social connection present in the interpersonal interaction group would

positively affect mental health in participants through increasing life satisfaction (Eshkoo et al., 2014), lowering depression (Muramatsu, et al., 2010) or a combination of the two.

Journaling plus interpersonal interaction (J+I). Journaling participants were given a lined, spiral-bound notebook (8.5 x 11 inch) and a pen. The journal cover page had the following instructions:

This is your wisdom journal. Each day you will have the opportunity to record experiences from your own life or from the lives of others that have impacted you directly and/or that you feel have increased your wisdom. Please journal in any space in which you feel most comfortable. Merriam-Webster's (2014) dictionary defines *wisdom* as, "Knowledge that is gained by having many experiences in life; the natural ability to understand things that most other people cannot understand; knowledge of what is proper or reasonable, or good sense or judgment". You are free to choose which experiences to write about, as your journal entries will remain private. If anything makes you feel uncomfortable or distressed in any way you do not need to continue writing about that subject. In the event that you do feel uncomfortable you could choose a new subject to write about or simply stop writing for the day.

The language of the instructions was open-ended in order to avoid directing participants toward any specific concept or biased response. The language was also carefully crafted so as to steer participants away from painful or stressful life experiences that could cause harm (Sindi, Fiocco, Juster, Pruessner, & Lupien, 2013). Participants were instructed to journal at least one time each day for no specific amount of time or number of pages. Additional notebooks and pens were provided as needed. It was hypothesized that the cognitive activation present in journaling personal experiences and wisdom would have a positive effect on mental health in that participants would gain greater personal meaning or mindfulness (Lichtenthal & Neimeyer, 2012), greater emotional regulation (Mather & Carstensen, 2005), greater overall quality of life (Dechamps, Onifade, Dechamps, & Bourdel-Marchasson, 2009), or a combination of the three. J+I participants also participated in a weekly semi-structured interview identical to the INT group as discussed in the previous section. While this intervention follows the same INT group

methods the impact on mental health was hypothesized to be greater due to the presence of journaling, consequently combining the benefits of both cognitive and interpersonal wisdom mentioned previously. Previous research has illustrated how wisdom as a construct highlights the co-dependent nature of cognitive (journaling) and social (interpersonal) variables. Cognition has been found to be important in a social context (Blanchard-Fields & Kalinauskas, 2009) and enriched conditions (both socially and cognitively together) also have significant benefits in relation to impoverished conditions (Volkers & Scherder, 2011).

Results

Mental health data as assessed by the PHQ-9 was gathered at T1-T4. The interpersonal nature of the research design yielded valuable personal observations as well. Both quantitative data as well as behavioral observations are included in the following sections.

Statistical Analyses

Baseline differences between qualifying ($M_{age} = 85.50, SD = 6.30$) and non-qualifying ($M_{age} = 82.54, SD = 7.99$) participants for categorical variables showed a significant effect for marital status, $\chi^2(3, N = 37) = 10.72, p = .013$. Qualifying participants were either married or had been widowed, while non-qualifying participants included individuals who were married, widowed, single, or divorced. Baseline differences for categorical variables were not significant for participant sex, $\chi^2(1, N = 37) = 1.38, p = .241$, education, $\chi^2(4, N = 37) = 2.01, p = .734$ or social interaction (closest living relative), $\chi^2(3, N = 37) = 2.46, p = .483$. Ethnicity and sexual orientation yielded no statistics because they were constant across participants. A *t* test to assess for mean differences for continuous variables yielded no significant differences across groups (Table 1). It is important to note the absence of data points from participant demographic

information (e.g., 17 participants did not know their current annual income because a child was managing their finances for them).

The effect of engaging wisdom (C, INT, J+I) on mental health (PHQ-9 scores) was assessed using repeated measures ANOVA across the four time points (T1-T4). Proceeding with assumed sphericity, $\Lambda^2(5, N = 24) = 10.31, p = .068$, a statistically significant difference was found for time, $F(3, 51) = 4.06, p = .012, \eta^2_p = .193$ but not for group, $F(6, 51) = 1.56, p = .179, \eta^2_p = .155$. This being true, we cannot reject the null hypothesis and must conclude that engaging wisdom as applied by a cognitive (J+I) and interpersonal (INT) intervention did not have a statistically significant effect on elderly mental health, although the findings do reflect the original hypothesis in that the (J+I) group reflected the greatest difference in PHQ-9 sum scores between T1 and T3, which remained through T4. Visual inspection of the mean differences across groups (see Figure 1) shows patterns of impact that are consistent with the hypotheses. Specifically, the control group scores remained stable over the course of the four time points. The intervention groups showed decline over the course of the intervention (T1-T3) and a retention of gains at T4.

Behavioral Observations

Bailey. Throughout this research project I have had the opportunity to meet many amazing people. Some of them came off a little gruff in the beginning, but throughout the project, as I got to know them better, they all softened up. Each participant was a unique individual that I had the wonderful opportunity to get to know over the course of the six-week project.

As the project went on, I learned many valuable lessons. I learned that being sad or angry is not the worst feeling to have, loneliness is. Some of the older gentlemen in particular seemed

to struggle with feeling alone, whereas a lot of the ladies I talked to were best friends with their phones and could call multiple people at the drop of a hat. I learned that love is a main factor in life and happiness, and that some people really did live "happily ever after" even if society today says that it cannot happen. It all depends on how you look at things, and how you deal with the struggles life hands you. I also learned, in a different way, the value of education. Everyone one I talked to put an emphasis on obtaining an education to take you farther in life. They seemed nearly obsessed with it. Because they knew I was a student at Utah State University, they would bring up education frequently, whether they obtained higher education or not. The interesting thing I began to understand, however, was that no matter what socio-economic class they are from, and no matter how high their education really was, at this point in their lives they were all in the same place. Some participants were extremely well educated, and some lived their whole lives on a high school diploma or less, but they were all, at this point, the same. They lived in the same building, ate the same meals, struggled with the same emotions, and had the same physical aches. What I learned from this was that education does not make you "better", it just gives you opportunities. In the end, we all may end up in the same place, where money and education are almost obsolete, and simply talking to someone can brighten your day.

Kade. A human life is one of the most interesting and complex constructs because human beings have the ability not only to interact with one another and their environments but also interpret, remember, record and express these experiences in many forms. When considering the question "Who am I?" it appears that individuals 60 years old or more draw from both their memories of the past as well as their current subjective experience to formulate an answer. Mental health (or any of its constructs) appears to be a balance of memories of the past, a *carpe*

diem type perspective of today, and having something to look forward to in the future, even if it's just the next meal.

Similar to how Sternberg (2004) explains wisdom as the use of intelligence to balance interpersonal, intrapersonal, and extrapersonal interests, wisdom is not simply interaction with people and environments, but understanding how to perform these operations and knowing why they are valuable. Participants with the greatest *apparent* mental health, as assessed when they were visited to complete questionnaires, were the individuals who had the best *apparent* balance of past, present and future perspectives. In brief conversations (C) or interviews (INT, J+I) these participants mentioned things like teaching Tai Chi classes at their eldercare facility, remembering fondly their experiences serving as an LDS missionary with their spouse in Eastern Europe after the Iron Curtain fell, or expressing something as simple as being excited about the next questionnaire or interview. Religious commitment also appeared to have an affect.

The affect the interventions (INT, J+I) have on elderly mental health appear to come from the opportunity that individuals had to process this type of information in their lives specifically and add to their current definition of "Who am I?" The interpersonal interaction in interviews seemed to have a more prominent affect than did journaling, but it is important to note that some participants stated specifically how they had re-kindled their joy of journaling through their experience with this research. This offers the opportunity for future research to address which types of interpersonal interaction are the best. For example, whether regular interpersonal communication with a family member is more effective than communication with an undergraduate student.

Table 1.

t test results for mean differences among continuous variables at baseline

	Qualifying		Non-Qualifying		<i>p</i> value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Age	85.50	6.30	82.54	7.99	.222
Income	3.07	1.44	2.83	1.33	.733
SI2	3.04	.960	2.92	.954	.720
SI3	1.95	.999	1.50	.905	.211

Income: 1-\$0-9,999; 2-\$10,000-29,999; 3-\$30,000-49,999; 4-\$50,000-69,999; 5-\$70,000-89,999; 6-\$90,000+
 SI2: how often communicate with family: 1, never; 2, 1-2 times per week; 3, 3-5 times per week; 4, every day/almost every day
 SI3: how often do you feel lonely: 1, never; 2, 1-2 times per week; 3, 3-5 times per week; 4, every day/almost every day

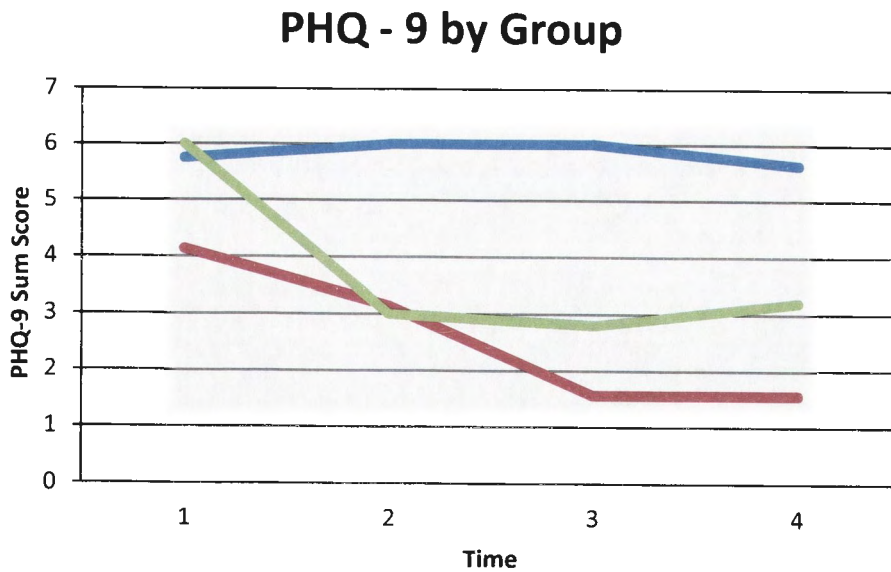


Figure 1. PHQ-9 sum scores by time (T1-T4) by group (C, INT, J+I). The blue line represents the control group. The green line represents the J+I group. The red line represents the INT group.

Discussion

This study was organized to assess the relative impact of two interventions (INT, J+I) on elderly mental health. It was hypothesized that the interpersonal interview completed by the INT group and the daily journaling plus weekly interview completed by the J+I group would improve mental health in comparison with a control group. It was also hypothesized that the J+I group would experience the greatest improvement. Results yielded no statistically significant results, but do offer a pattern for further exploration.

It is important to note that wisdom was not specifically measured. Wisdom as a construct was used in this study as a perspective combining principles from both cognitive and interpersonal constructs but was not quantified with a specific measure. This construct is developmentally appropriate and perhaps even unique to the population. It would be valuable to consider tailoring wisdom as a construct specifically in interventions with elderly individuals in the future.

In order to understand and interpret the results it is important to note some details of the research design. A small sample size of 24 individuals was reduced to 22 during the four-week intervention as one participant discontinued participation and one other was withdrawn by the researchers, both due to health concerns. One anomaly in the randomization process is worth noting, in that all six of the participants who reported journaling on their own prior to the intervention were female and were all randomly assigned to the control group. This could be one possible explanation for the pattern existing in the data without a statistically significant difference.

While no statistically significant results or statistical power can be reported between intervention groups (C, INT, J+I) the results do approach significance and offer a directive worth

pursuing with a sample larger than 24 individuals and an intervention period longer than four weeks. Research supports this endeavor. Interpersonal and cognitive constructs have been shown to lower depression (Muramatsu et al., 2010) and increase mindfulness (Lichtenthal & Neimeyer, 2012). Adults tend to improve in their ability to regulate their affect as they age (Charles & Carstensen, 2010), and interpersonal therapies, among various others, have been effective in treatment of elderly adults (Scogin & Shah, 2012).

While the J+I intervention group showed the greatest PHQ-9 sum score difference as hypothesized, this difference was not statistically significant. There appears to be an interesting balance between the benefits of writing as an outlet for a person's private cognitions and feelings (Pennebaker, 1997) and the deleterious effects of increased task demand (Richter, 2014) for a construct such as journaling. This task demand might also explain why PHQ-9 scores for individuals assigned to the J+I group remained more consistent after T2 while scores for individuals assigned to the INT group continued to decrease up to T3. This offers another possible avenue for further research as previous findings have shown that stressful life situations can function to promote individual growth and increased wisdom (Sternberg & Lubart, 2001). Due to the fact that aging adults may choose to limit the number of relationships they maintain (Carstensen, Isaacowitz, & Charles, 1999) the importance of proactively reaching out to elderly populations through research and interventions such as this one must be noted to avoid perpetuating the occurrence of social exclusion and cognitive decline. Participants in all groups appeared positive about interactions in general, whether in receiving newsletters or participating in weekly interviews, and many were sad to see the intervention period end. This benefit observed by researchers would be valuable to assess by a measure of satisfaction. The PHQ-9

can be administered quickly and one more simple measure would not be obtrusive in the data collection process or increase task demand for participants.

Conclusion

Outcomes of this project have been optimistic for both researchers and participants. Researchers have learned of the great potential for cognitive and interpersonal interventions. Men and women advanced in age have a wealth of knowledge and experience available for genuine and respectful audiences. Those who choose to view these men and women as subordinate can easily overlook this wisdom. The project has made an impact in the lives of participants, as summarized in participants' desire to continue to journal independently and warm invitations for researchers to return to visit. Overall, 22 of the original 24 participants completed the entire four-week intervention, and feedback from facility management and staff was positive. The personal benefits noticed by participants appear to be incentive enough to be more proactive with their time. This exposes the need these men and women have for purpose, and a large reason to implement other intervention research among elderly populations in the future.

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