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Anxiety, depression, and fear of dependency in middle and older adults

Darby D. Mackenstadt
Mississippi State University, darbydalemack@yahoo.com

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By

Darby D. Mackenstadt

Approved by:

Carolyn Adams-Price (Major Professor)
Danielle K. Nadorff
Cliff McKinney
Kevin J. Armstrong (Graduate Coordinator)
Rick Travis (Dean, College of Arts & Sciences)

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Name: Darby D. Mackenstadt

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Negative stereotypes of aging, such as dependency, tend to paint a picture of older adults as frail or a burden on society. This study aimed to explore the relationship between the Fear of Dependency Scale and anxiety and depression, evaluating gender, age, and physical health as moderators. Findings suggest that age moderated the relationship between fear of dependency and depression and anxiety in women, with middle-aged women reporting the highest levels of depression and anxiety. Similarly, poor physical health in women with high fear of dependency being related to higher levels of depression and anxiety. Fear of dependency was related to higher levels of depression, but not anxiety in men. Age did not moderate the relationship between fear of dependency and mental health measures, but physical health did moderate the relationship. Men with poor perceived health and a high fear of dependency reported higher levels of depression.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Although older adults are living longer, healthier lives than ever, adults still have anxieties about reaching older adulthood. These anxieties tend to be rooted in negative thoughts about the aging process and feed into the concept of ageism. Just as someone can be discriminated against for their race or gender, individuals can hold prejudices against others based on their age, a concept known as ageism. Individuals can hold negative beliefs about older adults, such as they are frail, a burden on society, grumpy, slow, and forgetful (Palmore, 1999). In contrast to other stereotypes that usually involve other groups, aging stereotypes usually become self-referent to over time. However, people do not remain within the same age group during their lifespan.

Stereotype Content Model

Stereotype Content Model (SCM) explains that stereotypes are built off a two-dimensional spectrum of warmth and competence (Fiske, 2018). Warmth evaluates a group's trustworthiness or friendliness, while competence evaluates a person's ability for independence, achievement, and assertiveness (Fiske et al., 2018). Using this model, older adults are often placed in high warmth, but low competency category such that they are viewed as non-threatening and kind but also in need of great assistance. Other groups that could fit in the same domain are people who are disabled and children (Fiske et al., 2018). Emotions evoked for low

competency and high warmth tend to be pity or sympathy, which can make a group feel belittled and of low worth (Fiske et al., 2018).

Negative aging stereotypes may not be the same across all groups, including across cultures. Gerontology theorists suggest that individualistic cultures, such as North American and Western European, do not value older adults as much as collectivistic cultures, and therefore harbor more negative aging stereotypes (Hummert, 2011). Older adults from collectivistic cultures have been found to experience less age bias and be treated with greater feelings of warmth from others, compared to older adults in individualistic cultures (Ackerman & Chopik, 2021). Even within individualistic cultures, there are individual differences in agreeing with age stereotypes and directing them inward.

Stereotype Embodiment Theory

Aging stereotypes can be internalized over time, resulting in negative outcomes in mid to late life. Stereotype Embodiment Theory states that individuals often adopt behaviors consistent with stereotypes related to their group or identity, especially aging stereotypes (Levy, 2009). Internalized aging may operate on an unconscious level, affecting physical, psychological, and behavioral outcomes of an individual (Levy, 2009). Unlike other groups who experience stereotypes over their lifetime, adults transition slowly into older adulthood and then experience negative stereotypes they may have previously held against others. The more a negative stereotype aligns with a person's self-perception, the more influential the negative stereotype will be.

Ageism can also be harmful when discrimination is experienced from external sources. Older adults who experience ageist discrimination have relatively high depressive, anxiety, and stress symptoms as well as more cognitive difficulties, such as memory loss (Levy & Langer,

1994; Lyons et al., 2018). Stereotype embodiment theory operates on the idea that individuals can internalize their ageist beliefs and begin to view themselves in a negative way. Older adults who internalize ageist thoughts or feelings experience negative outcomes similar to older adults who experience external ageist discrimination (Levy, 2003).

Older adults who hold negative aging stereotypes are more likely to participate in help-seeking behavior, feel lonelier, and report lower levels of subjective health than those who did not adhere to aging stereotypes (Coudin & Alexopoulos, 2010). Having negative stereotypes about aging and a negative perception of one's own aging process is also associated with feeling subjectively older and having lower self-esteem (Marquet et al., 2019). In addition, older adults who were primed with negative aging stereotypes before being questioned about their will to live with a terminal illness reported lower wills to live, highlighting how influential these stereotypes can be on people's lives (Marques et al., 2014).

By contrast, older adults who do not hold negative stereotypes of aging have more positive outcomes in their physical and mental health (Levy, 2003; Levy & Myers, 2004; Weiss et al., 2013). Older adults who subscribe to positive self-perceptions of aging were more likely to engage in preventative health behaviors (Levy & Myers, 2004). One study found that an individual primed with positive or negative aspects of aging would then report corresponding attitudes towards older adults (Jelenec & Steffens, 2002).

Self-stereotypes of aging can impact perceptions of life events. For example, older adults who are going through retirement can either see this transition as a loss of identity or as the gaining of new freedoms related to increased time (Vernon & Davis-Gage, 2016). Similarly, older adults who move to a new residence that is more manageable for their lifestyle may feel they are losing their beloved home or they may view the move as an opportunity to maintain

their independence (Vernon & Davis-Gage, 2016). Generally speaking, positive aspects of aging may be less culturally salient to westerners and thus underrepresented in the beliefs about aging among young and middle adults (Levy & Langer, 1994). This gap leaves room for people to endorse negative stereotypes about aging, which may mean that these negative stereotypes are more likely to be embodied in older age.

Dependency

Fear of being dependent on others is a common stereotype of aging; however, dependency in older adulthood is a complicated concept. Older adults may equate dependence in worthlessness or incompetence. Margret Baltes (1996) stresses that not all reasons for being dependent are inherently negative, making the concept multifunctional, however dependency in older adulthood does not need to mean incompetence. One can be independent in many areas of their life and simply need assistance in a few areas (Baltes, M. M., 1996, p. 11). For example, married couples are often interdependent. This is easily evident in other age groups; for example, it is an expectation that children are dependent on adults and slowly mature into their independence. It is also expected that those who become ill or injured are dependent on certain resources in order to heal. Older people have been viewed negatively, even when accepting the same type of help as younger individuals, such as a ride to church (Adams-Price & Morse, 2009).

Margaret Baltes argues that coping with the loss of independence, adapting to dependency, and maintaining independence where possible is essential to the successful aging process (1996, p. 23). This claim is supported by a compilation of qualitative studies finding that the optimal situation for both caregiving family members and the older adult care recipient is one when maintaining independence where possible is a priority (Abad-Corpa et al., 2012).

Older adults tend to become dependent on others gradually; (i.e., dependence manifests as a small reduction in specific activities or responsibilities over time) however, stereotype embodiment theory shows how the expected loss of independence associated with aging may drive anxiety for aging adults. Becoming more dependent is a necessary adaptation as situations change for the family and older adult (Abad-Corpa et al., 2012). Assistive devices can help some older adults maintain independence; however, there are numerous reasons that older adults avoid adopting them into their daily routines (Vichitvanichphong et al., 2018). Some of the major factors older adults do not utilize assistive devices include social implications, such as fear of appearing elderly, frail, or not competent when using assistive devices (Vichitvanichphong et al., 2018). Although these devices are intended to help older adults maintain independence in older adults, negative stereotypes of aging can deter some from capitalizing on their benefits and remaining independent.

It is important to distinguish between the fear of dependency and the negative impact of loss of independence. The worry of becoming dependent appears to have great impact on one's physical and mental health, but losing independence can also have a negative impact. Increased dependency has been associated with poorer well-being, health utility, and general health in older adults (Brennan et al., 2018). Older adults' health worsen and as adults' health decreases, they become more dependent. Family relationships can be stressed, and the older adults can begin to feel like a burden on others. Researchers found that family strains from dependency mediated the relationship between poor health and life satisfaction (Chokkanathan & Mohanty, 2017). Older adults can experience negative outcomes when they view their care as causing stress or strain on their family members.

Making a transition to needing more assistance in older adulthood can be emotionally draining and cause a loss of identity. Research has found that older adults who receive more care perceive their aging experience as more negatively and experience relatively higher rates of depression, even when controlling for health status and their care needs (Kwak et al.,2014). The process of receiving care can have negative effects on older adults, even if it is in their best interest to have assistance.

Older adults who shift from independent to dependent may feel a sense of losing control over their lives. A common way of measuring where a person needs help is evaluating their abilities to complete Activities of Daily Living (ADLs). ADLs have been used to summarize physical health of older adults (Awais et al., 2018; Wade & Collin, 1988). ADLs are activities that people complete on a daily basis, such as taking care of personal hygiene, eating, getting dressed, and moving about their environment. These also tend to be the activities that people refer to when they discuss the idea of losing control or independence in old age. It is the thought of losing the ability to perform these activities independently that may contribute to a fear of dependency.

Fear of Dependency

Negative aging stereotypes creates a general fear of aging, which is defined as an irrational fear of growing older (Momtaz et al., 2021). Some prominent anxieties related to aging are a fear being dependent, fear of appearing old, and fear of being a burden on others. It is the aim of this study to expand the literature about the negative stereotype related to becoming dependent in older age, and how it affects mental health of aging adults based on different aspects of their identity. The Fear of Dependency Scale aims at determining how much fear a person has about becoming dependent in older age by examining fear of being a burden,

appearing old, and worry about inability to reciprocate help (Peterson & Adams-Price, 2021). This study will examine the effect fear of dependency has on the mental health of men and women, as well as how it may affect those in good or poor health differently.

In the Fear of Dependency Scale, the first question is, “If I ask for help, I am a burden to others” and identifies those who would feel guilt or shame having other people help them. The next question asks, “I would rather stay home than look dependent” and pulls in the idea of appearing old or frail to others. The third question, “I feel obligated when others ask for my help” deals with the concept of reciprocity and perhaps the feeling of hopelessness that occurs if someone is unable to give back to those who assist them. This can be financially, emotionally, or other ways a person can feel they owe another person for helping them. The last question is, “I would rather pay someone than ask for help” which attends to the idea that older adults do not want to be a burden on others, but rather contribute where possible, even if it means paying for services friends or family would be happy to provide. This highlights the threat of feeling like a burden on others, which could be decreased if there is a transaction of some sort for services. These items all relate to a fear of dependency or accepting help from others.

Gender Differences in Aging

It is expected that men and women will differ in the effect fear of dependency has on their mental health. Older adult men are more likely to be judged negatively when they do not maintain autonomy and financial independence, while older adult women are judged based on their nurturing qualities, i.e., the ability to take care of others (Canetto et al., 1995; Kornadt et al., 2013). Older adult men who report a high desire for independence also react more negatively to receiving assistance compared to older adult women who also desired independence (Nagumey et al., 2004). Older adult men and women may have differing reactions to losing independence,

which may translate into a more negative experience for older adult men during times of transition to dependence.

Researchers found that due to the intersectionality of gender stereotypes and aging stereotypes, older women may experience more ageism than older men (Levy et al., 2013; Rydell et al., 2009). However, older adult men are still negatively influenced by aging stereotypes that affect their sense of independence, competence, and masculinity (Canetto et al., 1995; Jønsson et al., 2020; Kornadt et al., 2013).

Appearing Old

One aspect of the fear of dependency is the fear of appearing older. This may present differently for men and women. Older adult women desire to stay looking younger by reducing the appearance of wrinkles or dying grey hair (Tiggemann & Lynch, 2001). Researchers found that as women age, common concerns with body image and body acceptance lessen, as seen through lower rates of restrictive dieting or disordered eating, less frequent body monitoring, and lower reports of worrying about weight (Skowronski et al., 2021; Tiggemann & Lynch, 2001). However, despite these behavioral changes, body image satisfaction does not improve, suggesting that older women still stress about their appearance (Tiggemann & Lynch, 2001). Researchers have also found that attitudes towards cosmetic surgery become more positive with age, which may be due to cosmetic surgery commonly being used to hide the appearance of aging (Skowronski et al., 2021). It is clear that beauty standards affect women at every stage of life, however the standards themselves may change with age.

In addition, researchers found that although older women were still described as feminine by younger adults, but older men were not described as masculine (Kite et al., 1991). Older adult men have been found to strive for vitality, such as being competitive in the workplace, and

virility, such as maintaining a high sexual interest (Calasanti et al., 2013). Another study found that older adult men who must retire due to healthcare concerns report feeling emasculated (Jønsson et al., 2020). Additionally, a qualitative study found that in a sample of depressed older adult men, a decrease in their sense of masculinity was a commonly reported reason for their depression (Apesoa-Varano et al., 2018). It seems that appearing less masculine is a major source of concern for older adult men. It is clear both older adult men and women fear appearing old, and this fear can negatively impact their well-being. However, it may manifest in different ways based on gender.

Being a Burden

The Fear of Dependency Scale includes an item referring to the burden older adults may feel when they need help from others. This fear of being a burden on others can be an incredibly powerful motivator for people. In one study researchers asked individuals what they valued most when planning their end-of-life care (Supiano et al., 2019). Not wanting to be a burden on their loved ones was the most reported value when planning end-of-life care in older adult samples, even over their personal quality of life (Supiano et al., 2019). This finding shows that being dependent on others can be stressful due to the perceived burden or strain that it puts on others.

The stress related to feeling like a burden can have a negative impact on individuals. Researchers found that older adults who feel that they are a burden report lower meaning of life, increased suicide risk, and increased symptoms of depression (Van Orden et al., 2012). Feeling like a burden appears to have detrimental effects on the mental health of older adults. In addition, the thought of being a burden can cast a toll on an individual that they could resulting in the refusal of necessary assistance. One study used qualitative focus groups to identify themes for reasons older adult refuse assistance at home (Linquist et al., 2018). The results showed that

participants were concerned with being a burden, not trusting those providing help, and a loss of control. The thought of being a burden may influence individuals to refuse resources meant to aid them. In addition, participants reported the need to be recognized as an important contributor to society (Linquist et al., 2018). When one becomes dependent on others, they may become concerned with being viewed as useless or feeling as though they cannot do anything.

When comparing men and women, men appear to be concerned with their perception of being useless. Men often define masculinity in regard to their economic role, productivity, and independence, and reported a decrease in any of these areas contributed to a sense of loss of their masculinity (Apesoa-Varano et al., 2018). As mentioned before, loss of masculinity can have detrimental effects on a man's mental and physical health. Using the Anxieties about Aging Scale, men also were more likely to report higher fears of losing meaning in life as they age compared to women (Sargent-Cox et al., 2014). If a man associates his meaning of life with aspects of him being a provider or having independent abilities, feeling like a burden may have a negative impact on his well-being. Older adult men are four times more likely to attempt suicide than the national overall average, and losing a sense of masculinity or usefulness were primary risk factors of suicide for this population (Canetto, 2017; Conejero et al., 2018; Conwell et al., 2011). For men, the fear of being a burden may also be associated to a fear of no longer being useful and feeling emasculated.

Alternatively, women may experience a change in identity based on their ability to be a caregiver. Middle aged women experience significant changes to their identity when children grow and leave home, and report more negative outcomes than fathers (Infurna et al., 2020). Additionally, aging parents are more likely to rely on their adult female children to provide care (Infurna et al., 2020). Women may experience distress due to their inability to be a caregiver

themselves. Men and women appear to be impacted by aspects of aging and negative stereotypes differently, which is why this study aims to identify how the fear of dependency may impact individuals based on gender.

Depression

The purpose of this study is also to examine how the Fear of Dependency Scale relates to mental health concerns. The onset of depression can begin at any age in life for many reasons, but the causes of depression may be different for older adults compared to other age groups. Situational depression can happen at any age when associated with some type of loss. The misconception that old age is associated with only loss (i.e. loss of loved ones, loss of career, and loss of physical abilities) may lead individuals to assume older adults' experience higher rates of depression (Vernon & Davis-Gage, 2016).

For older adults, the negative effects of depression include unique consequences, such as an increase in falls for those with Major Depressive Disorder or depression being linked to poor physical health (Stubbs et al., 2016). Falling in old age can cause serious and potentially permanent injury, which means it is especially important to identify those who are at increased risk for depression (Stubbs et al., 2016). A longitudinal study done with older adults in Ireland found that those classified as "pre-frail" or "frail" were found to have increased likelihood of developing depression at a 4-year follow up (Jia et al., 2020). This study also found that exhaustion was an essential component of predicting those at higher risk for depression (Jia et al., 2020). Frailty and exhaustion may lead older adults to need increased assistance with tasks, which would increase their feelings of dependency. Other factors related to depression in older adulthood are having a stressful life event, having a physical ailment or decrease in physical ability, and increased feelings of loneliness (Musliner et al., 2015; Curran et al., 2020). It appears

that older adult men are especially affected by these factors (Musliner et al., 2015; Curran et al., 2020).

Just as a decrease of independence has been found to increase likelihood of depressive symptoms, the maintenance of independence has been found to decrease depression. One study examined how hearing loss and hearing aid use relates to depressive symptoms and found that those who use hearing aids had lower likelihood of major depressive disorder (Mener et al., 2013). Although older adults are resistant to utilizing assistive devices due to negative stereotypes, using them may be beneficial for their mental health (Resnik et al., 2009).

A longitudinal study was conducted looking at the association between negative aging stereotypes and depression, finding that those who held negative beliefs about aging, including thoughts that aging results in increased dependency, had higher levels of depression after a two year follow up (Freeman et al., 2016). This study further suggests that fear of dependency has the potential to correlate to depression and other mental health factors.

Current Study

This study aimed at exploring the relationship between the Fear of Dependency Scale and psychological well-being, with age and physical health as moderators. In addition, this study compared these relationships by gender to identify how this fear of dependency manifests differently for men and women. The Fear of Dependency Scale is a four-item scale that quickly evaluates how negatively a person views the aging process (Peterson & Adams-Price, 2021). The items ask questions relating to how a person may feel like a burden when asking for help, how likely they are to ask for help, and their feelings about looking dependent. The first hypothesis is that the Fear of Dependency Scale items will all positively load between 0.4 and 0.9, establishing validity of using the scale (McNeish et al., 2018).

To explore how fear of dependency relates to mental health during the aging process, the Fear of Dependency Scale was compared to the Center of Epidemiological Studies – Depression Scale - Revised and the Geriatric Anxiety Index with age and physical health as moderators. Within these relationships, gender differences were also xamined for men and women. The second hypothesis of the study was that age would moderate the relationship between fear of dependency and the mental health measures, where older adults would have higher depression and anxiety associated with higher Fear of Dependency Scale scores. The third hypothesis of the study was that physical health would moderate the relationship between fear of dependency and the mental health measures, where those with poor physical health would have higher depression and anxiety associated with higher Fear of Dependency Scale scores. The fourth hypothesis was that there would be gender differences for the moderation relationships being examined, with men more likely to report higher Fear of Dependency Scale scores based on past research associated with masculinity expectations of older men.

CHAPTER II

METHODS

Participants and Procedures

The data used for this project is from Dr. Adams-Price's lab at Mississippi State University. The lab collected data using MTurk from November 2017 to February 2018. The participants were asked to complete a multiple-part survey that asked about demographic information, physical health, and a number of mental health measurement tools. The mental health measurement tools include the Fear of Dependency Scale, Center for Epidemiological Studies - Depression, and the Geriatric Anxiety Inventory. Missing data occurred in less than 5% of the data, therefore listwise deletion was deemed appropriate as Schafer (1999) suggests this level of missingness in not likely to bias data.

The participants in this study were aged 50-years-old to 82-years-old (M= 58.5), a range that includes both older adults and middle-aged adults. Using a median split (median = 58.0), there were 61 men in the younger group and 55 men in the older group. Additionally, there were 93 women in the younger group and 105 women in the older group. Overall, the participants are primarily employed fulltime (42.1%), employed parttime (20.4%), or retired (23.3%). Most participants identified as White (87.0%), women (62.9%), heterosexual (97.1%), and having at least some college education (84.4%).

Measures

Fear of Dependency Scale

The Fear of Dependency Scale is a four-item scale measuring the fear adults feel from the thought of being dependent on others (i.e. If I ask for help I am a burden to others). From a sample of 1324 older adults, the scale was developed and found to correlated with depression and the Personal Longevity Scale (Adams-Price, 2017).

Center for Epidemiological Studies – Depression – Revised

The Center for Epidemiologic Studies Depression - Revised Scale (CESD-R) was developed by updating the original scale by Lenore Sawyer Radloff. The scale is a self-report measure of twenty-items measuring feelings of depression over the past week (i.e. I felt that everything I did was an effort). The CESD-R is scored 0 to 60 with scores over 16 being considered severe clinical depression (Eaton et al., 2004; Radloff, 1977). Researchers found that the CESD-R and the HADS (a measure used by nurses looking at depression) had a strong correlation with a Pearson's coefficient correlation of 0.50 (Górkiewicz et al., 2015).

Geriatric Anxiety Inventory

The GAI is a twenty-item measurement tool to measure anxiety in older adults (i.e. I find it hard to relax). It has been shown to have strong internal consistency with a Cronbach's alpha of 0.91 for older adults (Pachana et al., 2007). The GAI also had strong convergent validity with the Beck Anxiety Inventory (Yochim et al., 2010).

Data Analysis Plan

Structural equation modeling was completed using AMOS 28.0. A confirmatory factor analysis was done for the Fear of Dependency Scale. See Table 1 for descriptive statistics of

items. The scale consists of four items, all of which loaded positively. The model fit the data well (CFI = 1.00, SRMR = .013), however Item 3 loaded at .38, which was both below 0.4 cut off for items as well as particularly lower than the other factor loadings that ranged from .68 and .75. Additionally, this item was transcribed into the survey incorrectly, and therefore read, *I feel obligated when others ask for my help*, instead of how it was first created. See Figure 1 for the structural equation path model for the three-item model. In addition, the Cronbach's α was found to be .76 for the items of the scale.

Table 1

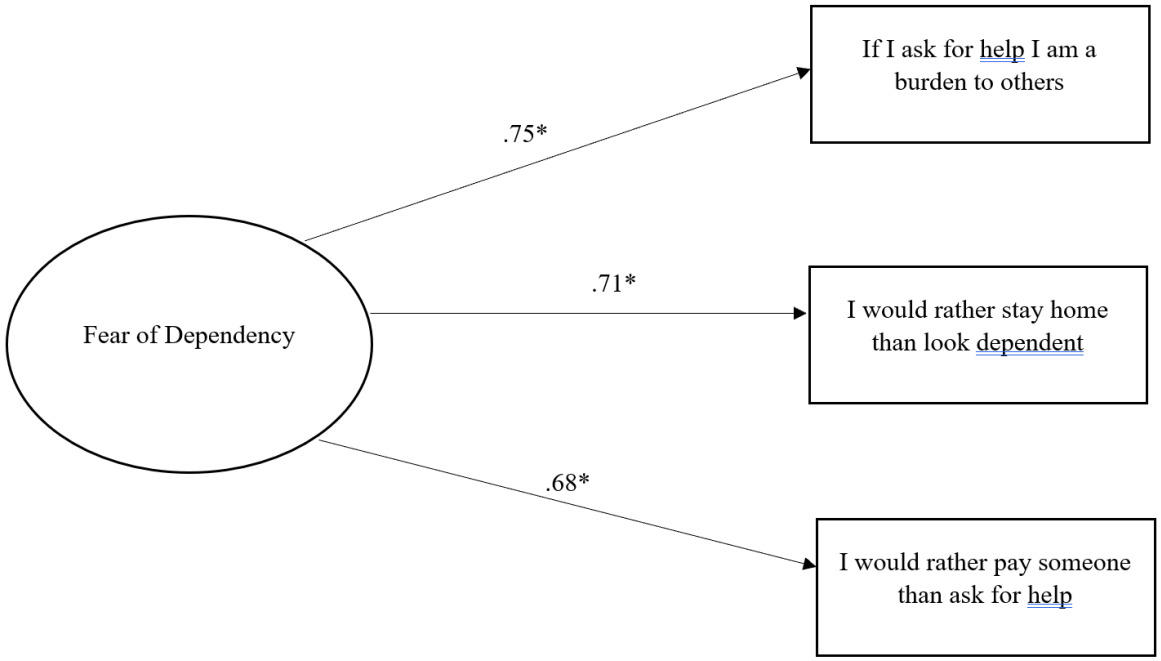
Descriptive Statistics of Fear of Dependency Scale Items.

	M (SD)
Item 1 – If I ask for help, I am a burden to others	3.06 (1.24)
Item 2 – I would rather stay home than look dependent	3.32 (1.31)
Item 3 – I feel obligated when others ask for my help	3.49 (1.14)
Item 4 – I would rather pay someone than ask for help	3.05 (1.25)

Note: Fear of Dependency items scored on Likert Scale of 1 to 4. Fear of Dependency Scale Scores are an average of all four items.

Figure 1

Standardized Confirmatory Factor Analysis for Fear of Dependency Scale



Note: *indicates $p < .001$. Error terms for endogenous variables omitted for clarity.

A confirmatory factor analysis was done to establish the latent variable of physical health rating for the purposes of this study. The physical health rating included a self-rating of physical health, difficulty with walking, difficulty with stairs, and total amount of physical diseases reported. The self-rating of physical health initially loaded positively while the other three items loaded negatively, therefore the self-rating scale was reverse coded as shown in Figure 2. The

model fit the data well (CFI = .95, SRMR = .05). See Table 2 for descriptive statistics of items.

See Figure 2 for the structural equation path model.

Table 2

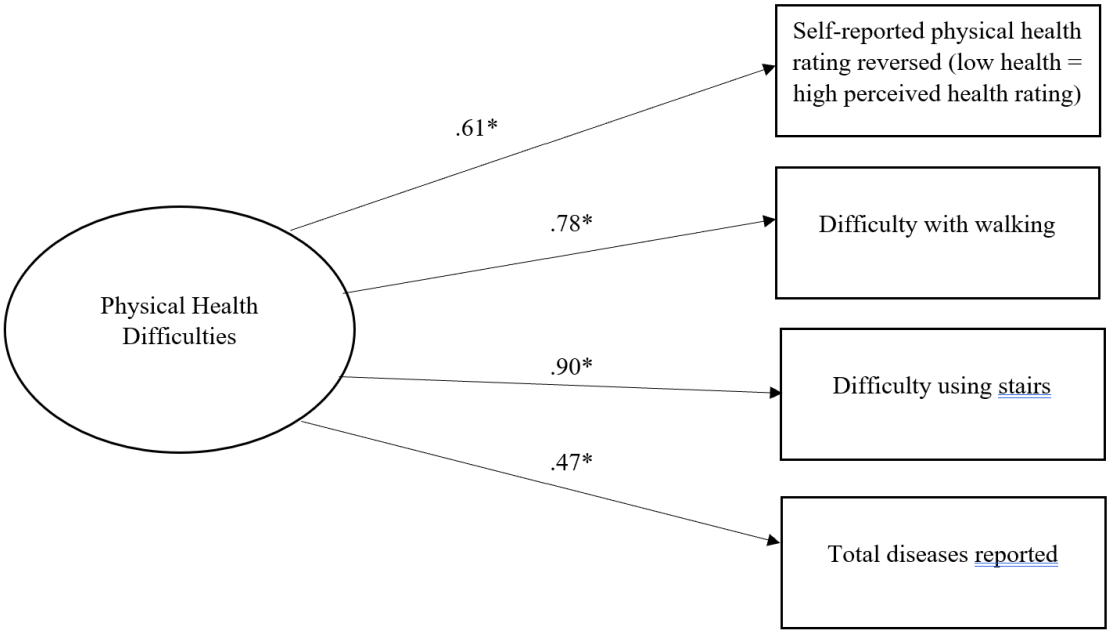
Descriptive Statistics of Physical Health Variable Items.

	M (SD)
How much difficulty do you have walking?	1.34 (0.57)
How much difficulty do you have with stairs?	1.46 (0.66)
Please rate your health on a scale of 1 – 5	3.17 (0.98)
Total amount of diseases reported by participants	1.32 (1.30)

Note: Difficulty walking and using stairs scored on a likert scale of 1 to 4, with 1 being no difficulty and 4 being unable to do. Physical health rating scale on a likert scale of 1 to 5, with 1 being poor health and 5 being excellent health.

Figure 2

Standardized Structural Education Model of Physical Health Difficulties.



Note: *indicates $p < .001$. Error terms for endogenous variables omitted for clarity.

AMOS 28.0 was used to examine a single model for the main and interaction effects for hypothesis testing. Interactions were plotted with spotlight analysis at +/-1 *SD* as described by Spiller et al.. (2013). Observed predictors consisted of the fear of dependency scale scores (i.e., the sum of the four items from the fear of dependency scale), physical health rating (i.e., the latent variable from the measurement model described in Figure 2, which was imputed so that it could be used in computing interaction terms), and age. Observed dependent variables included depression (measured by the Center for Epidemiological Studies Depression Scale Revised) and anxiety (measured by the Geriatric Anxiety Inventory). Interaction terms were built by centering predictors and creating a product of fear of dependency with age as well as physical

health (e.g., fear of dependency * age). See Table 3 for descriptive statistics of variables included in moderation models for the overall sample, women, and men.

Table 3

Descriptive Statistics of Moderation Model Variables.

	M (SD)	Women *M (SD)*	Men *M (SD)*
Geriatric Anxiety Scale	44.53 (23.64)	45.59 (24.10)	42.73 (22.80)
Center of Epidemiological Studies – Depression Scale - Revised	10.78 (13.12)	45.73 (17.33)	48.50 (17.04)
Fear of Dependency Scale (3 items)	3.14 (1.04)	3.08 (1.10)	3.2 (0.90)
Age	58.51 (6.52)	58.71 (6.25)	58.17 (6.97)
Physical Health Difficulties	0.00 (0.56)	0.003 (0.57)	-0.005 (0.54)

Note: GAI scores range from 20 and 100, CESD-R scores range from 0 to 60, Fear of Dependency Scale scores range from 1 and 5, and Physical Health Difficulties is a centered latent variable with scores between -0.54 and 2.29, with higher scores relating to worse perceptions of physical health.

Multiple groups analysis was used to compare men and women participants effects on the relationship between fear of dependency and the moderators on mental health. Pairwise parameter comparisons were used for examining the different paths across gender within the moderation models. Pairwise parameter comparisons are a statistical test that utilizes *Z*-scores to be able to compare standardized paths between groups, using a *Z*-score of 1.96 as the cutoff for significance.

CHAPTER III

RESULTS

Missing Data

Missing data occurred in less than 5% of the participant responses, and was therefore handled using listwise deletion. Low rates of missingness, such as within this sample, are said to not likely affect analyses (Bennett, 2001; Schafer, 1999). Data was within normal limits for tests of normality and multicollinearity (Kline, 2016).

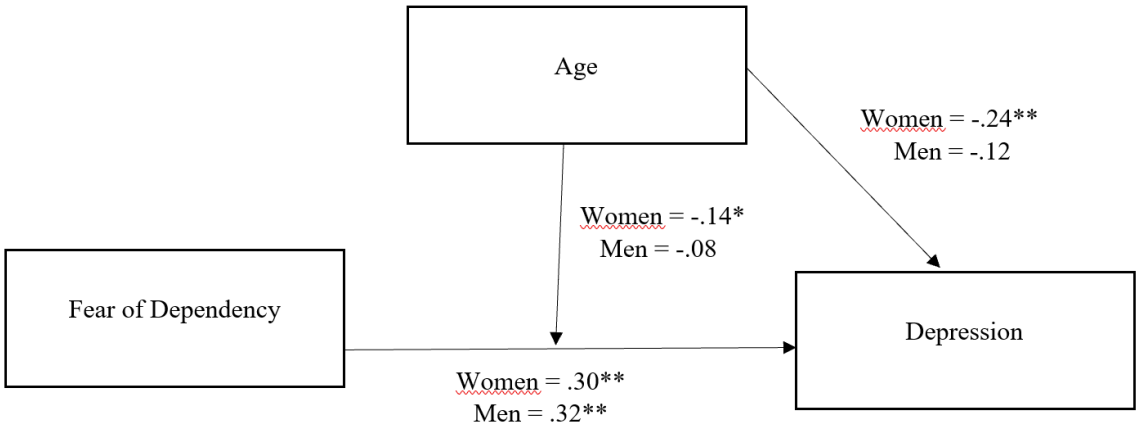
Moderated Moderations

As shown in Figure 3, fear of dependency was positively associated with depression for women participants. Age was negatively associated with depression. The interaction was significant. Without including the moderating effect of age, for women, age and fear of dependency had a large effect on depression, $R^2 = .169$. By including the interaction term, R^2 increased to .183, a medium effect, $f^2 = .017$, according to Kenny (2018). See Figure 4 for interpretation. It was hypothesized that those with high fear of dependency ratings and older age would also report higher ratings of depression. However, as Figure 4 shows, those with high fear of dependency and lower age had the highest ratings of depression. The older aged participants demonstrated a weaker relationship between depression rating and their level of fear of dependency compared to younger participants. In Figure 3, fear of dependency was significantly associated with depression for the men participants, meaning men with higher fear of

dependency also reported higher depressive symptoms. However, age and the interaction were not significant, meaning moderation only occurred in the women sample.

Figure 3

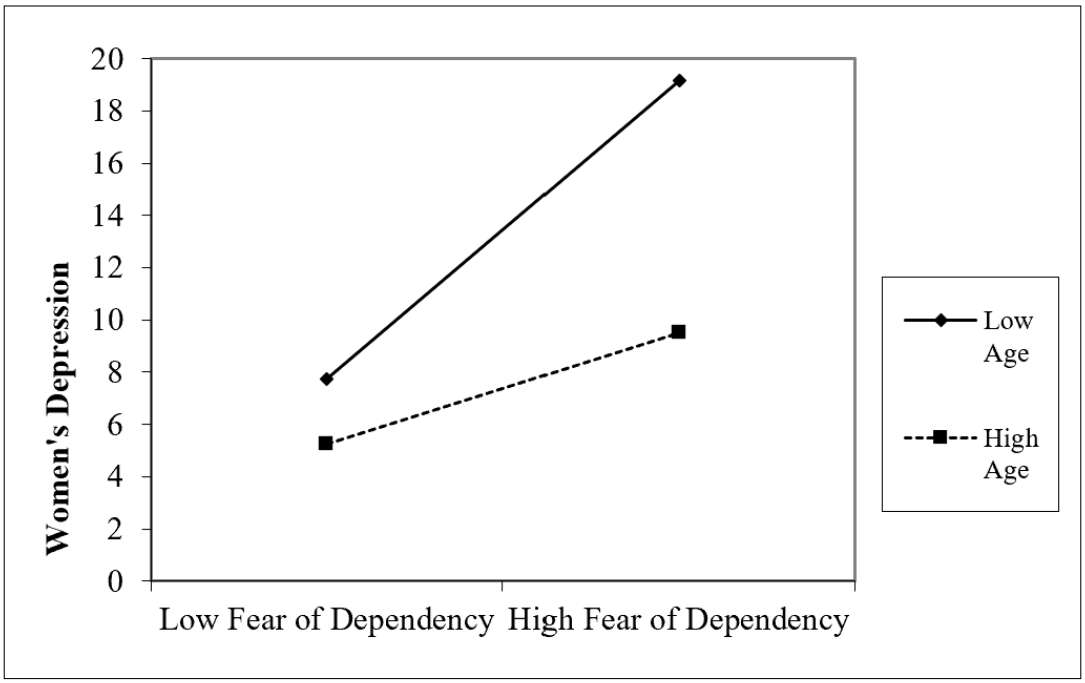
Standardized Moderation Model for Women Participants Compared to Men Participants.



Note: *indicates $p < .05$. **indicates $p < .01$. Error terms for endogenous variables omitted for clarity.

Figure 4

Plot Interaction of Age on Fear of Dependency and Depression for Women Participants.



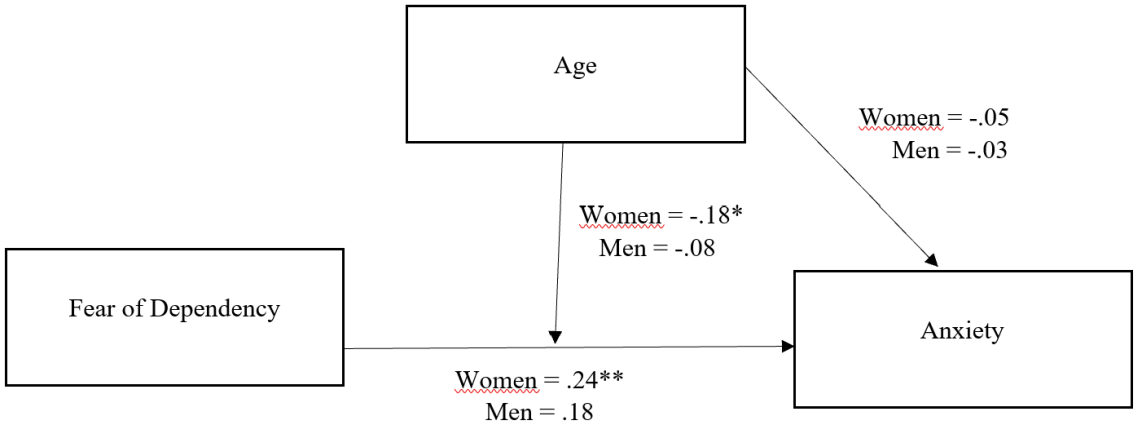
Note: Y axis begins at 0 and ends at 20. Scores higher than 16 on the CESD-R suggest the experience of clinical depressive symptoms.

As shown in Figure 5, fear of dependency was positively associated with anxiety for women participants. Age was not associated with anxiety. The interaction was negative and significant. Without including the moderating effect of age, R^2 = .269 for anxiety in relation to age and fear of dependency. By including the interaction term, R^2 increased to .303, a large effect, f^2 = .049. See Figure 6 for interpretation. Again, it was hypothesized that those with high fear of dependency ratings and older age would also report higher ratings of anxiety. However, those with high fear of dependency and lower age had the highest ratings of anxiety. The older aged participants demonstrated a weaker relationship between anxiety rating and their level of fear of dependency compared to younger participants. In Figure 5, fear of dependency was not

significantly associated with anxiety for the men participants, nor was age, and the interaction was not significant.

Figure 5

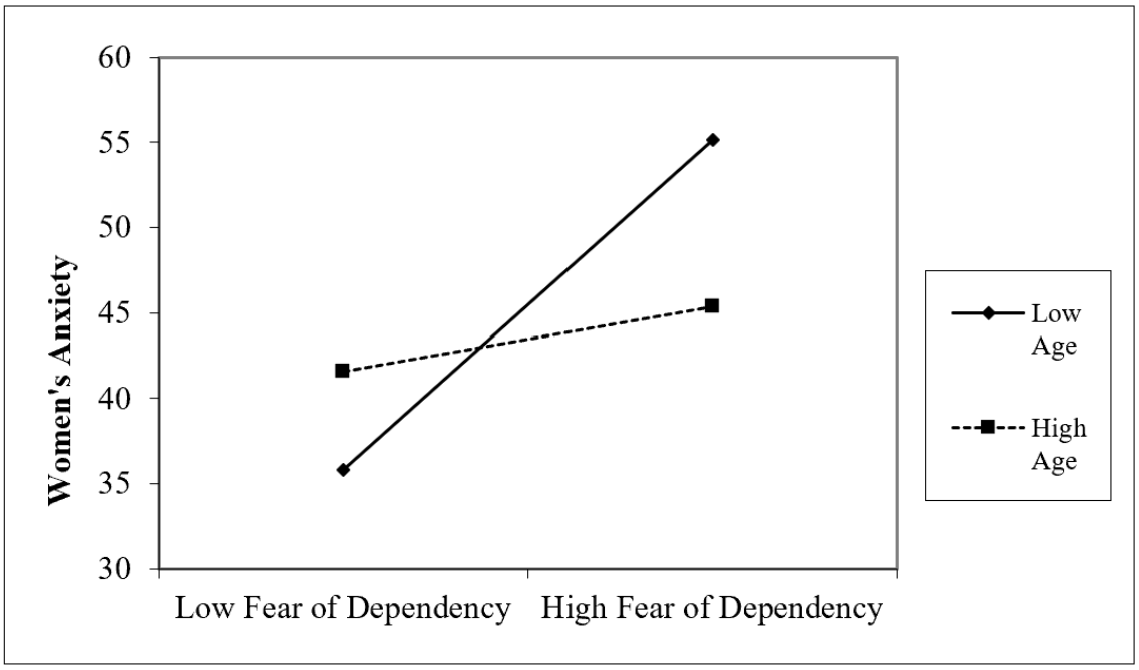
Standardized Moderation Model for Women Participants Compared to Men Participants.



Note: *indicates $p < .05$. **indicates $p < .01$. Error terms for endogenous variables omitted for clarity.

Figure 6

Plot Interaction of Age on Fear of Dependency and Anxiety for Women Participants.



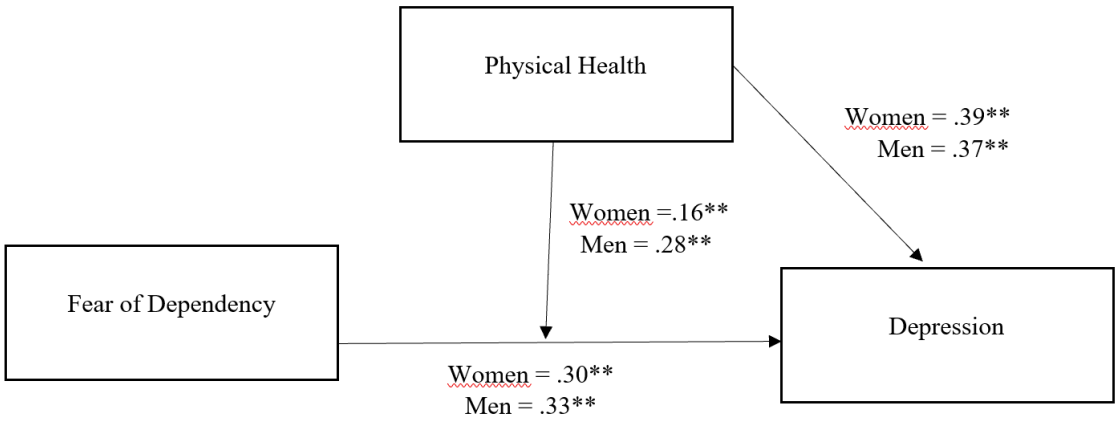
Note: Y axis begins at 30 and ends at 60. Lowest score possible is a 20 and highest score is a 100, where higher scores relate to more reported anxiety symptoms.

As shown in Figure 7, fear of dependency was positively associated with depression for women participants. Poor physical health was positively associated with depression. The interaction was positive and significant. Without including the moderating effect of age, R^2 = .532 for depression in relation to physical health and fear of dependency. By including the interaction term, R^2 increased to .55, a large effect, f^2 = .04. See Figure 8 for interpretation. It was hypothesized that those with high fear of dependency ratings and high physical health difficulties would report higher ratings of depression. According to the figure, the results support this hypothesis. Those with high fear of dependency and high physical health difficulties had the

highest reported depression by far. Those with low physical health difficulties had a weak relationship between depression ratings and fear of dependency.

Figure 7

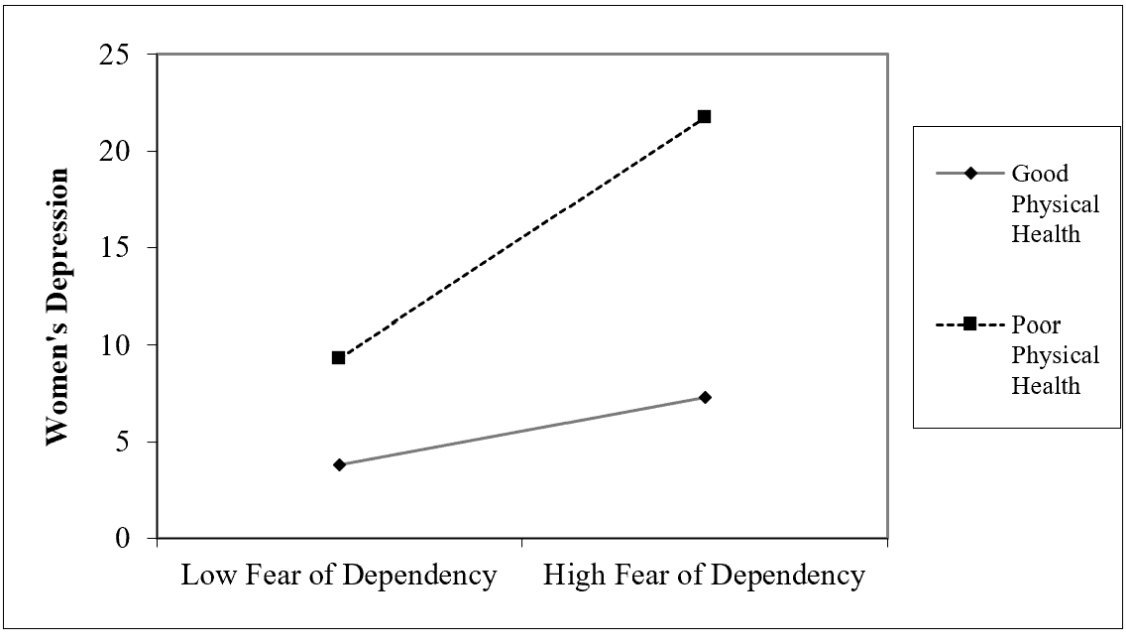
Standardized Moderation Model for Women Participants Compared to Men Participants.



Note: **indicates $p < .01$. Error terms for endogenous variables omitted for clarity.

Figure 8

Plot Interactions of Physical Health Rating on Fear of Dependency and Depression for Women Participants.



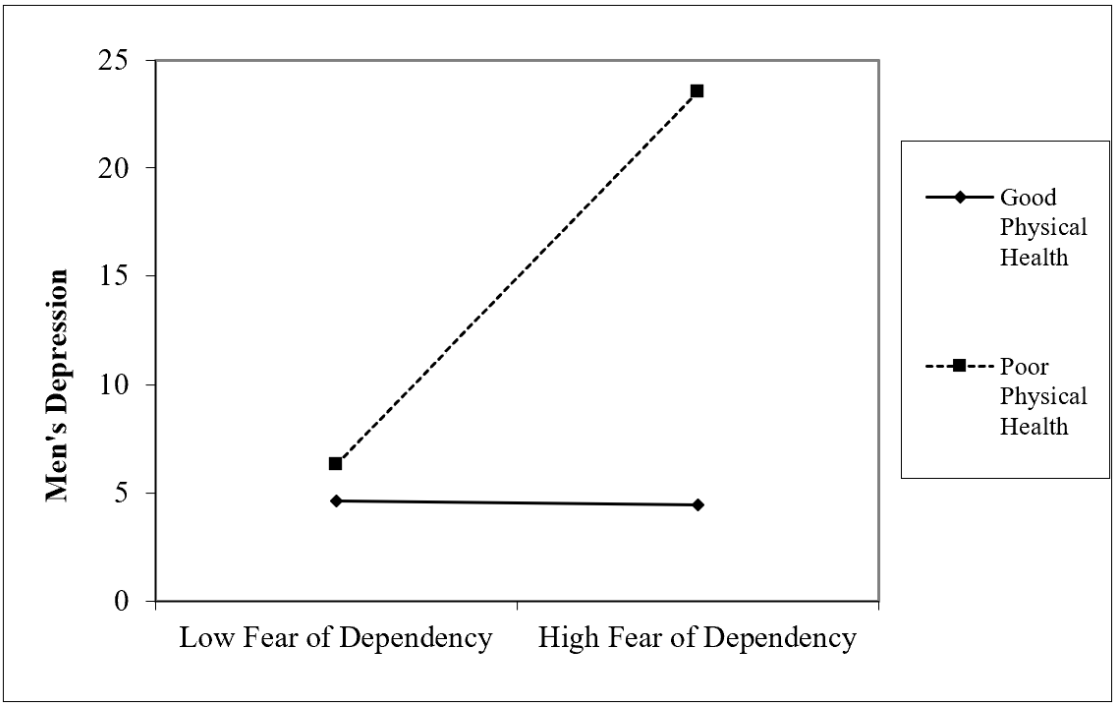
Note: Y axis begins at 0 and ends at 20. Scores higher than 16 on the CESD-R suggest the experience of clinical depressive symptoms**.**

Additionally in Figure 7, fear of dependency was positively associated with depression for men participants. Physical health difficulties was positively associated with depression. The interaction was positive and significant. Without including the moderating effect of age, R^2 = .536 for depression in relation to physical health and fear of dependency. By including the interaction term, R^2 increased to .597, a medium effect, f^2 = .15. See Figure 9 for interpretation. It was hypothesized that those with high fear of dependency ratings and high physical health difficulties would report higher ratings of depression. According to the figure, the results support

this hypothesis similar to as it did with women. Those with high fear of dependency and high physical health difficulties had the highest reported depression. Those with low physical health difficulties had a weak relationship between depression ratings and fear of dependency.

Figure 9

Plot Interaction of Physical Heath Rating on Fear of Dependency and Depression for Men Participants.



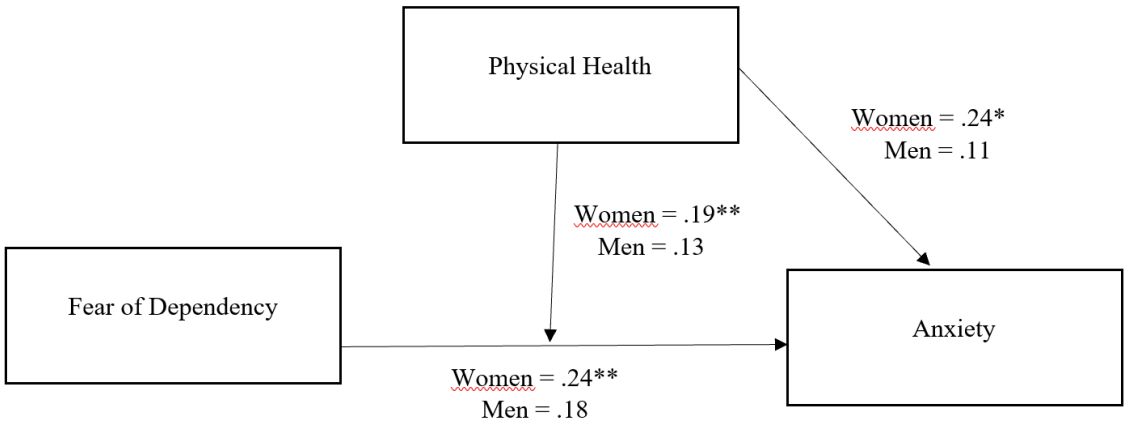
Note: Y axis begins at 0 and ends at 20. Scores higher than 16 on the CESD-R suggest the experience of clinical depressive symptoms.

As shown in Figure 10, fear of dependency was positively associated with anxiety for women participants. Physical health difficulties was positively associated with anxiety. The interaction was positive and significant. Without including the moderating effect of age, R^2 =

.367 for anxiety in relation to physical health and fear of dependency. By including the interaction term, R^2 increased to .395, a large effect, $f^2 = .05$. See Figure 11 for interpretation. It was hypothesized that those with high fear of dependency ratings and high physical health difficulties would report higher ratings of anxiety. Again, those with high physical health difficulties had lower overall anxiety ratings than those with low physical health difficulties. Those with high fear of dependency and high physical health difficulties had the lowest reported anxiety. Those with low physical health difficulties only differed slightly in their depression ratings, with low fear of dependency being associated with higher anxiety ratings. In Figure 10, fear of dependency was not significantly associated with anxiety for the men participants, nor was physical health, and the interaction was not significant.

Figure 10

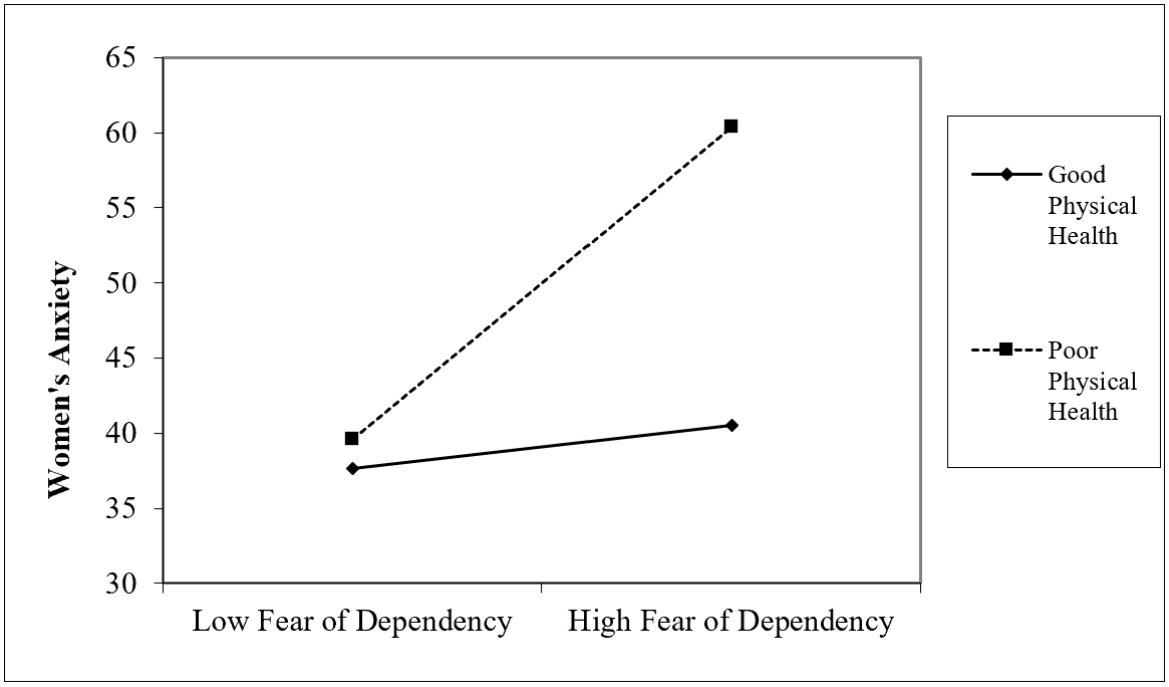
Standardized Moderation Model for Women Participants Compared to Men Participants.



Note: *indicates $p < .05$. **indicates $p < .001$. Error terms for endogenous variables omitted for clarity.

Figure 11

Plot Interactions of Physical Health Rating on Fear of Dependency and Anxiety for Women Participants.



Note: Y axis begins at 30 and ends at 60. Lowest score possible is a 20 and highest score is a 100, where higher scores relate to more reported anxiety symptoms

Pairwise Parameters

The pairwise parameter comparisons showed that there were no significantly different paths between men and women. Gender pairwise parameter comparisons demonstrated no significant differences according to the cut off of 1.96.

CHAPTER IV

DISCUSSION

Stereotype embodiment theory states that individuals often adopt behaviors consistent with stereotypes related to their group or identity (Levy, 2009). Older adults are often labeled as frail, grumpy, slow, forgetful, and a burden to society due to negative aging stereotypes (Palmore, 1999). According to Stereotype Content Theory, older adults appear to be stereotyped to be high in warmth, but low in competency, which may cause them to feel pitied or belittled (Fiske, 2018). This paper examined one common stereotype of aging, that older adults become dependent on others, and that the fear of embodying this stereotype may negatively affect their psychological well-being. The results of the study suggest that embodiment of aging stereotypes may be beginning before older age, specifically in middle age for women, and that good self-rated physical health can act as a protective factor to embodying these stereotypes.

The current study examined how fear of dependency affects the mental health of older adults, comparing men and women, while examining age and physical health as potential moderators. Fear of dependency is when individuals worry that their expected or perceived physical and mental decline will cause them to be a burden on others, particularly loved ones. The results suggest that fear of dependency is associated with higher reported levels of depression and anxiety, and that other factors (i.e. gender and physical health) act as moderators of this relationship.

Hypothesis 1

The first hypothesis was that the Fear of Dependency Scale items would all load positively and between 0.4 and 0.9, establishing validity. This hypothesis was supported by the results for three of the items. However due to item three being transcribed incorrectly and loading poorly, it was deemed necessary to remove the item from the scale for this study. The other three items loaded positively, suggesting it was a valid model to use for further analyses.

It was expected that fear of dependency would positively relate to depression and anxiety. The results suggest that for both men and women, fear of dependency was positively related to depression. However, only for women was fear of dependency and anxiety positively related. This suggests that for men and women, high fear of dependency is related to higher experiences of depressive symptoms. Additionally, higher fear of dependency is related to higher levels of anxiety for women in this sample.

Hypothesis 2 Across Gender

The second hypothesis of the study is that age will moderate the relationship between fear of dependency and the mental health measures of depression and anxiety. It was expected that older adults, especially older adult men, would be the most negatively affected by aging stereotypes and thus report the highest scores on the depression, anxiety, and fear of dependency measures. The results suggest that for men, fear of dependency is related to higher levels of depression, but there is not a significant relationship between fear of dependency and anxiety. Additionally, these relationships are not moderated by age, meaning the relationship between fear of dependency and depression or anxiety is not a significantly different in middle compared to older adult men. However, results showed that for women of all ages, high fear of dependency

is related to higher reports of depression and anxiety symptoms. It appears middle age for women exacerbates the relation between fear of dependency and depression/anxiety.

The perception of loss and the concept of acceptance are major points of discussion of the aging process. Midlife has been called an "intersection of growth and decline" making it a time to balance the increase in perceived losses to come while wishing to make the most of the time one has left (Lachman et al., 2015). During this time of transition, rates of depression and anxiety are at a lifetime high, especially among women (Bandelow & Michaelis, 2022; Infurna et al., 2020; Kessler et al., 2009). Older adults have been seen to effectively utilize thinking strategies to diminish their fear of death and increase their acceptance of death, and appear to have lower fear of death compared to middle adults (Cicirelli, 2003). Similarly, for the current study, the fear of losing one's independence may be present and highly distressing for the middle adults while the older adults have become resilient and transitioned to acceptance. Older adults in this study who do experience high levels of fear of dependency may be able to utilize similar thinking or effective coping strategies to manage their feelings of distress, while middle adults are not yet as well practiced (Livingstone & Isacowitz, 2021). This may account for why the middle adults experienced higher levels of depression and anxiety compared to the older adults who also reported high fear of dependency. Future research should examine coping strategies between middle and older adults for these specific fears of aging, as well as the concept of acceptance of aging stereotypes in older adulthood.

Of note, the moderating effects of age on the relationship between fear of dependency and depression or anxiety was significant only in the women participants. Women are two times more likely to experience an anxiety disorder compared to men, but it is uncertain the cause of this distinct gender difference (Bandelow & Michaelis, 2022; Kessler et al., 2009). Women are

stereotyped that they should be submissive, weak, and dependent, similarly to how older adults are expected to be dependent, slow, and a burden (Shnabel et al., 2016). According to stereotype content theory, women are also stereotyped to be high in warmth and low in competency, similar to older adult stereotypes. There may be a compounding effect of these intersecting identities where middle aged women are being perceived by others to be aging, and thus experiencing aging and gender prejudice and stereotypes. Additionally, women are perceived by others as older than their age compared to men; therefore, a middle-aged woman may be seen as "old" to those in her life sooner than a man of her age (Barrett & Von Rohr, 2008). Women tend to view the aging process more negatively and work harder to maintain youthful aspects of their identity, such as physical and social appearance (Barrett, 2005). It may be that middle-aged women are experiencing older adult stereotypes and prejudice earlier than middle-aged men.

Middle-aged women may begin to be perceived as aging while middle-aged men are at their most powerful. Middle-aged women may be worrying about losing their youth, and start to self-stereotype during this transition period. Middle-aged men may have more status and power than younger men or their middle-aged women counterparts. It was expected that men would have poorer outcomes when reporting high fear of dependency due to the great distress seen when their masculinity is challenged or their independence is reduced (Canetto et al., 1995; Jønsson et al., 2020; Kornadt et al., 2013). However, it appears that middle adult men may not be experiencing the same aging stereotypes and challenges to their independence as middle adult women. This may be due to being perceived as younger as well as their social status acting as a protective factor.

Hypothesis 3 Across Gender

It was expected that physical health would also moderate the relationship between fear of dependency and the mental health measures, where those reporting poor physical health would have higher depression and anxiety associated with higher fear of dependency scores. According to the results, physical health moderated the relationship between fear of dependency and depression for women and men. Those reporting high fear of dependency and high physical health difficulties (poorer heath) had the highest reports of depression. Additionally, for only women participants, physical health moderated the relationship between fear of dependency and anxiety. Women reporting poor physical health and high fear of dependency reported the highest levels of anxiety.

Poor subjective health has been found to be associated with not only more negative perceptions of aging, but also greater focus on age-losses (Sabatini et al., 2022). Poor physical health, especially with age, often is associated with negative connotations, such as being frail and incompetent. Those with more physical health difficulties may be experiencing great stress at the thought of growing weaker and losing abilities that they already perceive as poor. It may be that those in poor health view themselves as closer to growing old and experiencing the negative aspects of aging compared to those in good health. For this study, those with the perceptions of being in poorer health may experience greater distress as they feel closer to needing assistance compared to those who perceive their health as good. When paired with a high fear of dependency, those with perceived poor health had the highest reports of depression and anxiety. Alternatively, those in good health had little to no change between their reports of depression and anxiety for low or high fear of dependency. This may be that those with perceived good health perceive themselves as highly capable and able to maintain independence.

For both men and women, those reporting poor physical health and high fear of dependency had highest reports of depression. Although women tend to be of greater risk for depression overall, men who are experiencing physical health decline appear to report greater levels of depression than their women counterparts (Reid & Planas, 2002). The results reported here demonstrate that depression in men who perceived their health as good was not related to fear of dependency. However, men with poor perceived health had more depression symptoms when they reported high fear of dependency. Men with perceived poor health are already at an increased risk for depression, and this study suggests that having a fear of being dependent on others appears to increase one's experience of depression.

The results suggested that fear of dependency was only related to anxiety for the women participants. This is consistent with women being more likely to develop anxiety compared to men at any age (Bandelow & Michaelis, 2022; Kessler et al., 2009; McLean et al., 2011). Additionally, women tend to report more disability when experiencing anxiety compared to men, such as needing to take more time off work (McLean et al., 2011). Women in the study who report having anxiety may have increased levels of anxiety when paired with high fear of dependency due to the increase in illness burden that they typically experience. This anxiety would likely increase if a woman is fearful of being dependent on others, especially if she perceives her anxiety to already be a great burden for herself.

Future Directions

Future research should focus on identifying the underlying mechanism of how aging stereotypes impact the well-being of middle-adult women, as well as identify any other risks specific for the well-being of middle-adult men. Additionally, future research should evaluate further when men begin to internalize aging stereotypes, similar to their women counterparts.

Because women are perceived to be aging much earlier than men, it may be that middle aged men perceive themselves as much further from experiencing aging stereotypes than middle aged women do. Therefore, age may be a moderator for men in the relationship between fear of dependency and psychological measures of well-being, but not until they reach older age.

The study findings may be used to formulate psychoeducation about the importance of breaking down aging stereotypes and challenging ageism in early life. It appears that internalizing and self-stereotyping one's self can cause significant distress for individuals as early as middle adulthood, particularly for women. It is important to highlight these risks so individuals can begin to challenge their perceptions of aging before middle and older adulthood and have a greater chance at experiencing less depression and anxiety at the thought of losing their abilities.

Limitations

Limitations of this study include a transcription error of the Fear of Dependency Scale into the survey. One item was incorrectly transcribed into the survey and read "I feel obligated when others ask for my help" instead of "I feel obligated when I accept help from others" as it should have been. Despite this mistake, the item still loaded at the appropriate cutoff, however it loaded much lower than the other items and therefore was not used in the analyses. The scale should be examined in future studies to continue to confirm its validity for use. Additionally, the sample of participants was collected using MTurk, meaning that all participants had to have access to internet and be competent in using a computer. This means our sample may not appropriately represent all populations of older adults, particularly lower-income individuals.

Conclusion

Overall, this study highlights the impact a specific negative aging stereotype can have on individuals and the importance of dissecting the mechanisms in which they operate. The results suggest that overall, high fear of dependency is related to greater reports of depression and anxiety. Additionally, for women, age moderated this relationship. Middle aged women reporting high fear of dependency reported higher depression and anxiety scores compared to the older adult women. It appears the transition period from middle to older adulthood for women may be distressing for the younger women, more so than the experience of older age itself. Additionally, for men and women, physical health moderated the relationship between fear of dependency and depression. Participants reporting poorer self-rated health reported higher levels of depression, suggesting that the poorer someone's health is that the more distress they feel about the potential loss of their independence with aging. Physical health also moderated the relationship between fear of dependency and anxiety, but only for women. This may be due to women being at an increased risk for anxiety compared to men, but also their perception of anxiety being more debilitating compared to men. Fear of dependency is positively related to depression for men and women, and anxiety for women. It appears that the more a person identifies with aging stereotypes, the more they experience depression and anxiety. Women and those in poor health experience similar aging stereotypes, and these groups appear to experience the most depression and anxiety.

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APPENDIX A

FEAR OF DEPENDENCY SCALE

1. If I ask for help, I am a burden to others.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree
2. I would rather stay home than look dependent.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree
3. I feel obligated when I get help from others.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree
4. I would rather pay someone than ask for help.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

APPENDIX B

CENTER OF EPIDEMIOLOGICAL STUDIES – DEPRESSION – REVISED

1. I was bothered by things that usually don't bother me.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

2. I did not feel like eating; my appetite was poor.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

3. I felt that I could not shake off the blues even with help from my family or friends.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

4. I felt that I was just as good as other people.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

5. I had trouble keeping my mind on what I was doing.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

6. I felt depressed.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

7. I felt that everything I did was an effort.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

8. I felt hopeful about the future.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

9. I thought my life had been a failure.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

10. I felt fearful.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

11. My sleep was restless.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

12. I was happy.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

13. I talked less than usual.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

14. I felt lonely.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

15. People were unfriendly.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

16. I enjoyed life.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

17. I had crying spells.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

18. I felt sad.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

19. I felt that people dislike me.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

20. I could not get “going”.
    a. Not at all OR less than 1 day.
    b. 1-2 days
    c. 3-4 days
    d. 5-7 days
    e. Nearly every day for 2 weeks

Note: Scored as “a” = 0, “b” = 1, “c” = 2, “d” = 3, and “e” = 3.

APPENDIX C

GERIATRIC ANXIETY INVENTORY

1. I worry a lot of the time.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

2. I find it difficult to make a decision.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

3. I often feel jumpy.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

4. I find it hard to relax.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

5. I often cannot enjoy things because of my worries.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

6. Little things bother me a lot.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

7. I often feel like I have butterflies in my stomach.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

8. I think of myself as a worrier.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

9. I can't help worrying about even trivial things.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

10. I often feel nervous.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

11. My own thoughts often make me anxious.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

12. I get an upset stomach due to my worrying.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

13. I think of myself as a nervous person.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

14. I always anticipate the worst will happen.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

15. I often feel shaky inside.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

16. I think that my worries interfere with my life.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

17. My worries often overwhelm me.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

18. I sometimes feel a great knot in my stomach.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

19. I miss out on things because I worry too much.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

20. I often feel upset.
    1. Strongly disagree
    2. Somewhat disagree
    3. Neutral
    4. Somewhat agree
    5. Strongly agree

APPENDIX D

INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH APPROVAL

MISSISSIPPI STATE UNIVERSITY

Office of Research Compliance

Institutional Review Board for the Protection of Human Subjects in Research
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P. 662.325.3294

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NOTICE OF DETERMINATION FROM THE HUMAN RESEARCH PROTECTION PROGRAM

DATE: November 20, 2017
TO: Carolyn Adams-Price, PhD, Psychology, Danielle Nadorff;Katherine Peterson;Michael Nadorff
PROTOCOL TITLE: Aging, Anxiety, Creativity, and Well-Being: An MTURK study
PROTOCOL NUMBER: IRB-17-546
Approval Date: November 20, 2017 Expiration Date: November 19, 2022

EXEMPTION DETERMINATION

The review of your research study referenced above has been completed. The HRPP had made an Exemption Determination as defined by 45 CFR 46.101(b)2. Based on this determination, and in accordance with Federal Regulations, your research does not require further oversight by the HRPP.

Employing best practices for Exempt studies are strongly encouraged such as adherence to the ethical principles articulated in the Belmont Report, found at www.hhs.gov/ohrp/regulations-and-policy/belmont-report/# as well as the MSU HRPP Operations Manual, found at www.orc.msstate.edu/humansubjects. Additionally, to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so.

Based on this determination, this study has been inactivated in our system. This means that recruitment, enrollment, data collection, and/or data analysis **CAN** continue, yet personnel and procedural amendments to this study are no longer required. **If at any point, however, the risk to participants increases, you must contact the HRPP immediately. If you are unsure if your proposed change would increase the risk, please call the HRPP office and they can guide you.**

If this research is for a thesis or dissertation, this notification is your official documentation that the HRPP has made this determination.

If you have any questions relating to the protection of human research participants, please contact the HRPP Office at irb@research.msstate.edu. We wish you success in carrying out your research project.

Review Type: EXEMPT
IRB Number: IORG0000467