Attachment to God and death anxiety in later life : does race matter?

Jung, Jong Hyun

2018

Jung, J. H. (2018). Attachment to God and death anxiety in later life : does race matter?.
Research on Aging, 40(10), 956-977. doi:10.1177/0164027518805190

<https://hdl.handle.net/10356/106574>

<https://doi.org/211277>; <https://doi.org/211277>;
<https://doi.org/10.1177/0164027518805190>;
<https://doi.org/211277>

© 2018 The Author(s). All rights reserved. This paper was published by SAGE Publications in
Research on Aging and is made available with permission of The Author(s).

Downloaded on 26 Apr 2023 21:27:12 SGT

Jung, Jong Hyun. 2018. "Attachment to God and Death Anxiety in Later Life: Does Race Matter?" *Research on Aging*. 40(10): 956-977.

Attachment to God and Death Anxiety in Later Life: Does Race Matter?

Abstract

Research suggests that religion plays a critical role in individuals' attitudes toward death in later life. The purpose of this study is to investigate whether a previously unexamined aspect of religion—secure attachment to God—is associated with death anxiety among U.S. older adults and whether this association varies across race. Using longitudinal data from a representative sample of adults aged 65 and older (N=936), the analyses reveal that secure attachment to God is associated with a decrease in death anxiety over time. Further, the negative association between secure attachment to God and change in death anxiety is greater for older Blacks than their White counterparts. These results indicate that religion serves a protective function against death anxiety in later life. Moreover, religion provides greater psychological benefits for older Blacks than older Whites, reinforcing a long-standing claim that religion is particularly valuable for individuals from marginalized backgrounds

Keywords: religion, attachment to God, death anxiety, race, longitudinal analysis

Attachment to God and Death Anxiety in Later Life: Does Race Matter?

Considerable research has paid attention to the link between religion and psychological well-being in later life (Bradshaw, Ellison, Fang, & Mueller, 2015; Hill, Burdette, Taylor, & Angel, 2016; Krause & Hayward, 2013). A recent advance in this line of research has been to clarify the role of subjective beliefs about God in the lives of older adults (Bradshaw & Kent, 2018; Schieman, Bierman, & Ellison, 2010). Given the difficulty that older adults may have in participating in organizational religious life (e.g., religious attendance) due to deteriorating health (Kelley-Moore & Ferraro, 2001), beliefs about the divine are a critical means of involvement in religious institutions. In particular, research has emphasized the importance of “secure attachment to God” – a set of divine beliefs that views God as the “ultimate attachment figure” who is loving, caring, and supportive (Kirkpatrick, 2004). Empirical evidence confirms that a secure attachment to God has been linked to higher levels of self-esteem and optimism in later life (Bradshaw & Kent, 2018). In addition, believing that one has a secure attachment to God amplifies the positive association between feeling forgiven by God and psychological well-being among older adults (Kent, Bradshaw, & Uecker, 2018).

In an effort to extend the scope of previous research, this study examines the association between a secure attachment to God and change in death anxiety in later life. The motivation to explore this link evolves from three observations in prior literatures. First, although there are some exceptions, the available evidence suggests that, in general, people become more religious as they get older (Krause, 2008). Second, individuals deprived of attachment figures are inclined to establish a bond to a compensatory attachment figure (e.g., God) to fulfill their attachment needs (Granqvist & Hagekull, 2000). While some research

shows that age is positively related to the presence of higher quality relationships (Shaw, Krause, Liang, & Bennett, 2007), older adults tend to experience a decline in the size of their social networks (Ajrouch, Antonucci, & Janevic, 2001). As a response to the loss of social connections, older adults are more likely than younger adults to turn to God as a substitute attachment figure (Cicirelli, 2004). Third, the theoretical work of Butler (1963) holds that as death draws near, older adults tend to engage in a life review process in which they reflect on the course of their life. In some cases, this life review may reveal sources of contentment about one's earlier life, which may help prepare for death. However, the life review process may also have negative psychological consequences, especially when "the process proceeds in isolation in those who have been deeply affected by increasing contraction of life attachments" (Butler, 1963: 69). Moreover, when older adults believe in a wrathful God, the life review process may increase a sense of guilt about past actions, which can lead to higher levels of death anxiety (Butler, 1963). Conversely, individuals who view God as loving and supportive may exhibit lower feelings of death anxiety in later life. Taken together, these findings from three independent bodies of research suggest that people may become more religious and develop a closer personal relationship with God (e.g., secure attachment to God) as they age. In the process, believing that God is an attachment figure may help older adults review their past experiences in a positive way, which in turn may reduce death anxiety.

In addition, the current research examines how the association between attachment to God and death anxiety differs by race. A growing body of literature investigates how psychological effects of divine beliefs vary by race in later life (Krause, 2005; Schieman, Pudrovska, Pearlin, & Ellison, 2006; Schieman et al., 2010). There are compelling theoretical and empirical arguments for race differences in the ways that secure attachment to God is

associated with death anxiety. For instance, the deprivation-compensation thesis holds that individuals belonging to disadvantaged social groups are more likely to develop a strong intrinsic religiosity to compensate for their suffering and to acquire otherwise-unobtainable rewards (Glock, 1964). In particular, a close, personal relationship with God represents a distinctive feature of African-American religious culture. Moreover, prior evidence shows that individuals from marginalized backgrounds and statuses tend to gain greater psychological benefits from religious involvement in later life (Ellison, Schieman, & Bradshaw, 2014). For example, the positive relationship between beliefs in divine control and one's sense of mattering is stronger for older Blacks than older Whites (Schieman et al., 2010). Based on these theoretical perspectives and empirical evidence, this study proposes that secure attachment to God is more negatively associated with death anxiety among older Blacks than their White counterparts. The current study tests these ideas by analyzing data from the Religion, Aging, and Health Survey—a panel survey of a nationwide, representative sample of older U.S. adults in 2001 and 2004. The panel structure of the data enables me to better understand the directions of effect, allowing for more stringent tests of divine beliefs' effect on death anxiety. Collectively, this study contributes to the literature by advancing theoretical views about the complex linkages among religion, race, and psychological well-being in later life.

THEORETICAL AND EMPIRICAL BACKGROUND

Religiosity and Death Anxiety in Later Life

Human beings tend to view death as an existential crisis, which often leads to anxiety

about death and the dying process. Death anxiety is regarded as one of the most pervasive concerns for older adults in the United States (Cicirelli, 2002). Given its prominence in later life, numerous studies have identified several antecedents of death anxiety, one of which is religion (Daaleman & Dobbs, 2010; Krause, 2015; Wink & Scott, 2005). Religion is an important predictor of death anxiety because of its link to fundamental existential questions such as the possibility of an afterlife (Dezutter et al., 2008). Some theorists suggest that religion provides individuals with a sense of meaning that may protect against anxiety provoked by the awareness of death (Vail, Rothschild, Weise, Solomon, Pyszczynski, & Greenberg, 2010). In particular, terror management theory holds that people, who are naturally frightened by their own inevitable death, turn to culturally developed worldviews that have been designed to allay their fears (Cicirelli, 2002; Vail et al., 2010). Perhaps religious worldviews may be most effective in serving these needs because religion provides assurances of some form of eternity. As Friedman observes (2008: 231), “one of the most important functions of religious belief is reducing the terror surrounding the prospect of one’s mortality.”

However, prior studies provide mixed results about the relationship between religion and death anxiety. While about half of these studies have documented salutary effects of religion on death anxiety, others have reported curvilinear, null, or even detrimental consequences (Ellis & Wahab, 2013). These divergent findings are likely due to differences in sampling techniques, sample size, and operationalization of religiosity (Ellis & Wahab, 2013). In particular, because religion is a complex, multidimensional construct that can be measured in various ways, a broad range of religious beliefs and experiences should be examined. The current study seeks to address this issue by examining whether an overlooked aspect of

religiosity—secure attachment to God—is associated with death anxiety in later life. In light of the fact that various aspects of religiosity differ in terms of how they influence feelings of death anxiety, an examination of the role of secure attachment to God will move the literature forward, expanding our knowledge about the association between religion and death anxiety.

Attachment to God and Death Anxiety

What is the relationship between secure attachment to God and death anxiety? Attachment theory may be helpful here. Developed and formulated by Bowlby (1969) in the study of children and parents, attachment theory helped explain how and why infants become emotionally tied to their primary caregivers. Bowlby (1969) observed that infants engaged in proximity-seeking behavior in search of a safe haven of protection in an uncertain, dangerous environment. When an attachment figure is near, responsive, and kind, an infant tends to form secure attachment bonds—the prototypical type of attachment. By contrast, avoidant attachments are associated with an attachment figure who is not near, responsive, or kind. In addition, an attachment figure who is inconsistent in his/her caretaking tends to produce children with anxious attachments. Prior research has documented links between attachment styles and mental health; secure attachment is associated with better mental health whereas avoidant and anxious attachment are associated with worse mental health (Lee & Koo, 2015; Riggs & Jacobvitz, 2002).

Scholars began to apply attachment theory to the social scientific study of religion because, like the parent-child relationship, close bonds that form between humans and God meet the criteria for attachments (Kirkpatrick, 2004; Rowatt and Kirkpatrick 2002).

According to Kirkpatrick and Shaver (1992: 267), “much like an infant’s primary caregiver, God may serve as a secure base and as a safe haven of safety and comfort for believers.” Consistent with this view, some religious traditions portray God as a personal being who cares deeply about human beings and their well-being (Jung, 2015). In addition, people often turn to religion and God when they are confronted by a crisis; they engage in prayer as a proximity-seeking behavior by which they seek aid and comfort from God in times of distress (Pargament, 2001).

These extensions of attachment theory have provided useful insights into the ways that secure attachment to God may influence death anxiety in later life. First, individuals with secure attachments to God believe that God will provide care and protection from harm in the face of their impending death. This belief may offer the faithful a sense of security and predictability that buffers against the fear of death. Second, secure attachment to God may strengthen one’s belief that he/she can get into heaven after death. As stated by Vail et al., (2010: 86), “supernatural agents serve as gatekeepers to an afterlife.” If God decides whether one goes to heaven or hell, people with secure attachments to God may be confident that they can expect a good afterlife—one that is even better than the present. This optimism about the afterlife may reduce anxiety about one’s inevitable death. Third, those with secure attachments to God may cultivate a strong sense of self-worth. From a symbolic interactionist perspective, individuals develop a sense of self through social interaction and reflection of the views of others (Mead, 1934). This view can be extended to divine interaction, such that God can become a significant other whose support and favor can enable individuals to see themselves in a positive light. Hence, the belief that God is an attachment figure may contribute to one’s self-esteem, which can potentially mitigate the strong feelings of death

anxiety (Cicirelli, 2002; Vail et al., 2010). This line of reasoning leads to the following hypothesis:

H1: Secure attachment to God will be associated with a decrease in death anxiety over time.

Variation across Race

In addition to assessing the ways that secure attachment to God is associated with death anxiety, the current research investigates how this association varies by one of the core dimensions of stratification: race. The rationale for this part of the analysis is grounded in a long-standing tradition of sociological theory about the link between social stratification and religiosity. The “deprivation-compensation” theory predicts that disadvantage will generate a strong internal commitment to God to compensate for struggles in this life and secure rewards in the afterlife (Glock, 1964). Congruent with this theoretical view, prior studies have found that African Americans have higher levels of feeling close to God than their White counterparts (Jones, 2001; Krause, 2005). If older Blacks feel more closely connected to God, they may also feel more securely attached to God than older Whites. Applied in the context of the current study, these ideas imply that if secure attachment to God has beneficial effects on death anxiety, older Blacks may reap greater psychological benefits from this belief compared to their White counterparts because they have higher feelings of secure attachments to God in the first place.

The current study moves this line of argument further by stating that there is something qualitatively unique about the nature of secure attachment to God that helps strengthen its effects among older Blacks. Owing to centuries of discrimination and prejudice,

the church occupies a central place in the lives of African Americans (Nelsen & Nelsen, 1975). More importantly, this orientation translates into the ways that they relate to God, such that African American communities have developed a distinct religious culture that places great emphasis on the divine relation and closeness to God (Mattis & Jagers, 2001). Because many of the adversities faced by African Americans stem from social structural sources that systematically deprive them of secular resources, God assumes an increasingly prominent role as a coping resource for many African Americans (Krause, 2007). This view is expressed by Carter (1976: 38) who argued that “Black people believed that a personal relationship with God was absolutely necessary. God had to be known at this level, so that the supportive sense of God’s presence could provide a lift for life’s burdens and encounters.” This profound sense of intimacy with the divine may lead to a supportive view of the relationship between humans and God; that is, God is regarded as a personal friend who is directly involved in life (Black, 1999). Viewed in this way, God is a more critical figure among African Americans. As a result, one’s perceived relationship with God (e.g., secure attachment to God) may play a larger role in reducing feelings of death anxiety for older Blacks compared to older Whites. The foregoing discussion leads to the following hypothesis:

H2: The extent to which secure attachment to God is associated with a decrease in death anxiety over time will be greater for older Blacks than older Whites.

DATA AND METHODS

Sample

The current study employs the first and second waves of data, hereafter W1 and W2,

from the Religion, Aging, and Health Survey, a nationally representative sample of older U.S. adults interviewed in 2001 and 2004. At W1, the study population was designed as noninstitutionalized, English speaking White or Black household residents who were living in the contiguous United States and who were at least 65 years of age. In addition, this study collected data from those who currently practice the Christian faith, those who used to be Christian but no longer practice any religion, and those who have never been associated with any religion during their lifetimes. Thus, the sample primarily draws from those who have a knowledge of practicing Christianity at any point in their lifetime. Because it is not easy to devise a comprehensive set of religion measures that are suitable for persons of all faith, individuals who currently practice a faith other than Christianity (e.g., Judaism and Islam) were excluded from the study design.

At W1, a total of 1,500 participants completed face-to-face, in-home interviews in 2001. The response rate for the baseline interviews was 62%. Although the data for this study were provided by a nationally representative sample of older adults, the survey oversampled older blacks such that they represented roughly half the sample (734 Blacks and 759 Whites). Three years later, the W2 interviews were conducted. The interview rate for the second wave was 68.2%, meaning that of the initial 1,500 survey participants, 1,024 successfully participated in the W2 survey. Attrition occurred across the two waves of data because the survey focused on older adults. Several factors contributed to attrition: 11 respondents were ineligible to participate due to institutionalization, 70 were too ill to participate, 75 refused to participate, 112 could not be located, and 208 were deceased.

Of the 1,024 participants, a total of 3 study participants identified with racial groups other than White or Black (e.g., Hispanic and American Indian). Due to their small number,

these respondents were excluded from the analyses. Of the remaining 1,021 participants, the current study employed listwise deletion to deal with missing data on account of item nonresponse. After using listwise deletion, complete data were available for 936 respondents who participated in both waves. This study reports the results based on this final analytical sample. However, to evaluate the robustness of the results derived from listwise deletion, this study used multiple imputations techniques and conducted separate analyses with the full 1,021 cases. The conclusions from these analyses were consistent with those from listwise deletion. In terms of post-stratification sample weights, the current study does not use them because the analytic models included most of the variables that were used to construct the post-stratification weights (Winship & Radbill, 1994). Moreover, in light of our focus on race as a moderating influence in the link between secure attachment to God and death anxiety, using the unweighted sample with an oversampling of older Blacks would enhance the number of Black respondents for assessing racial differences.

Dependent variable

Death anxiety. Death anxiety was measured with a mean index composed of the following four items available at both waves of the data: (1) “I find it hard to face up to the fact that I will die”; (2) “Thinking about death makes me feel uneasy”; (3) “I do not feel prepared to face my own death”; and (4) “I am disturbed by the shortness of life.” Response categories ranged from 1 = “strongly disagree” to 4 = “strongly agree.” The Cronbach’s alpha for this index is .859 at W1 and .892 at W2.

Independent variables

Secure attachment to God. Attachment to God was measured at W1 with an index composed

of the mean value from the following six items: (1) “I have a close personal relationship with God”; (2) “I feel that God is right here with me in everyday life”; (3) “When I talk to God, I know he listens to me”; (4) “God protects me”; (5) “I look to God for strength in a crisis”; and (6) “I look to God for guidance when difficult times arise.” Response options for the first four items ranged from 1 = “strongly disagree” to 4 = “strongly agree.” For the last two items, response categories ranged from 1 = “not at all” to 4 = “a great deal.” Principal component analysis shows that these items load onto a single factor with an eigenvalue of 4.245 (Cronbach’s $\alpha = .911$). These measures are parallel to those used in prior studies (Bradshaw & Kent, 2018; Kent et al., 2018). In light of prior evidence that there is a curvilinear relation between religiousness and death anxiety in later life (Wink & Scott, 2005), the current study tested whether secure attachment to God has a nonlinear association with death anxiety and detected no clear nonlinear patterns.

Race. Race was measured at W1 and coded as a binary variable (1 = “black” and 0 = “white”).

Covariates

Health. Based on prior evidence that physical health is a predictor of both death anxiety and religious involvement among older adults (Cicirelli, 2002; Kelley-Moore & Ferraro, 2001), this study controls for self-rated health. Self-rated health was evaluated with a question at W1 that asks: “How would you rate your overall health at the present time?” Response categories range from 1 = “poor” to 4 = “excellent.”

Other forms of religious involvement. To account for the possibility that a secure attachment to God reflects more general processes of religious involvement that influence death anxiety, the current study adjusts for both organizational and non-organizational aspects of religious

involvement: religious attendance and private prayer. One item asks about the frequency of attending religious services at W1. Response choices range from 1 = “never” to 9 = “several times a week.” The measure for private prayer is based on a question that asks at W1: “How often do you pray by yourself?” Response categories range from 1 = “never” to 8 = “several times a day.” Moreover, given that divine beliefs vary across religious affiliation (Noffke & McFadden, 2001), this study controls for religious affiliation by including the following set of binary indicators: Catholic, Protestant, other Christian, and “all else.” Other Christian refers to survey respondents who selected “Other” in a question regarding religious preference but acknowledged later that it was part of the Christian faith in a follow-up question. Finally, the “all else” category represents survey participants who either were unsure about their religious preference or declined to answer the question on this topic. Protestant serves as the reference group.

Demographic variables. Alongside health and religious involvement, it is essential to control for demographic variables that are associated with our focal measures (Cicirelli, 1999).

Gender was measured at W1 and dummy-coded as 1 = “women” and 0 = “men.” Age was measured in years at W1. Marital status is measured at W1 as a series of binary variables.

This study used separate dummy-coded variables for “married,” “widowed,”

“divorced/separated,” and “single” with “married” serving as the reference group. To measure socioeconomic status, this study relies on education and perceived financial strain following the literature (Bradshaw et al., 2015). Educational attainment was measured at W1 in total years of schooling. Perceived financial strain is measured at W1 with the following two items: (1) “In general, how do (your / your family’s) finances work out at the end of the month?” (1 = “money left over” to 3 = “not enough to make ends meet”) and (2) “How much

difficulty do you have in meeting the monthly payments on (your / your family's) bills?" (1 = "none" to 4 = a great deal"). Because these two items have different response categories, they were standardized prior to the construction of the index (Cronbach's alpha = .745).

Analytical strategy

Three steps were taken for data analysis. First, this study provides descriptive statistics for all study variables for the sample as a whole, as well as for comparing Black and White respondents. Second, bivariate correlations are presented between key dependent and independent measures. Third, OLS lagged dependent variable models are estimated to predict change in death anxiety by regressing W2 death anxiety on W1 death anxiety, key independent variables (W1), and covariates (W1). Next, in order to assess how the association between secure attachment to God and change in death anxiety differs by race, this study introduces interaction terms between secure attachment to God and race into the models. In conducting these longitudinal analyses, Heckman's (1979) selection bias models were employed to address the concern that sample attrition might produce biased parameter estimates. Using probit regression analyses, this study distinguished between respondents who participated in the follow-up survey and those who did not. Based on these analyses, this study obtained the Mills inverse ratio and included it in the substantive regression models. This procedure helps to correct for any bias that arises from sample attrition. To address the concern of multicollinearity, this study centered continuous variables (e.g., secure attachment to God) before creating interaction terms (Aiken & West, 1991). Variance Inflation Factor statistics show that multicollinearity does not influence the results.

RESULTS

Table 1 presents descriptive statistics for all study variables for the sample as whole, as well as compared between White and Black respondents. Results show that levels of death anxiety were moderate and declined slightly, but non-significantly, between waves. The average respondent was around 75 years old. The sample was nearly equally split between White and Black older adults. Almost 64% of the respondents were women, 53.2% were married, and 73.8% were Protestant. The average respondent had roughly 11.6 years of formal education and a relatively low level of financial strain. On scales of 1–4, a mean level of self-rated health was 2.713. On average, respondents reported attending religious services two to three times a month and praying almost once a day. More importantly, secure attachment to God had a mean of 3.565 on a 1-4 scale. Regarding differences between Whites and Blacks, Black older adults were more likely than their White counterparts to be female, divorced/separated, widowed, Protestant, less educated, and financially more strained. Moreover, Black older adults reported worse self-rated health than Whites. Most importantly, Black respondents reported feeling more securely attached to God and reported higher levels of religiosity (e.g., attendance and private prayer) than their White counterparts.

[Table 1 about here]

Table 2 displays bivariate correlations for death anxiety and key independent variables. The correlations between secure attachment to God and death anxiety at both waves are negative and statistically significant ($r = -.106$ at W1 and $-.120$ at W2). In addition, being Black is positively correlated with secure attachment to God ($r = .319$). These findings suggest that secure attachment to God has a beneficial and statistically significant relationship

with death anxiety among older adults.

[Table 2 about here]

Table 3 shows the results of OLS regressions of death anxiety at W2 on W1 death anxiety scores, secure attachment to God, and covariates. Model 1 reveals that race is unrelated to death anxiety at W2. However, secure attachment to God is negatively associated with death anxiety at W2, net of W1 death anxiety and other covariates ($b = -.157$; $p < .01$). This suggests that secure attachment to God is associated with a decrease in death anxiety across the two waves of data. This finding lends support to H1. With regard to effect size, secure attachment to God has a larger standardized effect than education.

[Table 3 about here]

Model 2 includes an interaction term between secure attachment to God and race. Results reveal a significant interaction between secure attachment to God and race ($b = -.288$; $p < .01$), suggesting that the association between secure attachment to God and change in death anxiety differs for White and Black older adults. Figure 1 graphically shows this interaction effect by displaying predicted values of death anxiety at W2 for both groups after adjusting for all of the variables in the model. It demonstrates that the slope between secure attachment to God and death anxiety is relatively flat among older Whites. By contrast, although death anxiety is highest among older Blacks with low levels of secure attachment to God, it decreases sharply as secure attachment to God increases; levels of death anxiety become similar to that of their White counterparts when older Blacks have high levels of secure attachment to God. This suggests that the protective effects of secure attachment to God on change in death anxiety are greater for older Blacks than for older Whites. Ancillary

analyses (not shown here) conducted separately for older Blacks and older Whites confirmed this pattern, as secure attachment to God is associated with a decline in death anxiety over time for Black older adults ($b = -.382$; $p < .01$), but not for White older adults ($b = -.100$; $p > .10$). Taken together, these observations are consistent with H2.

[Figure 1 about here]

CONCLUSION AND DISCUSSION

Death anxiety is an important indicator of psychological well-being for elderly people because they tend to contemplate death as they approach the end of their lives. The purpose of the study is to examine (1) how a secure attachment to God is associated with death anxiety among U.S. older adults; and (2) how this association varies by race. Findings in the study generally lend support to the hypotheses. First, secure attachment to God is associated with a decrease in death anxiety across two waves of data net of other forms of religious involvement, health status, and demographic variables. Second, the analyses reveal that race moderates this association. Specifically, secure attachment to God is more strongly associated with decreased death anxiety among older Blacks than older Whites.

The current study contributes to the literature on the connection between religion and death anxiety in several ways. First, this study finds that secure attachment to God is associated with a decline in death anxiety over time among older adults. A substantial body of research has linked various aspects of religion with death anxiety in later life (Bradshaw et al., 2015; Daaleman & Dobbs, 2010; Wink & Scott, 2005). Yet, because religion is a complex multidimensional construct, scholars have not explored all of the ways that religion is

associated with death anxiety (Krause, Pargament, & Ironson, 2018). Thus, Krause (2015: 21) claims that “a broader array of religion measures is needed to more adequately depict the way in which involvement in religion may influence feelings of death anxiety.” The current study responds to this call by focusing on the role of secure attachment to God in shaping death anxiety. To the best of my knowledge, this is the first study to systematically demonstrate the positive effect of secure attachment to God on death anxiety among older adults, adding to a list of dimensions of religiosity that mitigates death anxiety in later life.

Second, the current study underscores the importance of one’s perceived relationship with God in later life. Some research shows that one’s belief about God (e.g., God-mediated control, forgiveness by God) is associated with lower levels of death anxiety among older adults (Krause, 2005; 2015). The current study augments this literature by showing that secure attachment to God also reduces feelings of death anxiety over time. Considering that the aging process is often characterized by a loss of previous attachment figures (e.g., family members and friends), the current study has some important implications for successful aging, casting light on how divine beliefs are beneficial for mental well-being in later life (Bradshaw & Kent, 2018). Notably, the findings in the study demonstrate that secure attachment to God has its own independent associations with death anxiety net of other indicators of religious involvement. In particular, the protective effect of secure attachment to God against death anxiety persists even controlling for frequency of religious attendance, which suggests that secure attachment to God affects death anxiety over and above the effect of religious attendance. This pattern is important for older adults because they typically have more difficulty participating in congregational life on a regular basis due to physical limitations and health problems. Collectively, the current study shows that a secure attachment to God

may serve as a crucial protective factor among older adults.

Third, the current study shows that the protective effects of secure attachment to God are not similar across racial groups. Specifically, secure attachment to God serves a greater protective function against death anxiety for older Blacks than older Whites. These findings are congruent with prior studies showing that Blacks gain the most benefit, at least psychologically, from religious practices (Pargament, 2002). In some sense, this speaks to a long-standing theoretical argument that religion is more influential for people from marginalized social backgrounds (Glock, 1964; Schieman et al., 2010). Because African Americans occupy a disadvantaged position in American society, the church assumes a prominent place in the Black community. Further, having a close relationship with God is a core feature of religious life for many older Blacks partly due to their limited access to secular resources to deal with the adversities they face (Krause, 2007). Therefore, divine relations play a significant role in the Black community. By extension, then, the bond with the divine may be more consequential for the mental well-being of African Americans compared to their White counterparts. Hence, a secure attachment to God may become a more effective option for older Blacks to cope with death anxiety.

Fourth, these observations about racial differences may have implications for research on death anxiety. Theory suggests that because of a long history of discrimination, African Americans are more vulnerable to factors that contribute to death anxiety (e.g., poorer health care, greater losses of family members, less safety) than Whites. Despite the plausibility of this theoretical view, prior research presents discrepant findings about race and death anxiety in later life. Some research shows that older Blacks report higher levels of death anxiety than older Whites (Myers, Wass, & Murphey, 1980), but other studies find that

African Americans exhibit similar, or even lower levels of death anxiety than their White counterparts in later life (Cicirelli, 1999; 2002). This body of work may suggest that African Americans may have some special resource that protects them against feelings of death anxiety. The findings from the current study indicate that a secure attachment to God may be one such protective resource. Collectively, the current study underscores the importance of examining the interaction between religion and social status in research on death anxiety.

Following on the previous point, supplemental analysis not shown here reveals that secure attachment to God is not associated with a change in death anxiety among older Whites. Why is secure attachment to God hardly relevant in terms of reducing death anxiety for White older adults? One possible explanation may involve socioeconomic status. That is, as older Whites often have greater access to secular resources that can diminish death anxiety, the protective role of secure attachment to God becomes less salient for them. Moreover, some qualitative research has shown that older Whites tend to describe the divine other in terms that are more impersonal, detached, and abstract (McAuley, Pecchioni, & Grant, 2000). Consequently, in White religious culture, divine beliefs may simply be less relational, which may hamper the ability of secure attachment to God to lessen feelings of death anxiety. Each of these ideas—resources versus cultural explanations—is speculative and deserves closer scrutiny in future research.

Like most studies, the current study has some limitations. To begin with, the current analyses are limited in scope because they are based on a sample of people who are primarily Christians. Thus, it is difficult to generalize the findings to other religious groups. Past works show that different religious traditions have different views on God(s), death, and the after-life (Chaiwutikornwanich, 2015). Therefore, secure attachment to God may be related to

death anxiety in different ways in other religious traditions. In a similar vein, the sample in the study consists of mostly Whites and African Americans. Attachment to God may serve a unique function for individuals from different racial groups. For example, Latinos sustain a religious worldview that emphasizes God's grace and love in everyday life (Gonzales, 2002). *Lo cotidiano* (referring to daily lived experience) is a central feature of U.S. Latino/a theology, and it is in Latinos' daily lives that they struggle to survive and experience the salvific presence of God. This worldview can account for the prevalence of religious experiences that involve God's intervention in the lives of believers both among Latino Catholics and Protestants (Jung, Schieman, & Ellison, 2016). Therefore, secure attachment to God may play a central role in shaping death anxiety among Latinos. Taken together, future investigations may consider examining the association between secure attachment to God and death anxiety in other racial or religious groups.

These limitations notwithstanding, the current study makes a valuable contribution to the literature on religion and death anxiety by (1) analyzing the ways that secure attachment to God influences change in death anxiety based on longitudinal data; (2) examining how the effects of secure attachment to God on death anxiety differ by race. In sum, the findings in the study add to a growing body of literature on divine beliefs and psychological well-being among older adults. Further, the current study highlights the importance of examining stratification-based differences in the effect of religion on psychological well-being in later life.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Ajrouch, K. J., Antonucci, T. C., & Janevic, M. R. (2001). Social networks among blacks and whites: The interaction between race and age. *Journals of Gerontology: Social Sciences*, 56, S112-S118.
- Black, H. K. (1999). Poverty and prayer: Spiritual narratives of elderly African-American women. *Review of Religious Research*, 40, 359-74.
- Bowlby, J. (1969). *Attachment and loss, Vol. 1: Attachment*. New York, NY: Basic Books.
- Bradshaw, M., Ellison, C. G., Fang, Q., & Mueller, C. (2015). Listening to religious music and mental health in later life. *The Gerontologist*, 55, 961–971.
- Bradshaw, M., & Kent, B. V. (2018). Prayer, attachment to God, and changes in psychological well-being in later life. *Journal of Aging and Health*, 30, 667-691.
- Butler, R. N. (1963). The life review: An interpretation of reminiscence in the aged. *Psychiatry*, 26, 65-76.
- Carter, H. A. (1976). *The prayer tradition of black people*. Valley Forge, PA: Judson Press.
- Chaiwutikornwanich, A. (2015). Belief in the afterlife, death anxiety, and life satisfaction of Buddhists and Christians in Thailand: Comparisons between different religiosity. *Social Indicators Research*, 124: 1015-1032.
- Cicirelli, V. (1999). Personality and demographic factors in older adults' fear of death. *The*

Gerontologist, 39, 569–579.

Cicirelli, V. (2002). Fear of death in older adults: Predictions from terror management theory. *Journal of Gerontology: Psychological Sciences*, 57B, P358–P366.

Cicirelli, V. (2004). God as the ultimate attachment figure for older adults. *Attachment & Human Development*, 6, 371-388.

Daaleman, T. P., & Dobbs, D. (2010). Religiosity, spirituality, and death attitudes in chronically ill older adults. *Research on Aging*, 32, 224-243.

Dezutter, J., Soenens, B., Luyckx, K., Bruyneel, S., Vansteenkiste, K., Duriez, B., & Hutsebaut, D. (2008). The role of religion in death attitudes: Distinguishing between religious belief and style of processing religious contents. *Death Studies*, 33, 73–92.

Ellis, L., & Wahab, E. A. (2013). Religiosity and fear of death: A theory-oriented review of the empirical literature. *Review of Religious Research*, 55, 149-189.

Ellison, C. G., Schieman, S., & Bradshaw, M. (2014). The association between religiousness and psychological well-being in late life: Is there an educational gradient? In L. A. Keister & D. E. Sherkat (Eds.), *Religion and inequality: Research and theory on religion's role in stratification* (pp. 263-288). New York, NY: Cambridge University Press.

Friedman, M. (2008). Religious fundamentalism and responses to mortality salience: A quantitative text analysis. *International Journal for the Psychology of Religion*, 18, 216–237.

Glock, C. Y. (1964). The role of deprivation in the origin and evolution of religious groups. In R. Lee & M. E. Marty (Eds.), *Religion and social conflict* (pp. 24-36). New York, NY: Oxford University Press.

Gonzales, M. (2002). Latino/a theology: Doing theology Latinamente. *Dialog*, 41, 63-72.

Granqvist, P., & Hagekull, B. (2000). Religiosity, adult attachment, and why “singles” are more religious. *International Journal for the Psychology of Religion*, 10, 111-123.

Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*, 47, 153-161.

Hill, T. D., Burdette, A. M., Taylor, J., & Angel, J. L. (2016). Religious attendance and the mobility trajectories of older Mexican Americans: An application of the growth mixture model. *Journal of Health and Social Behavior*, 57, 118-134.

Jones, A. C. (2001). Upon this rock: The foundational influence of spirituals. In F. Jones & A. C. Jones (Eds.), *The triumph of the soul: Cultural and psychological aspects of African American music* (pp. 3–34). Westport, CT: Praeger.

Jung, J. H. (2015). Sense of divine involvement and sense of meaning in life: Religious tradition as a contingency. *Journal for the Scientific Study of Religion*, 54, 119-133.

Jung, J. H., Schieman, S., & Ellison, C. G. (2016). Socioeconomic status and religious beliefs among U.S. Latinos: Evidence from the 2006 Hispanic Religion Survey. *Review of Religious Research*, 58, 469–493.

Kelley-Moore, J. A., & Ferraro, K. F. (2001). Functional limitations and religious service attendance: Barrier and benefit mechanisms. *Journal of Gerontology: Social Sciences*, 56B, S365-S373.

Kent, B. V., Bradshaw, M., & Uecker, J. E. (2018). Forgiveness, attachment to God, and mental health outcomes in older U.S. adults: A longitudinal study. *Research on Aging*, 40,

456-479.

Kirkpatrick, L. A. (2004). *Attachment, evolution, and the psychology of religion*. New York, NY: Guilford Press.

Kirkpatrick, L. A., & Shaver, P. R. (1992). An attachment-theoretical approach to romantic love and religious belief. *Personality and Social Psychology Bulletin*, 18, 266–275.

Krause, N. (2005). God-mediated control and psychological well-being in late life. *Research on Aging*, 27, 136-164.

Krause, N. (2007). Stressors arising in highly values roles and changing in feeling close to God over time. *The International Journal for the Psychology of Religion*, 17, 17-36.

Krause, N. (2008). *Aging in the church: How social relationships affect health*. West Conshohocken, PA: Templeton Foundation Press.

Krause, N. (2015). Trust in God, forgiveness by God, and death anxiety. *OMEGA-Journal of Death and Dying*, 72, 20-41.

Krause, N., & Hayward, R. D. (2013). Prayer beliefs and change in life satisfaction over time. *Journal of Religion and Health*, 52, 674-694.

Krause, N., Pargament, K. I., & Ironson, G. (2018). In the shadow of death: Religious hope as a moderator of the effects of age on death anxiety. *Journals of Gerontology: Social Sciences*, 73, 696-703.

Lee, J., & Koo, H. J. (2015). The relationship between adult attachment and depression in Korean mothers during the first 2 years postpartum: A moderated mediation model of self-

esteem and maternal efficacy. *Personality and Individual Differences*, 79, 50-56.

Mattis, J. S., & Jagers, R. J. (2001). A relational framework for the study of religiosity and spirituality in the lives of African Americans. *Journal of Community Psychology* 29, 519–39.

McAuley, W. J., Pecchioni, L., & Grant, J. A. (2000). Personal accounts of the role of God in health and illness among older rural African American and white residents. *Journal of Cross-Cultural Gerontology*, 15, 13–35.

Mead, G. H. (1934). *Mind, self, and society*. Chicago, IL: University of Chicago Press.

Myers, J. E., Wass, H., & Murphey, M. (1980). Ethnic differences in death anxiety among the elderly. *Death Education*, 4, 237-244.

Nelsen, H. M., & Nelsen, A. K. (1975). *Black church in the sixties*. Lexington, KY: University of Kentucky Press.

Noffke, J. L., & McFadden, S. H. (2001). Denominational and age comparisons of God concepts. *Journal for the Scientific Study of Religion*, 40, 747–756.

Pargament, K. I. (2001). *The psychology of religion and coping: Theory, research, practice*. New York, NY: The Guilford Press.

Pargament, K. I. (2002). The bitter and the sweet: An evaluation of the costs and benefits of religiousness. *Psychological Inquiry*, 13, 168-81.

Riggs, S. A., & Jacobvitz, D. (2002). Expectant parents' representations of early attachment relationships: Associations with mental health and family history. *Journal of Consulting and Clinical Psychology*, 70, 195–204.

Rowatt, W., & Kirkpatrick, L. A. (2002). Two dimensions of attachment to God and their relation to affect, religiosity, and personality constructs. *Journal for the Scientific Study of Religion*, 41, 637-651.

Schieman, S., Bierman, A., & Ellison, C. G. (2010). Religious involvement, beliefs about God, and the sense of mattering among older adults. *Journal for the Scientific Study of Religion*, 49, 517–535.

Schieman, S., Pudrovska, T., Pearlin, L. I., & Ellison, C. G. (2006). The sense of divine control and psychological distress: Variations across race and socioeconomic status. *Journal for the Scientific Study of Religion*, 45, 529–549.

Shaw, B. A., Krause, N., Liang, J., & Bennett, J. (2007). Tracking changes in social relations throughout late life. *Journal of Gerontology: Psychological Sciences and Social Sciences*, 62B, S90–S99.

Vail, K. E., Rothschild, Z. K., Weise, D. R., Solomon, S., Pyszczynski, T., & Greenberg, J. (2010). A Terror Management analysis of the psychological functions of religion. *Personality and Social Psychology Review*, 14, 84–94.

Wink, P., & Scott, J. (2005). Does religiousness buffer against the fear of death and dying in late adulthood?: Findings from a longitudinal study. *Journal of Gerontology: Psychological Sciences*, 60B, P207-P214.

Winship, C., & Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods & Research*, 23, 230-257.

Table 1. Summary statistics for study variables (N = 936)

	Total Sample (N=936)			White (N=492)		Black (N=444)		Test of differences ^b
Variables	Mean	SD	Range	Mean	SD	Mean	SD	
<i>Dependent variable^a</i>								
Death anxiety (W1)	2.006	.594	1-4	2.028	.576	1.982	.614	
Death anxiety (W2)	1.993	.663	1-4	2.004	.648	1.981	.680	
<i>Independent variables (W1)</i>								
Secure attachment to God	3.565	.581	1-4	3.389	.685	3.760	.345	***
Black	.474	-	0, 1	-	-	-	-	
<i>Covariates (W1)</i>								
Age	75.001	6.064	65-96	75.044	6.084	74.952	6.047	
Female	.636	-	0, 1	.601	-	.676	-	*
Married	.532	-	0, 1	.648	-	.403	-	***
Divorced/separated	.089	-	0, 1	.053	-	.128	-	***
Widowed	.338	-	0, 1	.262	-	.421	-	***
Single	.041	-	0, 1	.037	-	.047	-	
Education	11.588	3.361	1-23	12.745	2.998	10.306	3.277	***
Financial strain	-.058	.891	-.828-2.134	-.349	.746	.263	.927	***
Self-rated health	2.713	.839	1-4	2.869	.814	2.540	.834	***
Religious attendance	6.006	2.660	1-9	5.632	2.863	6.421	2.350	***
Private prayer	6.824	1.824	1-8	6.282	2.151	7.425	1.096	***
Catholic	.181	-	0, 1	.286	-	.063	-	***
Protestant	.738	-	0, 1	.624	-	.865	-	***
Other Christian	.053	-	0, 1	.045	-	.063	-	
All else	.028	-	0, 1	.045	-	.009	-	**

Note: Standard deviations of binary variables are not presented.

^a Two-tailed t-test suggests that the difference in means across the two waves of data is not statistically significant at $p < .05$.

^b For continuous measures, two-tailed t tests of differences between White and Black older adults are presented, while chi-square tests are presented for categorical measures.

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2. Bivariate correlations for focal measures

	Death anxiety (W1)	Death anxiety (W2)	Secure attachment to God	Black
Death anxiety (W1)	-			
Death anxiety (W2)	.282***	-		
Secure attachment to God	-.106**	-.120***	-	
Black	.039	-.017	.319***	-

*p < .05; **p < .01; ***p < .001

Table 3. OLS parameter estimates from the regression of death anxiety (W2) on secure attachment to God (W1) and interaction (N = 936)

Variables	Model 1		Model 2	
	b (S.E.)	beta	b (S.E.)	beta
<i>Independent variables</i>				
Secure attachment to God	-.157 (.056)**	-.137	-.093 (.060)	-.081
Black	-.169 (.188)	-.127	-.093 (.189)	-.070
<i>Interaction</i>				
Secure attachment to God * Black	-	-	-.288 (.096)**	-.118
<i>Covariates</i>				
Age	-.030 (.035)	-.281	-.022 (.035)	-.209
Female	.102 (.193)	.074	.069 (.193)	.050
Divorced/separated ^a	.045 (.077)	.019	.046 (.076)	.020
Widowed ^a	.009 (.051)	.006	.010 (.050)	.007
Single ^a	.085 (.105)	.025	.087 (.105)	.026
Education	-.021 (.007)**	-.111	-.021 (.007)**	-.107
Financial strain	.041 (.026)	.056	.044 (.026)	.060
Self-rated health	-.020 (.026)	-.025	-.016 (.026)	-.020
Religious attendance	.008 (.009)	.035	.009 (.009)	.039
Private prayer	-.006 (.017)	-.018	-.012 (.017)	-.033
Catholic ^b	-.009 (.057)	-.005	-.013 (.056)	-.007
Other Christian ^b	.072 (.092)	.024	.062 (.092)	.021
All else ^b	-.234 (.134)	-.058	-.218 (.133)	-.054
Death anxiety (W1)	.288 (.035)***	.258	.281 (.035)***	.252
Selection λ	1.408 (2.234)	.234	.947 (2.230)	.157
Constant	3.841 (1.431)**	-	2.980 (1.410)*	-
Adjusted R-squared	.103		.110	

Note: Standardized and unstandardized coefficients are shown with standard errors in parentheses.

^a Compared with Married

^b Compared with Protestant

* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 1. The association between secure attachment to God (W1) and death anxiety (W2) by race (W1)

Notes: The lines represent predicted values of death anxiety as secure attachment to God increases while statistically controlling for all other variables in model 2 of table 3.