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Psychological Resilience After Cancer via Religion/Spirituality: Spiritual Capital Through a Life Course Lens

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Religious beliefs and practices are thought to help people confront problems that push the limits of human life. Integrating the life course perspective, we assess whether the accumulation of religiosity ("spiritual capital") between childhood and adulthood had any bearing on its ability to cushion the mental health insults of a cancer diagnosis, factoring in age-at-diagnosis. Using two waves of data from National Survey of Midlife Development in the United States ($N = 1431$), results suggest that stable high religious importance between childhood and adulthood weakened the deleterious mental health consequences of a cancer diagnosis. For individuals under the age of 45, the relationship between a cancer diagnosis and psychological distress was considerably weaker for those reporting stably high or increasing religious importance between childhood and adulthood. We discuss the implications of our results for research at the intersection religion and the life course perspective.

Keywords: *life course, cancer, mental health, religious importance, spiritual capital.*

Introduction

Traversing a life course means experiencing a myriad of events, a few of which may inevitably afford opportunities for growth and advancement, with others delivering hardship or adversity and followed by mental distress. Although the occurrence of affliction is a feature of human existence, some individuals will emerge with long-lasting emotional scars, while others seemingly recover and thrive in the face of hardship. From a life course perspective, a cancer diagnosis can be viewed as a turning point that affects future trajectories of well-being (Taylor 1983). For many people, a diagnosis of cancer is riddled with uncertainty and fear. A diagnosis of this magnitude frequently undermines previously unquestioned trust in the nature of the world and brings to surface thoughts about death, both of which can provoke a crisis of meaning. Amid these seemingly insurmountable obstacles, adjusting to life after a cancer diagnosis can lead to significant psychological distress, indicated by depression and anxiety, as well as a decrease in overall quality life. Recent studies suggest that almost half of adults with cancer seen on an outpatient basis experience clinically significant levels of distress (e.g., Hollingshaus and Utz 2013; Jacobsen and Ransom 2007; Pudrovska 2010). Though not all cancers pose an equal threat to human life nor have the same expected trajectory or prognosis, Holland and Alici (2010:4) note that, "psychological distress is highly prevalent and diverse at all stages of cancer care" (Holland and Alici 2010:4).

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Given these far-reaching challenges presented by a cancer diagnosis, the strategies used to cope with cancer have come under the purview of previous research. The progression and treatment of cancer exists largely outside an individual's control but needs to be navigated nonetheless if health has any chance to be restored. Though a myriad of coping strategies might be at one's disposal, religious beliefs and practices have been identified as especially helpful for people confronting problems that push the limits of human life (Hicdurmaz and Oz 2013). Indeed, past work reveals that cancer patients frequently draw from their religious faith to cope with their illness, with a large majority of cancer patients reporting religious faith to be a noteworthy source of support in their lives (Ashing-Giwa et al. 2004, 2006; Cole et al. 2008; Coreil et al. 2012; Flannelly, Flannelly, and Weaver 2002; Pargament, Desai, and McConnell 2006). Though informative, these studies have tended to rely on small, clinical samples of cancer patients, and do not offer a comparison group of the mental health of individuals not diagnosed with cancer, both limitations of which the current study overcomes.

Although a cancer diagnosis interrupts the idealized life script and individuals' anticipation of their own typically successful (disease-free) life course, how individuals react to this interruption and incorporate it into their anticipated life narratives reflects a more dynamic process of adjusting to life's challenges. Much research attests to the unsettling and distressing nature of the disease experience, but few nationally representative studies have considered the role of religiosity over the life course in helping people temper the mental distress that follows after a burdensome diagnosis (e.g., McFarland et al. 2013).

The purpose of the current study, therefore, is to expand the literature on cancer and mental health by integrating the stress-buffering role of religiosity measured over the life course. Theoretical perspectives suggest that the onset of cancer can have important implications for religiosity and its utility as a stress buffer. This study compares changes in psychological distress among cancer survivors and individuals without cancer using the 1994−1995 (Wave 1) and 2004−2006 (Wave 2) waves of the National Survey of Midlife Development in the United States (MIDUS), a large, community-based, national probability sample of men and women aged 25−74 years of age at baseline. Religious investments may require time and more importantly, continued exposure, to produce returns.

Therefore, this study seeks to fulfill two gaps in our understanding of religious coping and health. First, drawing from the life course perspective, we assess how stability or change in religious importance from childhood into adulthood structure individual's emotional reactions to cancer. Some scholars have posited an accumulation mechanism to be at work, through which stable, frequent attendance might allow religious/spiritual capital, defined as "the familiarity with a religion's doctrines, rituals, traditions, and members that enhances the satisfaction one receives from participation in that religion" (Iannaccone 1990:229; see also Upenieks and Schafer 2020). Assessing religiosity from childhood into adulthood will afford greater purchase on when the stress-buffering effects of religiosity emerge in the life course (Jung 2018) and what "dosage" of religion might be more or less beneficial for dealing with the aftermath of a cancer diagnosis. Second, the life course perspective is also attuned to how the timing of a cancer diagnosis may be influential in the mental health outcomes that follow. We therefore consider the age at cancer diagnosis through the lens of "off-course" life course transitions to assess how religiosity might accumulate over time to act as a more powerful stress buffer. Taken together, understanding how resilience to cancer may be shaped by these life course processes generates new insights into human potential and offers new and deeper understandings of how individuals recover from adversity and sustain healthy mental functioning in the face of an arduous challenge (Zraly and Nyirazinyoye 2010).

Cancer, Religious Coping, and Mental Health

It should come as little surprise that of all the forms of acute illness that could be encountered, a diagnosis of cancer exacts the deepest toll on mental health (Hollingshaus and Utz 2013; Jacobsen and Ransom 2007; Pudrvoska 2010; Schafer and Koltai 2015). Compared to more benign or treatable conditions, cancer often poses a real threat to survival and elevates feelings of existential uncertainty (Taylor 1983). What is more, even patients who receive a favorable prognosis are often subjected to complicated and painful treatment that causes uncomfortable side effects (Peleg-Oren, Sherer, and Soskolne 2003). Beyond the medical experience of a disease, the effect of cancer also tends to seep into other aspects of a patients' life. For instance, cancer can elevate financial burden, disrupt employment, and create strains in family and social relationships (Roberts et al. 1997). Altogether, this constellation of chronic and acute stressors as well as stress proliferation may be particularly detrimental to psychological well-being (Pearlin 1999).

Religiosity may be uniquely situated to help cancer patients cope with their diagnosis and all that follows from that moment, as it is helpful in alleviating concerns about life and death that may fall on an individual as they contemplate their future. For people facing the most serious forms of disease, religious belief might make them less prone to worry or fear the possibility of their own mortality (Wink and Scott 2005), brought to the forefront after receiving the news of a potentially life-threatening disease. According to a cognitive behavioral framework, facets of religiosity may guide believers to re-appraise stressful life events and to find meaning in serious hardship that are otherwise difficult to reconcile or explain. This process tends to help people with cancer maintain a sense of control and predictability in the world (Blows et al. 2012), which are important as the trajectory of disease takes its uncertain course.

Existing research has generally revealed support for these propositions. For instance, people diagnosed with cancer tend to draw more heavily from their religious faith and tend to do so using positive religious coping styles (Delgado-Guay et al. 2011; Holt et al. 2011; Khalili et al. 2013). Though positive religious coping may encompass a range of behaviors, it typically involves holding a close relationship with God, believing in scriptural understandings of pain and suffering, and generally drawing on one's faith as a source of comfort (Pargament, Koenig, and Perez 2000). Positive religious coping tends to be beneficial for individuals in overcoming stress. Specific to cancer patients, religious coping has been found to increase adaptation to disease, provide meaning, and increase hope for the future, all of which tend to enhance mental health (Holt et al. 2011; Thuné-Boyle et al. 2013).

Though informative, prior research on the role of religiosity in the lives of cancer patients is inherently limited for two reasons. First, one's religiosity may *change* in response to a cancer diagnosis as individuals experiencing this form of stress come face-to-face with deeper existential questions than they did pre-diagnosis. Second, whether religiosity is able to mitigate some of this disease-related stress may be contingent on how comfortable a person is in their faith and how much religious or spiritual stock they have *built up* over their lifetime. Indeed, a person who has heavily cemented their faith over the course of several decades may have an easier time applying their religious beliefs to help them address their current health challenges. Given these limitations, the life course perspective affords additional purchase to this question and sensitizes us to the need to consider religiosity over a significant period of the life course to fully understand any stress-buffering role.

Life Course Religiosity and Spiritual Capital

Broadly speaking, the life course perspective can be subsumed under four principles: the relationship among human lives and a changing society, the timing of lives, linked or independent lives, and human agency (Elder 1994). The current study focuses on two of these dimensions: the

timing of lives associated with a cancer diagnosis (measured via age-at-diagnosis), and individual decisions (agency) to maintain, increase, or decrease their religiosity between early life and adulthood. It is prudent to know whether religiosity, when measured in a life course fashion, is beneficial for offsetting the adverse effects of illness.

Beginning with the latter dimension, it is possible that changes in religiosity over the life course might affect the utility of religiosity as a mental health buffer in the midst of a cancer diagnosis. Several studies, albeit unspecific to religion, have shown that childhood is a sensitive period for biological, psychological, and social development (Ben-Shlomo and Kuh 2002). However, the seeds of religiosity are planted and begin to take shape during early life socialization experiences (Petts 2014; Uecker, Regnerus, and Vaaler 2007; Upenieks, Schafer, and Mogosanu 2021; Upenieks and Schafer 2020). Recent research has shown that children raised in households that place a high degree of importance on religion are likely to maintain religiosity as a priority in their lives in adulthood (Upenieks, Schafer, and Mogosanu 2021; Upenieks and Schafer 2020).

Based on the limited available evidence, studies have generally shown that consistent religiosity over time may be associated with the best outcomes. For instance, stable religious importance from childhood to adulthood and stable weekly attendance over the same period was associated with a lower mortality risk (Upenieks, Schafer, and Mogosanu 2021) and a lower likelihood of reporting chronic conditions (Upenieks and Schafer 2020). Although these studies did not consider the stress-buffering potential of religion, the ability for religion to buffer the stress associated with a cancer diagnosis may be contingent on consistent, continued religious belief and importance. The benefits of early life religious exposure for offsetting any mental health impacts of cancer may become manifest later on in the life course by increasing the likelihood of continued religious practice.

To fully explicate why the continuity of religious practice might be crucial for individuals dealing with a cancer diagnosis, we draw on theory surrounding *spiritual capital* (used interchangeably here with religious capital).[1,2] Altogether, the concept of spiritual capital "facilitates an analysis of religious identity in terms of a spiritual career, which pays greater attention to the flow of influences and resources acquired through the life course" (Guest 2007:16), which necessarily implies assessing religious identity in longitudinal terms, as a process of development and change.

Beginning in 1990, Laurence Iannaccone (1990) defined spiritual/religious capital as the "skills and experiences specific to one's religion, includ[ing] religious knowledge, familiarity with church ritual and doctrine, and friendships with fellow worships." For Iannaccone (1990), the knowledge and familiarity within a given religion helps individuals to produce religious commodities that are valuable, and might be efficacious under conditions of stress. Stark and Finke (2000) expanded on this definition of spiritual capital, and noted that the religious experience often forms an emotional bond that greatly enhances the productive capacity of religious capital, arguing that it "consists of the degree of mastery of and attachment to a particular religious culture" (Stark and Finke 2000:120). For these authors, religious activities and understandings build

[1]Woodberry (2003) argues that spiritual capital is distinct from other forms of capital (social), because it is concerned with more than trust, material resources, and culturally valued knowledge. As Woodberry 2003 notes, religions are not only "repositories of financial, human, and cultural capital, but also sources of moral teaching and religious experiences that may motivate, channel, and strengthen people to reach particular ends" (p. 2).

[2]According to Baker and Skinner (2006), spiritual capital is connected with religious capital as it "energizes identity and worshipping tradition, but also a value system, moral vision, and a basis of faith" (p. 4). Where religious capital is the solid dimensions—"the concrete actions and resources that faith communities contribute as a direct result of their spiritual capital" (Baker and Skinner 2006:4)—spiritual capital is more liquid because it relates to "intangibles such as ideas and visions and is not exclusively claimed by a specific religious tradition" (Baker and Skinner 2006:5). Therefore, to clarify this difference, spiritual capital need not be specifically related to any religion or religious group, nor is it restricted to individuals who hold a religious identity. Spiritual capital could thus exist in all individuals and groups who seek to gain transcendental values and purpose.

up over a lifetime, not only increasing one's confidence in the truth of a religion, but strengthening emotional ties to a specific religion. These emotional attachments and the mastering of religion becomes investments that pay stronger dividends over time.

This accumulation of capital could help explain why consistently devout individuals might experience better buffering effects in the face of a cancer diagnosis than those with more intermittent spells of holding religious importance. Holding a greater stock of spiritual capital may benefit the mental health of cancer patients by helping them make sense of life's uncertainties, and could promote optimism and comfort in difficult times (Brown et al. 2004; Nooney and Woodrum 2002; Strawbridge et al. 2001).

Considered as a whole, this body of work informs our first two study hypotheses:

H1: *Stable high religiosity between childhood and adulthood will be associated with lower psychological distress*.

H2: *Stable high religiosity between childhood and adulthood will be associated with lower psychological distress for those diagnosed with cancer*.

Changes in Religiosity: A Spiritual Capital Framework

Although the preceding section has outlined an argument for the accumulation of spiritual capital may be most responsive to religious stability, religiosity is prone to change over the life course, especially after or in the midst of a stressful and life-altering event such as a cancer diagnosis. Therefore, alongside this body of work that identifies consistent religious practice as beneficial to well-being, there is also a modest literature that provides support for the argument that a cancer diagnosis might lead to increased religiosity. A few studies using convenience samples find that roughly half of people reported becoming more religious after being diagnosed with cancer (Feher and Maly 1999; Moschella et al. 1997). Using nationally representative longitudinal data, Ferraro and Kelley-Moore (2000) found that being diagnosed with cancer was associated with higher levels of religious consolation, defined as "seeking religious or spiritual meaning, comfort, and/or inspiration when faced with personal difficulties."

Taken together, this literature suggests that a diagnosis of cancer may prompt a reassessment of spiritual values (Allmon, Tallman, and Altmaier 2013; Feher and Maly 1999; Ironson and Kremer 2009; Mulkins and Verhoef 2004). Religious and spiritual coping resources are especially important at the first stage of diagnosis, because spiritual beliefs can provide a framework for gaining perspective on or gaining a deeper understanding of one's illness (Holland et al. 1999). In one study by Cole et al. (2008) that surveyed 253 cancer survivors, both spiritual growth and decline were reported by these respondents. Spiritual growth was associated with positive affect, intrinsic religious orientation, and positive coping; on the other hand, spiritual decline after diagnosis was related to depression, negative affect, and negative coping.

Whatever the pathway to a solid spiritual base by adulthood, having a firm sense of religiosity in place might be helpful in the face of a cancer diagnosis. Tapping into spirituality can enhance coping mechanisms in negative life events (Vahia et al. 2011) and can promote emotional well-being by providing faith and hope in being able to navigate the challenging experience of chronic illness and regain health. This sense of spirituality promotes faith that the person will be able to get better, placing trust in God as He will provide guidance. The influence of faith and spirituality is predominant in the recovery process as they provide support, a positive outlook (Ashing-Giwa et al. 2006; Coreil et al. 2012), and security and comfort to manage the challenges arising from illness (Ashing-Giwa et al. 2004).

Based on this review of evidence, it is possible that childhood religiosity may not matter as much as current (adulthood) religiosity for dealing with a cancer diagnosis. The literature referenced above would tend to suggest that as long as individuals acquire a reasonably high level of faith, even if it occurs after their diagnosis, they may be protected from experiencing higher

levels of psychological distress. Thus, to the extent that a cancer diagnosis promotes an upward shift in religiosity from where one started in childhood, the more contemporaneous measure of religiosity could afford them the same shield relative to those with low or declining religiosity.

H3: *Increasing religiosity between childhood and adulthood will be associated with lower psychological distress for those diagnosed with cancer relative to those with stable low religiosity.*

Age at Diagnosis and Changes in Religiosity: Implications for Religious Coping?

As a second tenet of the life course perspective, this study also considers that a cancer diagnosis may have a differing impact based on when it occurs in the life course (George 1993). One line of life course scholarship is especially attuned to the idea of an "off-time" transition, which is when an event occurs at a nonnormative age and is poised to be a larger disruption in a person's life. An "off-time" transition tends to be more stressful and entails especially deleterious psychological outcomes (Pearlin and Skaff 1996). Because most cancers are diagnosed in people over 50 years old, cancers that affect younger people—especially persons under the age of 40−45—can be considered "off-time" compared to a diagnosis that comes later on in life.

The available evidence appears to support this theoretical assertion of the life course perspective. A cancer diagnosis is likely to be more disruptive to younger individuals as they strive to fulfill work and family obligations (LaChapelle and Hadjistavropoulos 2005). The experience of cancer may be especially stressful for this group because they have more competing demands on their time and resources. For instance, younger people with cancer may have young children who require more assistance than they are able to offer. A cancer illness may disrupt the whole family at a time when young children are in need of immense instrumental and emotional support. If a cancer diagnosis leads to unemployment, the economic consequences can be dire. People under the age of 40−45 typically face heightened financial strain and difficulty paying for health compared to their older counterparts (Green and Hart-Johnson 2010). Moreover, work within the domain of psychosocial oncology typically finds that older adults diagnosed with cancer tend to adjust better psychologically compared to their younger counterparts (Mosher and Danoff-Burg 2006).

With these added pressures upon diagnosis, it is plausible that religiosity may be an even more crucial coping resource for individuals diagnosed with cancer at younger ages (McFarland et al. 2013). First, because off-time transitions are especially harmful to mental well-being, younger individuals with cancer may be more likely to pursue religious life as a way to cope with the practical issues precipitated by a cancer diagnosis (e.g., social and emotional support). Second, off-time transitions tend to produce higher levels of fear and anxiety of recurrence, even if the initial cancer is treated successfully (Vickberg 2003). A built-up reservoir of spiritual capital over the course of one's life might help alleviate these fears and concerns (Holt et al. 2009), giving individuals a strong base through which to confront an early and worrisome diagnosis. Third, developing cancer and being confronted with the possibility of death as a younger age may elicit more "existential questions" regarding human suffering and mortality compared to older adults. Generally, older adults maintain a higher sense of emotional equanimity and resilience than their younger counterparts (Ross and Mirowsky 2008). In one prior study to date on this topic, McFarland et al. (2013) find that people diagnosed with cancer at younger ages are more likely to become religious than their counterparts diagnosed at older ages. This finding is corroborated by research showing that relative to older patients, younger cancer patients report not only greater vulnerability, but also greater positive meanings and higher levels of post-traumatic growth (Bellizzi and Blank 2006; Bower et al. 2005). This leads to our final study hypothesis:

H4: *The relationship between stable high or increasing religiosity between childhood and adulthood will be more strongly associated with lower psychological distress in younger (40–45) respondents with cancer.*

Data and Methods

Sample

To address our research questions, we analyze data from two waves of the MIDUS. The Wave 1 interviews were conducted in 1994 and 1995. The main sample included 3032 noninstitutionalized adults aged 25−75 (response rate = 70 percent). All respondents were invited to participate in a phone interview of approximately 30 minutes in duration and completed two self-administered questionnaires, each about 45 pages in length.

A follow-up of the original MIDUS study participants was conducted between 2004 and 2006 (retention rate = 70 percent). The main sample at Wave 2 contained 2257 participants. The current study is based on a longitudinal sample of main participants who participated at both the first and second waves of MIDUS and had valid responses to all survey variables ($N = 1431$). Listwise deletion was used to deal with missing data, though results were similar using multiple imputation with chained equations. Throughout all analyses, the nonindependence of observations between main participants over the study waves is accounted for by using standard errors robust to the clustering of respondents.

Given the longitudinal nature of the MIDUS data, it is important to consider how attrition could produce biased estimates, especially since cancer may ultimately lead to death. We therefore conducted an analysis of patterns of sample attrition among cancer patients. Using propensity score matching techniques, we estimated the likelihood of remaining in the sample at Wave 2 by comparing MIDUS respondents who were similar on a wide variety of characteristics at baseline (e.g., age, race, education level) any differed only with respect to their cancer status. Results from this analysis showed that cancer patients were significantly more likely than noncancer respondents to drop out of the study due to death, yet the likelihood of attrition due to *reasons other than death* was lower among cancer survivors compared to controls. Therefore, we find that people with cancer at Wave 1 and survived to Wave 2 were significantly more likely to participate in the study than individuals without cancer. Taken together, these additional analyses reveal that selective mortality among cancer patients is unlikely to bias our findings.

Dependent Variable: Psychological Distress

Psychological distress was measured with an identical index composed of six items at each wave of MIDUS, and was based on the *K6* scale, a widely validated and commonly used measure to screen for depression and anxiety (Kessler et al. 2010). Respondents reported how often in the last 30 days they had experienced the following symptoms: "felt hopeless," "felt nervous," "were restless or fidgety," "were so sad nothing could cheer you up," "felt that everything was an effort," and "felt worthless." Responses were coded where 1 = "none of the time" to 5 = "all of the time." Responses to each of these six items were averaged to form a continuous scale at Waves 1 and 2 of the MIDUS study ($\alpha = .85$ at Wave 1 and $\alpha = .86$ at Wave 2). Wave 2 psychological distress served as the dependent variable, with a control for the Wave 1 lagged measure of psychological distress, as described below.

Religiosity Over the Life Course

To assess *childhood religiosity*, respondents were asked at the Wave 1 survey, "How important was religion in your home when you were growing up?" Response options were: (1) "Very

important," (2) "Somewhat important," and (3) "Not very important," and "Not at all important," combined into one category to obtain adequate cell sizes. Religious importance in adulthood was measured by the following question at Wave 2, "How important is religion in your life?" and responses were coded in an identical fashion to measures of childhood religiosity.

Since the interest in this article was on spiritual capital, a measure of transitions in religiosity was constructed by examining several possible life course combinations of religious importance available in the data. The *stable high religious importance* group categorizes individuals who reported religion to be "very important" in their lives during both childhood and adulthood, while the *stable moderate* group reported religion as "somewhat important" to their lives at both time points, and the *stable low* group reported religion as "not very" or "not at all" important at both time points. The stable low group serves as the reference group in all analyses. We then created one group called "*decreasing importance*" that captures individuals who reported higher religious importance in childhood than adulthood, and "*increasing importance*" that categorizes individuals who reported a higher religious importance than childhood. Ancillary analyses separated out those increasing/decreasing their religious importance into distinct categories (e.g., from low to moderate, high to low, etc.). These analyses suggested that these groups could be collapsed into broad categories of "any increase" or "any decrease" without the loss of significant information.

Cancer Diagnosis

The focal predictor variable was the onset of a *cancer diagnosis* between Waves 1 and 2 of the study. At both waves, the respondent was asked, "have you ever had cancer?" This was coded as 1 if a person has ever been diagnosed with cancer and 0 for people without a cancer diagnosis. Since our interest was in how religiosity might help individuals cope with cancer, we considered only those respondents who had a *new cancer diagnosis* between Waves 1 and 2 of the study. After dropping 175 individuals from the MIDUS sample who reported a diagnosis of cancer at Wave 1, we arrived at a final analytic sample of 1431, as mentioned above. Though individuals could have been diagnosed with cancer before Wave 1, this restriction makes for the cleanest analysis of whether life course religiosity buffers the effect of a cancer diagnosis on changes in psychological distress between Wave 1 and Wave 2.

Age-at-Diagnosis: The MIDUS data also asked respondents at what age they received their cancer diagnosis. For individuals who were diagnosed between Wave 1 and Wave 2, a cutoff of 45 years was used to ensure adequate cell size among groups while also capturing a fairly early diagnosis of cancer in the life course, marking an "off-time" transition ($N = 980$ are 45 or younger, $N = 451$ are over 45 years old). Interaction terms were created by multiplying ever-being diagnosed with cancer by changes in religious importance and age-at-diagnosis (<45 years old versus all else). Results pertaining to age-at-diagnosis are also similar if 50 or 55 years of age was used as the cutoff, suggesting that the patterns observed are not due to an arbitrary decision to use 45 to distinguish an off-time cancer diagnosis. We revisit the decision to conduct an age-stratified analysis where these results are discussed below.

In addition to the overall indicator of cancer, ancillary analyses considered separate variables for cancer type: breast, prostate, female genitourinary cancer, and "other cancer." Because of the limited number of cases, colon, lung, and lymphoma cancers were combined into one category. Furthermore, a dummy indicator differentiated those with skin cancer (the form of cancer that generally poses the lowest mortality risk) from those with other types of cancer. Data were unfortunately not available at MIDUS to measure other relevant factors related to cancer, such as stage or severity and treatment type. Additional analyses also included a measure of treatment for persons who were undergoing treatment for cancer at the time of the interview (= 1). Results were unaltered with the inclusion of this variable, so it was eventually removed for the sake of parsimony.

Control Variables

We adjust for several demographic covariates that may be potential confounders of the relationship between cancer, life course religiosity, and psychological distress. Gender was coded where 1 = women and 0 = men. Race was represented with three mutually exclusive dummy variables: white (reference category), black, and other race. Age was measured in years at Wave 2. The categories of education included less than high school, high school or GED (reference category), some college, bachelor's degree, and graduate or professional degree. Marital status was coded where married or in marriage-like partnership = 1, other = 0 at Wave 2. Analyses also feature a measure of household income at Wave 2, adjusted for the number of adults aged 18 and over in the household. To adjust for the nonnormality of the income variable, we categorized the household-size adjusted income into quintiles.

All analyses also include an adjustment for the public religious behavior of the respondents, measured at Wave 2 by how often they attended religious or spiritual services. This was done to ensure that any association between life course religious importance and distress is not simply capturing a differential propensity to attend formal religious services. Religious attendance was coded as a categorical variable with the following categories: (0) "never," (1) "once a year," (2) = "less than once a month," (3) "one to three times a month," (4) "about once a week," and (5) "more than once a week."[3] Unfortunately, MIDUS did not ask respondents about how frequently they attended religious services in childhood, so we could not assess this as a possible contributor to religious/spiritual capital over the life course.

We include a number of variables measured in childhood and asked of respondents at Wave 1 of the survey, which could also affect both religiosity over time as well as be lifelong predictors of psychological distress. These childhood covariates include a measure of parental education, which was measured for the head of the family (usually the father, with mother's education used when father's education was missing); here, less than high school education was the reference category, contrasted with a high school degree or equivalent, some college, or a university degree. A binary variable also indicated whether the respondents' parents divorced during childhood (1 = yes, 0 = no), as this is known to influence future levels of religiosity (Uecker and Ellison 2012) as well as psychological distress over the life course (Cherlin, Chase-Lansdale, and McRae 1998).

Plan of Analysis

We used OLS regression models predicting change in psychological distress from MIDUS 1 to MIDUS 2. We utilized a lagged dependent variable (LDV) model and include a control for Wave 1 depression (Johnson 2005). Such a design helps prevent endogeneity bias due to any change across the two dimensions of religiosity considered here brought about by baseline levels of psychological distress (see Doane and Elliot 2016). Moreover, an LDV approach helps ensure unbiased coefficients because it adjusts for the autocorrelation between psychological distress at Wave 1 and Wave 2.

In addition, to detect multicollinearity since several analyses involved interaction terms, we reviewed the variance inflation factor (VIFs) for all regression models, none of which exceeded the standard threshold of VIF = 2.00 (see Allison 1999).

[3] Ancillary analyses also added a measure of religious attendance at Wave 1 of MIDUS, measured according to an identical coding scheme as attendance at Wave 2. The addition of religious attendance at Wave 1 did not ultimately change the main findings reported in the text, and no frequency of Wave 1 religious attendance was found to have a significant association with psychological distress, net of Wave 2 religious attendance and all other study covariates. Therefore, religious attendance at Wave 1 was not retained in final models.

Results

Before moving to results from longitudinal regression models, we provide a description of some noteworthy summary statistics. First, average levels of psychological distress were 1.54 at Wave 1 and 1.53 at Wave 2, illustrating that the respondents who remained in the analytic sample are not becoming more distressed over time. Moreover, 226 respondents were diagnosed with cancer (not including skin cancer) between Wave 1 and Wave 2 of the MIDUS study, representing 16 percent of the analytic sample. The average age of respondents who received a cancer diagnosis between waves is 55.54 years, which corresponds closely to the average age of our analytic sample (mean = 55.30 years, standard deviation = 15.24 years).

Transitions in life course religiosity were as follows: between childhood and adulthood (Wave 2), only 7 percent of respondents reported stable low religious importance across those time points. Meanwhile, 16 percent of respondents reported stable moderate importance over this time, and 28 percent of MIDUS respondents reported stably high religious importance, which was the most commonly reported category. Roughly half of the sample reported either an increase or decrease in religious importance, with 25 percent of respondents reporting a decrease and 24 percent reporting an increase in religious importance between childhood and adulthood.

Since previous research suggested that a cancer diagnosis may spur changes in religiosity, supplemental analyses considered whether a diagnosis of cancer predicts an enhanced likelihood of being in any of the categories of transitions in religious importance. Results (available upon request) show that a cancer diagnosis between waves had no bearing on which transition category respondents fell into, net of demographic and childhood covariates. Thus, on average, those diagnosed with cancer between waves did not have an enhanced propensity to increase, decrease, or remain stable in the importance that they placed on religion in their lives.

Table 1 shows all descriptive statistics for MIDUS respondents.

LDV Regression Results Predicting Psychological Distress

A series of LDV models were conducted to test our hypotheses. Table 2 shows the results from our full sample of respondents without imposing constraints related to age-at-diagnosis. Model 1 of Table 2 serves as a baseline model testing how transitions in religious importance are associated with psychological distress. As shown there, net of Wave 1 levels of psychological distress, individuals in the stable high religious importance group ($b = -0.15, p < .05$) had lower levels of Wave 2 psychological distress relative to those with low religious importance. This supports H1, which predicted that stable high religiosity between childhood and adulthood will be associated with lower psychological distress. No other religious importance pathways were associated with significantly higher or lower psychological distress scores relative to the stable low importance group.

Model 2 of Table 2 is also a baseline model, this time assessing the relationship between a cancer diagnosis between Wave 1 and Wave 2, net of baseline psychological distress, but without an adjustment yet for changes in religious importance. In accordance with previous research (Hollingshaus and Utz 2013; Pudrovska 2010), the onset of a cancer diagnosis is associated with higher levels of psychological distress ($b = 0.06, p < .05$), even net of initial levels of psychological distress.

In Model 3 of Table 2, we consider a diagnosis of cancer in the same model as transitions in religious importance over the life course. In Model 3, the results from Models 1 and 2 carry forward when these variables are considered simultaneously, as those with stable high religious importance over time report lower psychological distress ($b = -0.15, p < .05$) and those with a new cancer diagnosis between waves reporting greater psychological distress ($b = 0.08, p < .05$).

Finally, Model 4 of Table 2 serves as a test of H2 and H3, which suggested that stable high religiosity between childhood and adulthood (H2) or increasing religious importance during this

Table 1: Descriptive statistics, MIDUS ($N = 1431$; all results weighted)

	Range	Mean/Prop	*SD*
Psychological distress, W2	1–5	1.53	0.59
Psychological distress, W1	1–5	1.54	0.61
Transitions in Religious Importance (Childhood-Adulthood)			
Stable low		0.07	
Stable moderate		0.16	
Stable high		0.28	
Decreasing importance		0.25	
Increasing importance		0.24	
Cancer diagnosis, W1–W2		0.16	
Age, W2	30–84	56.15	12.47
Religious Attendance, W2			
Never		0.26	
Once a year		0.22	
Less than once a month		0.09	
One to three times a month		0.30	
About once a week		0.10	
More than once a week		0.03	
Male		0.46	
White		0.93	
Married, W2		0.69	
Household Income			
Quintile 1		0.15	
Quintile 2		0.20	
Quintile 3		0.21	
Quintile 4		0.22	
Quintile 5		0.23	
Education			
Less than high school		0.06	
High school education or equivalent		0.29	
Some college education		0.30	
University degree or higher		0.36	
Parental Education			
Less than high school		0.43	
High school education or equivalent		0.29	
Some college education		0.09	
University degree or higher		0.19	

Note: Standard deviations are omitted for categorical variables.

time (H3) would be associated with lower psychological distress for those diagnosed with cancer. To test these hypotheses, an interaction term was considered between each religious transition category and psychological distress. The interaction coefficient tests whether the association between a cancer diagnosis and change in distress significantly differs for each "transition in religious importance" group, relative to the "stable low" religious importance group. Relative to those with stable low religious importance who had a cancer diagnosis, results suggested a significant interaction term for those with stable high religious importance among those who had been diagnosed

Table 2: Wave 2 psychological distress regressed on cancer diagnosis and religious change, (MIDUS Waves 1 and 2, 1995−2006)

	Model 1	Model 2	Model 3	Model 4
Psychological distress, W1	0.87***	0.85***	0.86***	0.87***
	(0.25)	(0.27)	(0.24)	(0.31)
Transitions in Religious Importance (Childhood-Adulthood)				
Stable moderate[a]	−0.02		−0.02	−0.08
	(0.07)		(0.07)	(0.07)
Stable high[a]	−0.15*		−0.15*	−0.20**
	(0.07)		(0.07)	(0.08)
Decreasing importance[a]	−0.08		−0.08	−0.14*
	(0.07)		(0.06)	(0.07)
Increasing importance[a]	−0.10		−0.10	−0.18*
	(0.07)		(0.07)	(0.08)
Cancer diagnosis, W1–W2		0.06*	0.08*	0.18*
		(0.03)	(0.04)	(0.08)
Age, W2	−0.01***	−0.01***	−0.01***	−0.01***
	(0.001)	(0.001)	(0.001)	(0.001)
Interaction Terms				
Stable moderate × cancer				0.47
				(0.31)
Stable high × cancer				−0.38*
				(0.19)
Decreasing importance × cancer				0.45
				(0.24)
Increasing importance × cancer				0.50
				(0.33)
Religious Attendance, W2				
Once a year[b]	−0.11*	−0.09*	−0.10*	−0.10*
	(0.05)	(0.04)	(0.05)	(0.05)
Less than once a month[b]	−0.04	−0.02	−0.02	−0.02
	(0.05)	(0.06)	(0.06)	(0.06)
One to three times a month[b]	−0.06	−0.08*	−0.06	−0.05
	(0.05)	(0.04)	(0.05)	(0.05)
About once a week[b]	−0.11*	−0.14*	−0.11*	−0.11
	(0.05)	(0.05)	(0.05)	(0.06)
More than once a week[b]	0.04	0.01	0.04	0.05
	(0.10)	(0.09)	(0.10)	(0.10)
Male	−0.09**	−0.08*	−0.09	−0.09**
	(0.03)	(0.03)	(0.03)	(0.03)
White	−0.07	−0.03	−0.08	−0.07
	(0.06)	(0.06)	(0.06)	(0.06)
Married, W2	−0.01	−0.01	−0.01	−0.02
	(0.03)	(0.03)	(0.03)	(0.03)

(*Continued*)

Table 2: (Continued)

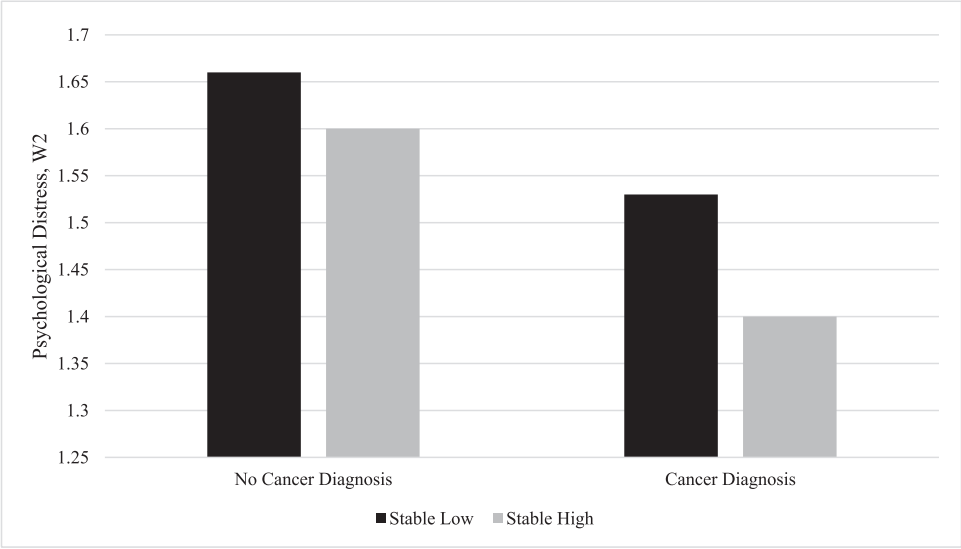
	Model 1	Model 2	Model 3	Model 4
Household Income				
Quintile 2[c]	−0.08	−0.08	−0.08	−0.08
	(0.05)	(0.05)	(0.05)	(0.05)
Quintile 3[c]	−0.04	−0.02	−0.04	−0.05
	(0.05)	(0.06)	(0.05)	(0.05)
Quintile 4[c]	−0.09	−0.10*	−0.09	−0.08
	(0.05)	(0.05)	(0.05)	(0.05)
Quintile 5[c]	−0.18**	−0.19***	−0.18***	−0.18**
	(0.05)	(0.05)	(0.05)	(0.05)
Education				
High school or equivalent	−0.13*	−0.17*	−0.13	−0.14*
	(0.06)	(0.06)	(0.07)	(0.07)
Some college	−0.21**	−0.21**	−0.22**	−0.22**
education	(0.07)	(0.06)	(0.07)	(0.07)
University degree or higher[d]	−0.28***	−0.28***	−0.29***	−0.29***
	(0.07)	(0.07)	(0.07)	(0.07)
Parental divorce (childhood)	−0.10	−0.12*	−0.10	−0.10
	(0.06)	(0.05)	(0.06)	(0.06)
Parental Education				
High school education or equivalent[d]	0.06	0.06	0.06	0.06
	(0.04)	(0.04)	(0.04)	(0.04)
Some college education[d]	−0.10	−0.08	−0.09	−0.09
	(0.06)	(0.05)	(0.06)	(0.06)
University degree or higher[d]	0.03	0.02	0.03	0.03
	(0.05)	(0.04)	(0.05)	(0.05)

Note: Standard errors shown in brackets, $N = 1431$.
***$p < .001$, **$p < .01$, *$p < .05$.
[a] Compared to stable low.
[b] Compared to never attends.
[c] Compared to Quintile 1.
[d] Compared to less than high school.

with cancer ($b = -0.38$, $p < .05$). Since being diagnosed with cancer was associated with worse mental health in Model 4 ($b = 0.18$, $p < .05$), and since the coefficient of the stable high group × cancer diagnosis is negative, this can be interpreted as evidence for stress buffering of stable high religious importance.

Figure 1 shows predicted psychological distress scores for those with and without a cancer diagnosis between waves for those with stable low and stable high religious importance, since there is where the significant interaction term was detected. As shown in Figure 1, levels of psychological distress were fairly similar (and not statistically different from each other) for those of both stable high and stable low religious importance who did not experience a cancer diagnosis between waves. However, moving to the second series of bars in Figure 1, we now see that among those with a cancer diagnosis, people reporting stable high religious importance report lower psychological distress (avg. = 1.40), which is significantly lower than those with stable low importance (avg = 1.53) who also received a cancer diagnosis and is also lower ($p < .05$)

Figure 1
Cancer diagnosis and psychological distress: The moderating role of life course spiritual capital
Note: Estimates are derived from Model 4 of Table 2. All other covariates are held at their respective means.



than the 1.66 average psychological distress score of those who had stable low religious importance but did not experience a cancer diagnosis ($p < .05$).

Considered together, the results shown in Figure 1 are consistent with H2: stable religious importance between childhood and adulthood buffers the relationship between a cancer diagnosis and psychological distress. H3 was not supported. Individuals who increased their religiosity between childhood and adulthood did not experience lower psychological distress scores if they were diagnosed with cancer.

Life Course "Off-Time" Transitions: The Role of Age-at-Diagnosis in Accumulation of Spiritual Capital

Our analysis also sought to differentiate whether any stress-buffering role of life course religiosity differed by age-at-diagnosis. Indeed, differentiating an "off-time" diagnosis prior to the age of 45 may hold different implications for how religiosity might act as a buffer.

To conduct these finer-grained analyses, we segregated the sample by age and ran separate analyses for those 45 years or younger (Table 3) and 45 years or older (Table 4). We conducted the same interaction term in Model 4 of Table 2 shown above, between cancer diagnosis and transitions in religious importance, for each sample separately, serving as a test of H4. As in the main sample, a diagnosis of cancer for those under the age of 45 was associated with greater psychological distress ($b = 0.30$, $p < .05$). Overall, the results in Table 3 show significant interaction terms between stable high religiosity ($b = -0.36$, $p < .05$) and increasing religious importance ($b = -0.48$, $p < .05$) for individuals 45 years and younger diagnosed with cancer.

These significant interactions terms for stable high and increasing religious importance relative to stable low religious importance are depicted graphically in Figure 2. A similar pattern of findings to those in the full sample (Model 4 of Table 2) are observed. For those who were not diagnosed with cancer, increasing religious importance from childhood to adulthood was not associated with differential psychological distress scores at Wave 2, while those without cancer

Table 3: Wave 2 psychological distress regressed on cancer diagnosis and religious change, age ≤ 45 (MIDUS Waves 1 and 2, 1995−2006)

	Model 1
Transitions in Religious Importance (Childhood-Adulthood)	
Stable moderate[a]	−0.16
	(0.15)
Stable high[a]	−0.25*
	(0.13)
Decreasing importance[a]	−0.14
	(0.14)
Increasing importance[a]	−0.29*
	(0.15)
Cancer diagnosis, W1–W2	0.30*
	(0.15)
Interaction Terms	
Stable moderate × cancer	0.17
	(0.27)
Stable high × cancer	−0.36*
	(0.16)
Decreasing importance × cancer	0.48
	(0.34)
Increasing importance × cancer	−0.48*
	(0.22)

Notes: Standard errors shown in brackets, $N = 980$. Models adjust for all study covariates.
$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.
[a]Relative to stable low.

and with stable high religious importance reported significantly lower psychological distress relative to the stable low group. However, for those with cancer, those increasing their religious importance in addition to those with stable high attendance from childhood to adulthood experience less psychological distress after a cancer diagnosis relative to those with stable low religious importance over time. MIDUS respondents diagnosed with cancer who reported stable high religious importance had average psychological distress scores of 1.53, compared to 1.64 for those with stable low importance, which represents over one-third of a standard deviation difference in Wave 2 psychological distress scores. Moreover, those increasing their religious importance over time had average psychological distress scores of 1.41. This pattern of results is fully consistent with H4, which posited that either stable high or increasing religiosity is associated with the most favorable outcomes of psychological distress after a cancer diagnosis for those under the age of 45, serving to buffer its negative mental health consequences.

It also deserves mention that among those who were *not diagnosed* with cancer between MIDUS waves and were 45 years of age or younger, those with stable high ($b = -0.25$, $p < .05$) and increasing religious importance ($b = -0.29$, $p < .05$) between childhood and adulthood reported lower psychological distress (main effect coefficients shown in Table 3). This extends findings from the main analysis that found that only those with stable high religious importance had more favorable mental health outcomes to include those increasing their religiosity over time for respondents 45 years and younger.

Results from Table 4 show results from an identical analysis, this time restricting the sample to those over the age of 45. As seen in the table, there were no significant interaction terms between any of the categories of transitions in religious importance and a cancer diagnosis for

Table 4: Wave 2 psychological distress regressed on cancer diagnosis and religious change (MIDUS Waves 1 and 2, 1995−2006)

	Model 1
Transitions in Religious Importance (Childhood-Adulthood)	
Stable moderate[a]	−0.16
	(0.15)
Stable high[a]	−0.25
	(0.15)
Decreasing importance[a]	−0.14
	(0.14)
Increasing importance[a]	−0.29*
	(0.14)
Cancer diagnosis, W1–W2	−0.30
	(0.23)
Interaction Terms	
Stable moderate × cancer	0.17
	(0.27)
Stable high × cancer	0.36
	(0.25)
Decreasing × cancer	0.44
	(0.31)
Increasing × cancer	0.51
	(0.38)

Notes: Standard errors shown in brackets, $N = 451$. Models adjust for all study covariates.
$^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

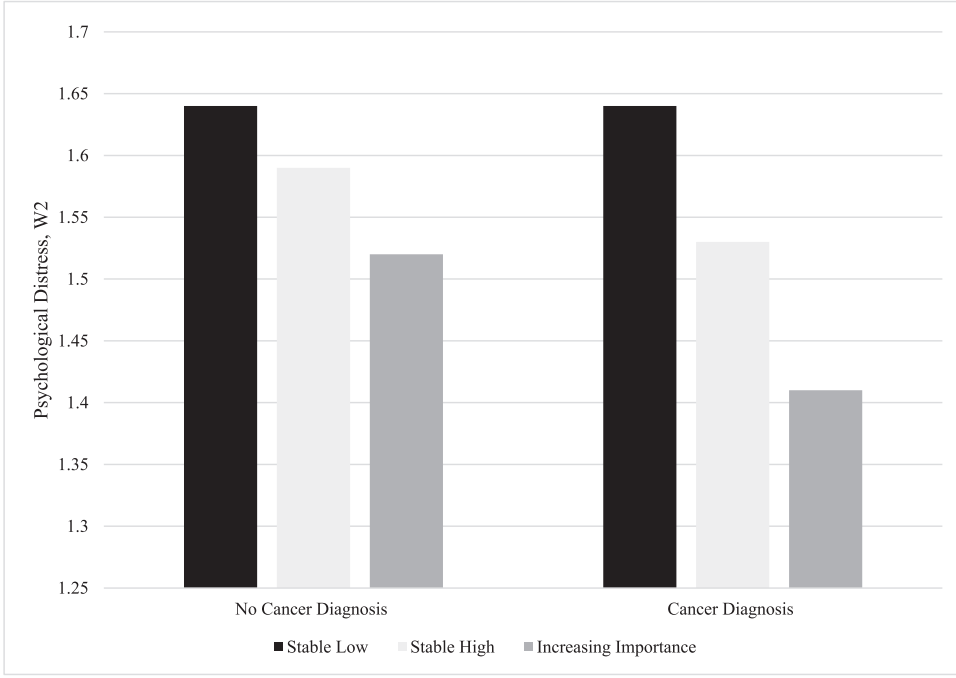
psychological distress. One finding worthy of mention from these analyses is that for those over the age of 45 who had not been diagnosed with cancer, increasing religious importance between childhood and adulthood is associated with lower psychological distress ($b = -0.29$, $p < .05$).[4]

Discussion

A diagnosis of cancer is arguably one of the most traumatic experiences an individual may encounter during their life span. Such an event inevitably causes people to question long-held assumptions about the familiar world that was once perhaps taken for granted. Upon receipt of such a diagnosis, individuals are likely to find many aspects of their prior life to be discrepant with their new situation and may be forced to adopt a new set of priorities (Cordova et al. 2001). Due to these unexpected and often rapid adaptations a cancer patient is forced to make, it is hardly surprising that they experience heightened levels of psychological distress (Hollinghaus and Utz 2013; Pudrovska 2010), which was also replicated by the results observed in the current study. We

[4]Using 45 as the cutoff, we have 980 individuals who are 45 and younger and 451 who are over 45. This may be of concern because the 45 and under sample is almost twice that of the over 45, which could affect the standard errors. If 50 is used as the cutoff, then we see a more even distribution of ages, with 820 sample respondents 50 years and younger, and 611 respondents over 50. If 55 was used as the cutoff, 751 respondents were 55 or younger, and 680 respondents were older than 55. That the age-stratified analyses showed a similar set of patterns, namely, that younger individuals benefit more from remaining stably high or increasing their religiosity relative to their younger counterparts. Informed theoretically by the tenets of the life course perspective, we elected to use 45 as the cutoff. However, these additional analyses suggest that this result is robust and not contingent on how age categories were defined.

Figure 2
Cancer diagnosis and psychological distress: The moderating role of spiritual capital
Note: Estimates are derived from Model 1 of Table 3. All other covariates are held at their respective means.



posited religiosity as an important source of comfort in the midst of illness, especially for those suffering from cancer, recognized as a resource for dealing with stressful events. Integrating the life course perspective, the current study sought to assess whether the accumulation of religiosity ("spiritual capital") between childhood and adulthood had any bearing on its ability to cushion the mental health insults of a cancer diagnosis, and whether the age-of-diagnosis ("off-time" transition) factored into these dynamics.

There are several noteworthy findings observed in the current study. First, using two waves of data from a longitudinal study of midlife adults, we found that individuals holding high religious importance between childhood and adulthood reported the best mental health profiles in later life, irrespective of a cancer diagnosis, relative to those with stably low importance. This lends initial credence to the idea of spiritual capital accumulating over time to influence well-being. Indeed, various scholars have conceptualized religious/spiritual capital as "familiarity with religious doctrine" (Iannaccone 1990), or mastery or attachment to a particular religious culture (Stark and Finke 2000), increasing one's confidence in the purported truths of their religion. To the extent that religiosity remains a priority in one's life from childhood into adulthood, mental health appears to be better.

The main hypotheses of this study, however, were focused on how a build-up of spiritual capital might help individuals diagnosed with cancer cope with their illness, and whether any relationship was further conditioned by age-at-diagnosis. Our findings related to these two study objectives are twofold: first, stable high religious importance between childhood and adulthood weakened the deleterious mental health consequences of a cancer diagnosis. Broadly speaking, the literature on religious coping and mental health has shown religious importance to serve multiple functions in the aftermath of disease, this including enabling the individual to experience hope (Seybold and Hill 2001) or to provide a source of meaning or strength in the face of a

health threat (Park 2007). These functions may be particularly crucial for people confronting a life-threatening illness such as cancer, where the opportunity to exercise direct control over the stressor may be limited (Holt et al. 2009). The results from the current study suggest the addition of spiritual capital to the fold, emphasizing the importance of the accumulation of familiarity with one's faith over time. When confronted with an overwhelming and potentially life-altering diagnosis, individuals who have made faith a priority and hence deposited greater investments in religious understandings of the world throughout their life course may be better able to utilize core tenets of their faith to help them cope. In the full sample, it was only those individuals who remained steadfast in their faith over time who received a buffering effect of their faith, and not those who increased to high levels of religious importance by adulthood. Therefore, when considering people diagnosed with cancer as a whole, neither childhood nor adulthood religiosity on their own was sufficient to quell the distress typically associated with a cancer diagnosis.

The stress buffering role of life course religiosity also showed some important age-specific patterns. Since most Americans diagnosed with cancer are in the midlife or late-life stage of life (Ornstein et al. 2013), a serious diagnosis prior to these stages is considered an atypical, off-time, and nonnormative experience that could position younger adults at risk for poorer mental health (Hill-Joseph 2018). An off-time diagnosis of cancer (prior to age 45, as defined in this study) is known to be associated poorer mental health than later onset because the socially defined life stage and the lives experience of illness are vastly incongruent (Comeaux and Jaser 2010), and because a life-changing diagnosis of this sort may cause role conflict with parental or spousal roles that young adults find themselves in the midst of (Green and Hart-Johnson 2010). Our results suggest that life course spiritual capital was especially important for those diagnosed with cancer and under the age of 45. For these individuals, the relationship between a cancer diagnosis and psychological distress was considerably weaker for those reporting stably high religious importance between childhood and adulthood *and* for those increasing their religious importance over time. Neither of these patterns were documented in the 45 and older sample. These finding offers one point of divergence from findings related to the whole sample, as younger adults with cancer who increased their religiosity over time were likewise shielded from experiencing the full throttle of mental health consequences in the aftermath of their diagnosis.

Why might younger adults receive greater benefit from spiritual capital, or from increasing their religiosity between childhood and adulthood? Related to the former result, a longer period of socialization into one's religious precepts and teachings might make it easier and more accessible for individuals to reach into their religious repertories to assist them in coping. Hill and Pargament (2003:68) provocatively argue that religion "people with a sense of their ultimate destinations in life by providing ultimate purpose and meaning even in disturbing life events." Such meaning and understanding in the midst of an arduous health challenge that might otherwise deplete physical and mental capacities can produce more stability in these difficult situations and help maintain well-being (Schreiber and Brockopp 2012). Levels of religiosity pre-cancer are known to be associated with an increased willingness on the part of cancer patients to process traumatic events and address questions of personal meaning through a religious framework (see Schaefer, Blazer, and Koenig 2008).

That younger adults diagnosed with cancer could also feel some reprieve in the midst of their illness if they increased their religiosity is also worthy of further reflection. A traumatic event like a cancer diagnosis has been shown to increase religiosity in younger cohorts of adults (McFarland et al. 2013). In other words, young people diagnosed with cancer may have even *more reason* to seek out religion/spirituality as a means of coping, even if they did not place a high importance on religion earlier in the life course. These individuals would, of course, not have the full benefit of a lifetime of accumulation of spiritual capital to draw from, potentially making it more challenging to apply a religious perspective to their lives. However, given the imputed seriousness of a cancer diagnosis, those experiencing off-time transitions into the illness state also appear to adjust better

if they achieve a state of high religiosity at some point immediately prior to or in the aftermath of their diagnosis.

Building on this latter point, it is also important to place the age-specific findings we observed in the context of the current American religious landscape. A recent trend shows that younger Americans are markedly less religious than their older counterparts on an array of indicators, including attendance at religious services and the importance one places on religion in their lives (Schwadel 2013). It is both more common and socially acceptable for younger adults to be critical of religion or to reject it altogether. Therefore, our finding that high levels of religiosity, whether stable over time or increased to high levels following a cancer diagnosis, exists above and beyond a religious climate that has tended to de-emphasize religion and methods of religious coping to handle stress. Although speculative, some scholars have posited that younger generations of Americans adopt a "consumerist" mentality toward religion, more inclined to seek out faith traditions that fit with their lifestyle and cognitive frameworks than older generations (Roof 2000). To the extent that this is true, younger adults confronted with cancer may feel more justified in seeking out a faith to match their current needs, perhaps one less riddled in traditions and conventions and more focused on helping to connect with a divine power or seeking inner peace.

Taken together, the array of findings observed in the current study resonate with some a growing body of work that has shown spirituality is associated with a higher quality of life, and less depression and anxiety (Edmondson et al. 2008; Jafari et al. 2013). This body of work has also made clear that this buffering role of religiosity is not dependent on sociodemographic factors such as social class or gender, or the magnitude of physical symptoms related to the illness (Perkins et al. 2007; Zavala et al. 2009). This study has clarified that for its full benefits to be realized, religiosity may need to build up over time, except for those experiencing an off-time transition, who may be equally protected by achieving high levels of religiosity by adulthood.

We would be remiss to note that there has also been some evidence within the religion and health literature to suggest that spiritual capital might not always be a uniformly or persistently positive resource for those who possess it. Some prior research has shown that religious struggles embedded in negative religious coping strategies (e.g., seeing God as untrustworthy or cruel, or having doubts about the core aspects of one's faith) are associated negatively with well-being in cancer patients (e.g., Thuné-Boyle et al. 2013). Though it is conceivable that experiencing religious struggle of this nature could hinder or even prevent the use of religion in dealing with cancer, there was no evidence to support this in the current study. Indeed, individuals with cancer decreasing their religious importance between childhood and adulthood, though they did not receive any stress-buffering benefits, were no worse off in terms of their mental health than individuals with stable low or stable moderate religious transitions between childhood and adulthood. It is likely that more fine-grained measures of religious struggle than a general measure of a decline of religious importance are needed to reveal any effects of negative religious coping for cancer patients.

Limitations and Future Directions

Before concluding, we acknowledge several limitations of the current study. First, although MIDUS is one of the few longitudinal surveys available with the most detailed measures of mental and physical health over time, it would have been ideal to possess more information on certain cancer characteristics, such as the stage of cancer at diagnosis. If an individual's cancer was not perceived to be life-threatening, the cognitive re-appraisal process and reflection about one's self and the future through religion may have been less pronounced than someone diagnosed with life-threatening or terminal cancer. Since this information was not known in the current study, this task will need to be left to future research. However, given that many people in our analytic sample were diagnosed with nonthreatening types of cancer (e.g., skin cancer, lymphoma), the

analyses likely provide a conservative test of the relationship between a cancer diagnosis and religiosity.

Second, the MIDUS data also do not permit us to distinguish between fine-grained variations in spiritual capital. We only had one measure of religiosity that was measured at both childhood and adulthood (religious importance), giving us limited purchase on *why* religiosity had a buffering effect. Religious coping is both a complex and multidimensional process, involving beliefs about the nature of a divine being as well as a social component. For instance, we are not able to ascertain whether a higher religious importance signals that cancer patients are strengthening their relationship with God or a divine power in dealing with illness, or whether such benefits are gained by becoming socially integrated into a religious community of faith, drawing on available church resources or co-congregants for support and counseling. Global ratings of religious importance may very well capture several dimensions of religiosity simultaneously, but future research with more detailed measures of religiosity would be helpful in explicating more specific mechanism that may underlie our findings.

Third, we only had two measures of religious importance, at childhood, and then measured at the same time point as when a cancer diagnosis was ascertained. The trajectory of religious importance (or any other dimension of religiosity) for people diagnosed with cancer are likely to be much more complex than presented here. Future research should test these relationships with data on religiosity from multiple points in time that allow for more advanced techniques, such as growth curve modeling, to be used to uncover more complete trajectories of religious change. Given that we imposed a cutoff of 45 years old to denote younger versus older respondents, it will also be important for future research to replicate these findings with larger or at least more balanced samples of people of younger and older ages.

Considered as a whole, this study prompts future research to address how people respond to grave illness and face the limits of their own mortality by assessing religiosity and the build-up of spiritual capital throughout the life course. As we have shown, this process is likely also to be dependent on the timing of lives, reflected in age at diagnosis, and the importance of religious coping may be amplified for younger adults having to contemplate their own mortality before they may be ready to. This study has integrated work within the sociology of religion with the life course perspective to make an important contribution to understanding broader disparities in cancer survivors' mental health and their psychological adjustment to one of the burdensome and strenuous diseases that may be encountered.

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