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Enhanced Religiosity Following Illness? Assessing Evidence of Religious Consolation Among Black and White Americans

Gary L. Oates

Department of Sociology, Bowling Green State University, Bowling Green, OH 43403, USA

Gary L. Oates: oatesg@bgsu.edu

Abstract

This study assesses variation among Black and White Americans in the impact of ill-health on public and subjective religiosity. It is the first longitudinal assessment of race-based variation in “religious consolation.” The under-explored consolation thesis anticipates ill-health influencing religiosity rather than the reverse, with religiosity functioning as a coping resource marshaled by the ill. Effects across races of *physical* ill-health indicators (chronic illnesses and impaired functioning) on religiosity outcomes are the main focus; but across-race variation in psychological distress-induced “consolation” is also assessed. Findings yield only limited evidence of consolation in each race, and restricted variation across races: Change in impaired functioning slightly enhances Whites’ subjective religiosity; but that effect does not significantly eclipse the impact among Blacks. There is no evidence of physical illness-induced consolation among Blacks; and the proposition that Blacks are more inclined toward consolation than Whites is affirmed only for psychological distress. There are no signs in either race that consolation is intensified by aging or higher religiosity, and no significant across-race differentials in effects of these illness-age and illness-religiosity interactions on subsequent religiosity. The multi-population model utilizes Americans’ Changing Lives data.

Keywords

Race; African-Americans; Religiosity; Health; Religious consolation; Structural equation modeling

The nature of the relationship between religiosity and physical health remains unresolved. For one thing, uncertainty still shadows the issue that has received most attention: i.e., whether religiosity actually enhances health (Ellison et al. 2010; Levin 1996; Son and Wilson 2011). That uncertainty stems substantially from the overwhelming reliance on cross-sectional samples in studies addressing the question (e.g., Cohen and Koenig 2003; George et al. 2002; Levin 1996; Son and Wilson 2011). Such data facilitate neither the clear temporal sequencing of outcomes from predictors, nor statistical controlling for baseline-levels of focal constructs. Cross-sectional samples have also been utilized extensively in research addressing whether religiosity is influenced by physical health. This question, which has received substantially less attention than its religiosity-upon-physical health reciprocal, is central to the analyses undertaken here. Using nationally representative longitudinal data, I test for variation among Black and White Americans in the impact of ill-health on levels of religiosity. I also assess Black–White variation in the impact of the interaction between ill-health and both age and religiosity on subsequent religiosity—given

the intriguing possibility that these intersections might foster turning to religion (Ferraro and Kelley-Moore 2000). As Ellison and Levin (1998) underscore, the religiosity-health relationship may operate differently across sociodemographic sub-groups.

The question of racial variation is an especially under-explored theme in empirical work testing for “religious consolation” (e.g., Ellison and Taylor 1996; Ferraro and Koch 1994, Ferraro and Kelley-Moore 2000, Ferraro and Kelley-Moore 2001; Idler 1995). This hypothesis anticipates ill-health influencing religion rather than the reverse, with religiosity functioning as a coping resource marshaled by individuals confronting illness (Ferraro and Koch 1994:365). Expanding on this notion, Idler (1995:684–85) notes the potential for people to turn to religion in times of trouble, especially during serious illnesses. Religious groups can offer both practical and spiritual help to the sick: e.g., via prayers, visits, meals, and perhaps most importantly, a reassuring belief in divine authority over human affairs. Religiosity legitimates illness and death by giving them a place in a single sacred reality. Religious faith is an immediately accessible cognitive and emotional resource for the sick or disabled. Additionally, turning to religion may foster social support from religious colleagues.

Augmenting these themes, Ellison and Taylor (1996:115) observe that since challenges tied to illness and disability are only partially responsive to problem-solving efforts, coping efforts focused on tempering associated negative emotions may be especially helpful. Prominent among such efforts is religious coping. Religious thoughts and practices may also facilitate reframing of threats to the physical self into more appealing cognitions—e.g., manifestations of God’s will, or occasions for personal development and spiritual growth. Turning to religion may also yield the self-enhancing benefit of undermining just world notions of good people ultimately enjoying good fortune, and bad people enduring deserved misfortune.

Various degrees of religious consolation have been observed in the few physical health-focused studies that have tested the thesis; but only two (Ferraro and Kelley-Moore 2000, 2001) used longitudinal data. Ferraro and Kelley-Moore (2000:222) stress that while longitudinal analyses are not the panacea for all causal intricacies, they remain a prudent step in the study of religious help-seeking over-time. *Race*-based variation in religious consolation, our main focus, has hitherto not been assessed with longitudinal data. [The 1994 Ferraro-Koch assessment of Black–White differences utilizes the first of the two waves of national panel data assessed here].

Black–White Variation in Religious Consolation, Alternate Possibilities, & Prior Evidence

The religiosity-health connection is routinely presumed to be stronger among Blacks than Whites. This hypothesis has been predicated on two intertwined phenomena: (1) Greater involvement of predominantly Black (vs. White) churches in addressing their constituencies’ nonreligious material and emotional needs (Ferraro and Koch 1994; Krause 2003; Marks et al. 2005; Ellison 1995); and (2) greater centrality of religiosity in the lives of Blacks versus Whites (Ellison 1995; Ferraro and Koch 1994; Jang et al. 2003; Oates and Goode 2013). Underscoring the scant attention to the “consolation” question, virtually all prior assessments of Black–White variation in the religiosity-health connection have framed health as the *dependent* variable. In their rare exception to this pattern, Ferraro and Koch (1994:365) predict that Blacks should be likelier than whites to “turn to religion for consolation and comfort.” They evoke both the church-based support and differential centrality themes (listed at the outset of this segment) en-route to this hypothesis. Signs of

an especially positive impact of illness or incapacitation on subsequent religiosity among Blacks would corroborate this thesis.

Set against the potential for Blacks in particular to engage in religious consolation, are two under-contemplated possibilities: (a) nonsignificant or even negative effects of illness on religiosity, and (b) statistically similar effects across races. Evidence of change in focal dependent variables—levels of religiosity presently—may be underwhelming once baseline-levels are factored in. Since longitudinal analyses adjust for such baselines, they yield much more rigorous tests of hypotheses than cross-sectional studies (Ellison and Levin 1998; Ferraro and Kelley-Moore 2000). Additionally, restricted variation in dependent variables limits the capacity for independent variables to exert influence, regardless of how theoretically appealing the case for significant effects might be. Such a scenario might be especially applicable when Blacks' religiosity is the outcome. With religiosity so normative among African-Americans that it evinces a borderline-compulsory "semi-involuntary" quality among many (Ellison and Sherkat 1999:794), the capacity for even very plausible predictors to influence Blacks' religiosity may be suppressed. That attenuation may be powerful enough to spur convergence between effects of possible predictors of Blacks' religiosity (e.g., prior illness) and magnitudes among Whites. Ellison and Levin (1998:714) invoke this restricted variation theme while expounding on the potential for religiosity-effects on Blacks' health to be rivaled, or even eclipsed, by effects among Whites.

Negative effects of ill-health on religiosity are especially possible for public manifestations involving activities such as churchgoing and auxiliary group-participation, as health issues could undermine ability to participate (Cummings and Pargament 2010; Ferraro and Kelley-Moore 2000). Negative effects may also prevail in *non*-public realms—given the intriguing potential for "negative religious coping" highlighted by Pargament and colleagues (e.g., Pargament et al. 1998; Cummings and Pargament 2010). The uniformly salubrious themes emphasized earlier during the discussion of why the ill might turn to religiosity for sustenance, largely evoke positive religious coping (e.g., notions of religiosity as a comforting cognitive resource, and facilitator of practical assistance). Such coping reflects elevated spirituality, sanguineness in one's relationship to the divine other, and perception of life as meaningful. Multiple efficacious actions and cognitions ensue from this secure foundation. These include benevolent religious reappraisals, religious purification, collaborative religious coping and seeking of spiritual connection, solicitation of help from clergy or church brethren, and granting of help and forgiveness (Pargament et al. 1999:712).

By contrast, negative religious coping signals an uneasy relationship with one's God, an alienation-infused struggle for meaning, and view of the world as menacing. Ensuing from this weak religious foundation are several problematic coping behaviors and cognitions. These include spiritual discontent, punitive or demonic religious reappraisals, and interpersonal religious strife (Pargament et al. 1999:712). To the extent that ill or incapacitated persons' conceptualizations of religiosity emphasize these unappealing cognitions, the inclination to turn to religion for solace would likely be undermined. Inhibitive illness-effects on subsequent religiosity would then ensue.

Patterns in the lone prior test for racial differences (Ferraro and Koch 1994) are suggestive of Blacks being more prone toward religious consolation. Net of multiple sociodemographic factors, Blacks are significantly likelier than Whites to report seeking spiritual comfort and support when facing major problems. Furthermore, in a separate multivariate model, this same spiritual comfort item (labeled "consolation") exerts a significantly more negative "impact" on good physical health among Blacks. [The within-race coefficient is trivial among Whites and significantly negative among Blacks]. The authors' portrayal of this pattern as signaling higher religious consolation levels among Blacks presumably stems

from what its reciprocal implies: sicker/relatively incapacitated Blacks being likelier to seek spiritual comfort. Constraints intertwined with the model's cross-sectional setup enhance the defensibility of this portrayal. That said, a longitudinal model directly "verifying," as it were, whether Blacks or Whites facing health problems actually become more religious subsequently, would yield a more compelling test of the consolation thesis. As indicated earlier, the longitudinal model estimated here incorporates the followup wave to the data used by Ferraro and Koch (1994).

Possible Effects on Religiosity of Interactions Between Illness and Both Age and Prior Religiosity

As noted earlier, Ferraro and Kelley-Moore (2000) raised the possibility of interactions between ill-health and both age and current religiosity influencing subsequent religiosity. Regarding possible illness-age interactions, they suggest that aging enhances "awareness of finitude." This phenomenon heightens the perceived urgency of solidifying or reconciling the relationship with one's God. Illness likely intensifies this process when combined with age. Additionally, since confidence in the efficacy of religious coping should be enhanced by elevated religiosity, positive religiosity-illness interaction effects on subsequent religiosity should prevail (Ferraro and Kelley-Moore 2000:221). The intriguing question of whether dominant versus subordinate racial status intensifies or suppresses these interaction effects is assessed here. This question has not been examined in prior empirical work.

Modeling Black-White Variations in the Impact of Ill-Health on Religiosity

To reiterate, this study assesses variation among Black and White Americans in (a) the impact of ill-health on religiosity, and (b) effects of illness-age and illness-religiosity interactions on subsequent religiosity.

Data

The analysis utilizes data from the 874 Black and 1,906 White participants in both the first (1986) and second (1989) waves of the *Americans' Changing Lives* (ACL) face-to-face surveys (House 1995). Utilization of these two waves versus the latter two (conducted in 1993 and 2004) yields some key pragmatic benefits: a Black sample size adequate to inspire confidence in obtained coefficients, decent measures of public and non-public manifestations of religiosity at the prediction wave, and a relatively short inter-wave time lag that reduces the possibility of history-related factors (e.g., changes to health or religiosity levels) intervening to alter the impact of illness on religiosity. Were the ACL wave three and four combination utilized instead of waves one and two, the effective Black sample size (factoring in the number furnishing self-report data at the final wave) would diminish to 147; and an item querying the importance of religious beliefs would be the sole non-public religiosity indicator at the prediction wave.

Variables

Religiosity is best construed as multi-faceted, with public, subjective and private manifestations. Multidimensional operationalization of religiosity facilitates detection of distinctive ways in which each dimension may relate to other phenomena (Levin, Taylor and Chatters 1995).

Here, two dimensions are assessed at each wave. *Public religiosity* indexes reported typical attendance at religious services (1 = never... 3 = about once a month, 4 = 2 or 3 times a month... 6 = more than once a week), and volunteering during the past year for a church, synagogue or other religious organization (0 = no, 1 = yes). The two *subjective religiosity*

items query importance of religious beliefs in day-to-day life (1 = not at all important...4 = very important), and frequency of seeking spiritual support and comfort when faced with work-/family-/personal life-related problems (1 = never...3 = sometimes...5 = almost always). Measures of *private* religiosity (the other primary dimension encompassing activities such as private prayer and consumption of printed or broadcasted religious content) are absent from the outcome wave survey, and thus not included in this analysis.

All of the model's predictor variables are gauged at wave *one*. The wave two religiosity constructs are the dependent variables; and their wave one counterparts are included among their predictors. This "autoregressive" approach to assessing shifts in religiosity—whereby prior-wave counterparts of dependent constructs are included among their predictors—is routine in longitudinal data-based studies of physical and mental health (e.g., Ferraro and Kelley-Moore 2000; Levin and Taylor 1998; Musick 1996; Pearlin et al. 1981; Son and Wilson 2011).

As alluded to earlier, physical health problems seem likelier to constrain public religious activities than non-public ones. Two aspects of such difficulty are the main independent variables: *Chronic illnesses* are the sum of "yes" responses (coded 1, vs. "no" = 0) across items investigating experience over the preceding year of the following: Arthritis or rheumatism, lung disease, hypertension, heart trouble, diabetes or high blood sugar or medication for such, cancer or any malignant tumor, foot problems (e.g., circulation-, corn- or callous-related), stroke, broken or fractured bones, and urine-control problems. *Impaired functioning* is a latent construct comprising assessments of current health (5 = excellent... 3 = good...1 = poor) and degree to which health issues impede daily activities (5 = not at all... 3 = some...1 = a great deal), and an ACL-constructed Guttman-type scaled functional health measure (4 = no functional impairment, 3 = least severe, 2 = moderately severe, 1 = most severe). The latent construct obtained from these indicators is multiplied by -1 to reflect impairment, since the constituent items are scaled in a direction signaling *unimpaired* functioning. Inclusion of this substantially subjective physical health construct acknowledges the compelling contention that individuals' definitions of health may encompass not only *disease* status—but multiple additional realms including health status relative to others, emotional well-being, social relationships, and ability to perform critical activities (Idler 1995:685–86).

Stress and coping perspective-inspired investigations typically conceptualize stress exposure and access to coping resources as predictors of mental or physical health (see Cohen and Koenig 2003; Cummings and Pargament 2010; Ellison and Levin 1998; Pearlin et al. 1981; Thoits 2006). Representative factors, alongside an indicator of mental health status, are modeled here as predictors of a phenomenon normally construed as a coping resource: i.e., religiosity (Cohen and Koenig 2003; Cummings and Pargament 2010; Ellison and Levin 1998; Ferraro and Koch 1994). The analysis thus addresses the under-explored potential for stressors, coping resources, and health indicators to exert reciprocal influences on each other (see Pearlin 1999; Thoits 2006).

Mastery is indexed with the three included items from the Pearlin Mastery scale (Pearlin et al. 1981): "I can do just about anything I really set my mind to do" (1 = strongly disagree...4 = strongly agree); "Sometimes I feel that I am being pushed around in life;" and "There is no way I can solve the problems I have" (1 = strongly agree...4 = strongly disagree for the latter two items).

Social support, which incorporates both positive and negative aspects (Lincoln et al. 2003), is a second-order latent construct (Jöreskog and Sörbom 2003) comprising four first-order latent variables: *Support network size* indexes reports of the number of friends or relatives

available to “call on for advice or help,” and “share very private feelings with” (seven or more such persons coded 7). *Positive interactions* with close friends and relatives (spouse and children aside) combines the items “On the whole, how much do your friends and other relatives make you feel loved and cared for?,” and “How much are these friends and relatives willing to listen when you need to talk about your worries or problems?” (5 = a great deal, 4 = quite a bit, 3 = some, 2 = a little, and 1 = not at all for both items). These same response options accompany the two items indexing *negative interactions* with close friends and relatives: how much they make “too many demands,” and are “critical of you or what you do.” *Informal social integration* indexes the frequency of *telephone* and *in-person* contact with close friends/relatives/neighbors (0 = never, 1 = less than once monthly, 2 = about once monthly, 3 = 2 or 3 times monthly, 4 = once weekly, 5 = more than once weekly for both items).

Chronic financial stress is an ACL-constructed standardized measure reflecting responses to three items querying satisfaction with present financial situation (1 = completely satisfied... 5 = completely dissatisfied), difficulty posed by meeting monthly bills (1 = not difficult...5 = extremely difficult), and whether “finances usually work out” at each month’s end such that money usually is/isn’t left over (1 = some money left over, 2 = just enough, 3 = not enough).

Negative life-events denotes the total number of such events, *excluding* health-related ones, experienced during the 3 years preceding the wave one interview. The nine possible events include death of a spouse, child, parent/step-parent, or other close relative/friend, divorce, assault, job loss, burglary of home, or “anything else bad.”

Mental health problems are represented by a standardized ACL-created *psychological distress* index comprising eleven items from the CES-D depression scale items querying the frequency during the past week (1 = hardly ever, 2 = some of the time, 3 = most of the time) that the respondent felt depressed, felt that everything was an effort, endured sleep that was restless, etc. Religious consolation in the face of physical health problems is evidently this study’s main focus; but attention to across-race variation in the impact of psychological distress acknowledges the possibility for *mental* health problems to induce consolation (Ellison and Levin 1998:711).

Health-related habits are typically conceptualized as products of religiosity (e.g., Dull and Skokan 1995; George et al. 2002); but they may also influence religiosity levels, given the possibility of selectivity. An *unhealthy behaviors* construct sums the actual number of alcoholic drinks over the past month and cigarettes consumed daily.

Sociodemographic control variables—i.e., *gender* (*female* = 1), *age* in actual years, *marital* (*married* = 1, not married = 0), *employment* (1 = employed, vs. 0 = not employed for pay), and latent *socioeconomic status*—complete the list of wave one-assessed factors exerting main effects on public and subjective religiosity at wave two. Socioeconomic status indexes actual years of education and family income (1 = <\$5,000, 2 = \$5 g–\$9,999, ...5 = \$20 g–\$24,999, 6 = \$25 g–\$29,999 ...9 = \$60 g–\$79, 999,10 = \$80,000 or >).

Missing values on all observed variables are replaced with imputed ones generated with the multiple imputation facility of PRELIS8.5 (Jöreskog and Sörbom 2003). This feature substitutes simulated values reflecting within-case patterns occurring across other specified variables with non-missing data. The Black and White sub-samples are separated during the imputation phase. It bears noting that the overwhelming majority of assessed variables have no missing data; and imputed values are required only for a few responses to items tapping mastery, positive interactions with friends/relative, support network size, and informal social

integration. Specific numbers are furnishable. Additionally, to forestall inflation of correlations between constructs generated partially from imputed cases and other analyzed variables, the string of variables from which imputed values are generated is restricted to indicators of the given construct. Descriptive statistics and LISREL8.8-generated factor loadings for indicators of all analyzed variables are presented in Table 1.

The Model

A multi-population model—comprising main and interaction effects components—assesses the level of support for the religious consolation hypothesis within each racial group. Following Ferraro and Kelley-Moore (2000), the main effect of ill-health constructs on religiosity is assessed from two standpoints: (1) a static or “lagged” formulation, in which the wave one measures of chronic illness and impaired functioning are included among predictors of the wave two religiosity measures, and (2) a relatively dynamic “change score” formulation, in which the *difference* between the wave two and wave one measures of illness/impairment (i.e., W2 minus W1 chronic illness/impaired functioning) are substituted for their static wave one counterparts. In the interaction effects phase, multiplicative terms signaling the interaction between the respective illness measures and either age or prior public/subjective religiosity are alternated in the equations predicting each religiosity dimension at wave two. These interactions are added alternately rather than simultaneously, to forestall multicollinearity.

“Latent factor score”-equivalents of all first- and second-order multi-indicator latent constructs are used throughout the structural phase of the analysis, so as to forestall problems obtaining model-convergence. These latent factor scores, which LISREL8.8 generates at measurement phases, effectively represent “single”-indicator equivalents of their multi-item counterparts (Jöreskog and Sörbom 2003). The latent factor score versions of impaired functioning and public and subjective religiosity are also used in the computation of interaction terms involving these constructs. As reiterated in Table 1, the LISREL-generated multi-indicator latent constructs are public/subjective religiosity at waves one and two, and wave one measures of impaired functioning, mastery, socioeconomic standing, second-order social support, and its constituent first-order support network size, positive and negative interactions, and informal social integration indexes.

To test for variation across races in the impact of ill-health constructs and interaction terms involving these constructs on religiosity outcomes, I estimate separate pairs of multi-population models. The impact of the focal predictor is alternately freed (i.e., specified as different) and fixed (constrained to be equal) across races in these models. Significance of the Black–White difference in the impact of a specific predictor on a religiosity outcome is adjudged based on whether the difference between the two model Chi-Squares meets the .05 two-tailed test significance threshold of 3.84. The baseline or “null hypothesis” models during these significance tests are the ones with dependent variable-error variances and effects of all predictors *freed* across races—yielding the coefficients presented in the forthcoming Table 2. The “alternative” models are the ones with the *path at issue* fixed across races (e.g., the chronic illness-effect on subsequent public religiosity, but no other path). The alternative models utilize one additional degree of freedom vis-à-vis their baseline model-counterparts.

Limitations of the Model

The specific consolation hypothesis-derived question adjudicated here is the only one facilitated by the ACL: i.e., whether persons exhibit significant shifts in religiosity following illness or incapacitation. Except for the “spiritual comfort” indicator of subjective religiosity however, items constituting the religiosity constructs do not capture the *content* of religious

practices or cognitions. A central plank of Pargament's religious coping discussion is that the substance of religious activities or cognitions might vary significantly across persons reporting identical behaviors or thoughts, or even across different stressors in the same person. Thus information on whether someone attends religious services weekly, or prays several times daily, or considers him/herself religious, may be insufficiently elucidative (Cummings and Pargament 2010:31). Activities or cognitions that incisively evoke positive versus negative religious coping (e.g., forging an action plan in tandem with God, using religion as a means of quelling worry or anger, or interpreting illness as an effort by God to make one stronger—versus questioning God's love or power, or viewing illness as punishment or a sign of abandonment by God) are virtually untapped by the assessed indicators (see Pargament et al. 1999:718). Furthermore, inasmuch as such coping efforts could be short-lived, they may not be captured by the relatively fundamental shifts in religiosity that this model gauges. That said, "fundamental" or "long-term" increases in religiosity should, on the face of it, afford individuals the multiple benefits anticipated by the consolation thesis.

The model also ignores possible causal relationships among specific sociodemographic factors, and possible effects of sociodemographics on religiosity, physical health and other stressors and coping resources at wave one. The seriousness of this limitation is, however, mitigated substantially since our main interest is in the combined effect of these controls on wave two religiosity. Possible multicollinearity-induced counterintuitive effects of individual control variables are thus not terribly bothersome. The utilization of multiple two-indicator latent variables is also less than-ideal, since three or more indicators are preferable for latent variable-construction (Jöreskog and Sörbom 2003). Additionally, the model does not adjust for possible period-specific variation in the impact of ill-health and other predictors on religiosity outcomes. Thus if the impact of an illness construct on subsequent religiosity differed appreciably prior to the mid-to-late 1980s slice of Black and White American life that is assessed here, that variation would be missed. On a related point, the possible time-boundedness of the observed patterns warrants noting, given the now somewhat distant coverage-period of the data. Findings should thus be digested with this caveat in mind. That said, the model's value as a theory testing contribution arguably counterbalances limitations tied to the data's age. Moreover, powerful arguments for large post-1994 shifts in observed relationships are not immediately apparent.

Results

Main effects of ill-health constructs and other predictors on public and subjective religiosity are presented in Table 2. The fully standardized coefficients facilitate direct comparisons of specific predictors' effects. The table combines findings from the separately estimated lagged and change score formulations of the model described earlier. Effects of non-physical ill-health constructs (i.e., psychological distress through socioeconomic status) are from the lagged model-iteration. These coefficients are quite similar to their change score model-counterparts. Where effects of *physical ill-health* constructs and *psychological distress* differ significantly across races, the pairs of coefficients are shaded in italicized. Black–White variation in the impact of physical illness on religiosity is of course the main focus; but since *mental* health problems could also induce religious consolation (Ellison and Levin 1998:711), across-race variation in the impact of psychological distress is gauged as well. Direct effects of other variables on specific outcomes may also differ across races; but those significance tests were not performed due to the secondary theoretical import of those differences.

In the lone instance where a physical ailment indicator significantly influences public religiosity, "consolation" is not signaled. Impaired functioning slightly suppresses public

religiosity among Whites ($-.024^*$). The non-significance of the positively skewed impact among Blacks (.30) seems attributable to the much smaller size of that sample; but any inclination to declare that effect reflective of consolation is tempered by the negative direction of the *change* in impairment-effect (i.e., $-.116^{***}$). Substantively, that coefficient indicates that inter-wave increases in impairment depress Blacks' public religiosity. The coefficient also significantly exceeds its counterpart impact among Whites ($-.016$ ns)—in contrast to the non-significant across-race differential in the impact of static impairment on the same outcome. Neither chronic illness construct significantly influences public religiosity in either race; and those across-race differentials are uniformly nonsignificant.

The mildly positive impact of inter-wave changes in impaired functioning on Whites' subjective religiosity ($.025^*$) constitutes the strongest indication of physical illness-induced religious consolation in either race. However, since that effect does not significantly exceed the corresponding impact among Blacks ($.019$ ns), it cannot be declared uniquely positive among Whites. Mirroring the scenario for public religiosity, (a) chronic illness appears inconsequential to subsequent subjective religiosity in each race; and (b) none of the within-race effects differs significantly across races.

There is striking evidence of psychological distress-induced “subjective religious consolation” among Blacks. Distress among Blacks at wave one redounds to markedly greater subjective religiosity by wave two ($.149^{***}$). This effect is nearly seven times the nonsignificant path among whites ($.022$). Thus while Blacks show no significant sign of “turning” to either examined form of religiosity when confronting physical illness, they apparently do so in response to psychological distress—and to a significantly greater extent than Whites. The impact of distress on subsequent *public* religiosity is trivial in both groups ($.002$ among Blacks and $.019$ among Whites).

Table 3 displays effects of assessed multiplicative terms on public and subjective religiosity. Those coefficients reflect interactions between illness constructs and both age and initial public or subjective religiosity. Effects of other predictors in these interaction effects models are excluded due to space limitations, but are furnishable. Two patterns stand out: Interaction effects are mostly nonsignificant; and the uniformly negative direction of significant coefficients *belies* the idea that age or higher religiosity intensifies religious consolation. Furthermore, since across-race differentials are uniformly nonsignificant (as note “a” beneath the Table reiterates), no coefficient in Table 3 can be confidently declared “larger” or “smaller” than its counterpart in the other race. The substantive meanings of the significant coefficients in Table 3 warrant noting: In both races, being subjectively religious to begin with detracts from (rather than enhances) the tendency to respond to impairment with elevated subjective religiosity. The significant coefficients among Blacks and Whites are $-.058^*$ and $-.033^{***}$ respectively. The effect of the chronic illness-subjective religiosity interaction on subsequent subjective religiosity evinces a similar pattern direction-wise. In this instance though, the impact declines among Whites (to a non-significant $-.027$) and rises among Blacks (to $-.089^*$).

Summary and Discussion

This longitudinal national data-based investigation has uncovered only limited signs that Black or White Americans become more religious in response to physical illness. Thus the religious consolation thesis—which presupposes positive effects of illness on religiosity (Ellison and Taylor 1996; Ferraro and Koch 1994; Idler 1995)—receives mild support at best in each race. The notion that Blacks should be *more* predisposed to religious consolation than Whites (Ferraro and Koch 1994) also receives only qualified support. There

are no signs in either race that being older or more religious to begin with intensifies religious consolation (see Ferraro and Kelley-Moore 2000).

In the sole instance of significant racial variation in the impact of a physical ailment indicator—i.e., the distinctly negative impact of increased impairment on Blacks' public religiosity—a contradiction of the consolation thesis is what warrants explanation. The pattern may of course *not* reflect inordinate “turning away” from religiosity on Blacks' part. As noted earlier, serious health issues might preclude public religious activity even for persons so-inclined (Cummings and Pargament 2010; Ferraro and Kelley-Moore 2000). Since Blacks typically face more adverse physical health and health care access circumstances than Whites (Drevenstedt 1998), they are probably vulnerable to sharper increases in physical impairment, and by extension, sharper declines in ability to be publicly religious. Thus the distinctly inhibitive impact of increased impairment on public religiosity among Blacks probably reflects differences in severity of impairment across races. It bears reiterating, however, that even while inter-wave *increases* in impaired functioning undercut Blacks' public religiosity more severely than Whites,' the impact of impairment at a “given” moment on the same outcome does not vary significantly. Such distinctions seemingly validate the dual lagged effect- and change score-based approach to assessing influence over-time (Ferraro and Kelley-Moore 2000).

There may be some connection between the across-race differential discussed above and the other significant Black–White differential observed—i.e., the especially positive impact of psychological distress on Blacks' subjective religiosity. This particular pattern constitutes the strongest evidence of religious consolation among Blacks in this study. Recent panel data-based findings from Oates and Goode (2013) indicate that public religiosity has a markedly inhibitive impact on distress among Blacks (*vis-à-vis* Whites). It follows that inability to engage in public religiosity might be particularly distressing for Blacks. The present findings portray increases in impaired functioning as a uniquely powerful contributor to such inability among Blacks. Distress *emitting from* inability to be “publicly” religious might then draw Blacks in particular to forms of religiosity that health permits: e.g., subjective manifestations. The intricate analysis required for testing this proposition is beyond the scope of the present study.

This notion that distress stemming from curtailed public religious activity might spur subjective religiosity among Blacks especially, is probably *not* undercut by the pattern most indicative of “consolation” among Whites: i.e., the mildly positive impact of increased impairment on their subjective religiosity. To begin with, findings here also reveal that distress among Whites is inconsequential to subjective religiosity. Additionally, effects of illness constructs on Whites public religiosity are quite small—the largest being the $-.024^*$ static impairment-effect. Thus distress among whites is unlikely to stem from illness-related curtailment of public religiosity.

However intriguing the possible connective “loop” between the two observed across-race differentials might be—i.e., (a) physical incapacitation hindering public religiosity among Blacks especially; (b) this inability being particularly distressing for Blacks; and (c) ensuing distress driving Blacks especially to take “solace” in subjective religiosity—a key finding bears reiterating: i.e., *no* indication of physical illness directly fostering religiosity among Blacks especially. The contradiction between this finding and patterns in the lone prior study of racial differences in the illness on religiosity effect (Ferraro and Koch 1994) thus warrants reconciliation. [Those patterns indicated more physical illness-driven religious consolation among Blacks]. As noted earlier however, the longitudinal design of the present study renders it a more direct test of the consolation thesis than that cross-sectional databased predecessor. This study directly assesses Black–White variation in subsequent

religiosity among persons *known* to be experiencing illness or incapacitation. That said, the general inattention of the present items to the content of religious activity also warrants reiteration. Assessment of racial differences in levels of religious consolation, featuring indicators of positive versus negative coping (Pargament et al. 1999), would thus be worthwhile.

Overall, a decidedly mixed bag has been obtained here vis-à-vis congruence with the religious consolation thesis in each race. These patterns though may simply mirror the *intricacy* defining how religiosity is experienced by different races.

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Completely standardized LISREL loadings and weighted descriptive statistics for analyzed variables: Blacks and Whites in ACL waves 1 (1986) and 2 (1989)

Table 1

Variables	Factor Loading		Mean		Standard Dev.	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
PUBLIC RELIGIOSITY (Wave 1)						
Attendance@religious services	.824	.869	4.018	3.365	1.639	1.818
Volunteer for religious organizations	.472	.616	.294	.254	.438	.436
SUBJECTIVE RELIGIOSITY (Wave 1)						
Importance of religious beliefs	.680	.796	3.698	3.292	.543	.872
Seeks spiritual comfort...	.680	.799	3.857	3.315	1.240	1.486
PUBLIC RELIGIOSITY (Wave 2)						
Attendance@religious services	.819	.869	3.871	3.316	1.647	1.851
Volunteer for religious organizations	.514	.607	.276	.262	.447	.440
SUBJECTIVE RELIGIOSITY (Wave 2)						
Importance of religious beliefs	.745	.803	3.777	3.374	.541	.842
Seeks spiritual comfort...	.627	.873	4.000	3.842	1.205	1.392
MASTERY (WAVE 1)						
I can do just about anything I set my mind to	.332	.230	3.466	3.413	.786	.754
Sometimes I feel...pushed around in life (reversed)	.533	.544	2.828	3.047	1.049	.973
There is no way I can solve the problems I have (reversed)	.556	.544	3.090	3.355	1.004	.914
CHRONIC ILLNESS (Wave 1)	1.000	1.000	1.579	1.254	1.413	1.334
IMPAIRED FUNCTIONING (Wave 1)						
Self-rated health	.630	.715	3.334	3.635	1.171	1.060
Activities (<i>not</i>) limited...	.847	.826	4.174	4.300	1.290	1.129
Functional health rating	.816	.749	3.531	3.662	.893	.761
^CHRONIC ILLNESS (Wave 1-2)	1.000	1.000	.029	.060	1.131	.999
^IMPAIRED FUNCTIONING (Wave 1-2)	1.000	1.000	.000	.002	.478	.367
UNHEALTHY BEHAVIORS (Wave 1)	1.000	1.000	15.381	19.110	31.030	35.708
PSYCHOLOGICAL DISTRESS (Wave 1)	1.000	1.000	.023	.009	.437	.432
FINANCIAL STRESS (Wave 1)	1.000	1.000	.479	-.129	1.092	.978
NEGATIVE LIFE-EVENTS (Wave 2)	1.000	1.000	.957	.813	.872	.807

Variables	Factor Loading		Mean		Standard Dev.	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
SOCIAL SUPPORT [2nd ORDER] (Wave 1)						
Support network size	.585	.633				
Informal social integration	.314	.555				
Positive interactions...	.838	.783				
Negative interactions...	-.267	-.224				
Support network size (Wave 1)						
#Friends/relatives R can call on for advice or help	.577	.502	7.594	10.088	10.782	12.390
#Friends/relatives R can share private feelings with	.470	.515	2.037	2.355	1.675	1.823
Informal social integration (Wave 1)						
How often R talks on the phone with friends/relatives	.980	.529	4.319	4.704	1.564	1.293
How often R gets together with friends or relatives	.181	.612	4.048	4.539	1.569	1.410
Positive Interactions with friends or relatives (Wave 1)						
How often do friends/relatives make R feel loved & cared for	.768	.786	4.070	4.103	.985	.887
How often friends/relatives willing to listen (re: problems)	.734	.765	3.781	3.820	1.129	1.065
Negative Interactions with friends or relatives (Wave 1)						
How often do friends/relatives make too many demands	.645	.599	1.720	1.635	1.039	.910
How often are friends/relatives critical of R	.715	.687	1.852	1.716	1.096	.901
SOCIOECONOMIC STATUS (Wave 1)						
Family income	.779	.906	3.367	5.056	2.412	2.575
Education	.668	.506	11.415	12.420	3.719	3.033
Employed (Wave 1)	1.000	1.000	.517	.539	.500	.499
Age (Wave 1)	1.000	1.000	52.383	53.728	16.801	17.201
Gender (female)	1.000	1.000	.678	.622	.467	.485
Married (vs. not, at Wave 1)	1.000	1.000	.420	.631	.494	.483

All factor loadings of latent variable-indicators are statistically significant ($p < .001$)

Capitalized variables are the ones included the causal models

Table 2

Main effects of ill-health constructs and other predictors on subsequent religiosity

Predictors (All assessed at wave one, <i>unless</i> otherwise indicated)	Public Religiosity (Wave 2)		Subjective Religiosity (Wave 2)	
	Whites	Blacks	Whites	Blacks
Chronic Illness	-.006	-.041	-.007	.010
^a Chronic Illness	.004	.003	.011	-.008
Impaired Functioning	-.024*	.030	.008	-.065
^a Impaired Functioning	-.016	-.116***	.025*	.019
Psychological Distress	.002	.019	.022	.149***
Public Religiosity	.922***	.820***	—	—
Subjective Religiosity	—	—	.895***	.556***
Mastery	.012	.010	.010	.140***
Social Support	-.003	.020	-.007	.053
Undesirable Life-Events	-.009	-.000	-.001	-.010
Financial Stress	-.023*	-.010	-.015	.010
Unhealthy Behaviors	-.008	-.023	.010	-.033
Gender (female)	.028**	.020	.044***	.054
Age	-.006	.007	.014	.065
Married	.009	.002	.016	.005
Employed	.001	.044*	-.006	.066*
Socioeconomic Status	-.006	.019	-.001	-.102**

n = 874 (blacks)/1,906 (whites)

*
p < .05,**
< .01,***
p < .001

^aThe “^a” character denotes *changes* in the given ill-health construct across waves (i.e., the wave 2-level minus wave 1-level). The table combines findings from *separately* estimated “lagged” and “change score” formulations of the model. Coefficients for *non-physical* ill-health constructs are from the lagged model-iteration, and do not differ appreciably from their change score model-counterparts

^bEffects of *physical ill-health* constructs and *psychological distress* that differ significantly across races are in italicized. Effects of other predictors on specific outcomes may also differ significantly across races; but those significance tests were not performed

Table 3

Effects of interactions between ill-health constructs and selected factors on subsequent religiosity

Predictors (All assessed at wave one, <i>unless</i> otherwise indicated)	Public Religiosity (Wave 2)		Subjective Religiosity (Wave 2)	
	Whites	Blacks	Whites	Blacks
Chronic Illness × Age	-.023	.108	-.038	.124
^Δ Chronic Illness × Age	-.025	-.071	.026	-.026
Impaired Functioning × Age	-.062	.050	.052	.072
^Δ Impaired Functioning × Age	-.047	-.080	.002	-.075
Chronic Illness × Public Religiosity	-.005	-.040	—	—
^Δ Chronic Illness × Public Religiosity	.002	.008	—	—
Chronic Illness × Subjective Religiosity	—	—	-.027?	-.089*
^Δ Chronic Illness × Subjective Religiosity	—	—	-.010	.031
Impaired Functioning × Public Religiosity	-.013	-.020	—	—
^Δ Impaired Functioning × Public Religiosity	.004	-.025	—	—
Impaired Functioning × Subjective Religiosity	—	—	-.033***	-.058*
^Δ Impaired Functioning × Subjective Religiosity	—	—	-.008	-.013

n = 874 (blacks)/1,906 (whites)

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

To forestall multicollinearity, these interactions are added to the equations predicting second-wave public and subjective religiosity *alternately* rather than simultaneously. *None* of these interaction effects differs significantly across races: Chi-Square differentials associated with constraining each of these effects to be equal across races are uniformly nonsignificant

^aThe “^Δ” character denotes *changes* in the given ill-health construct between waves one and two (i.e., wave 2 level minus wave 1 level)