Published in final edited form as:

Rev Relig Res. 2016 June ; 58(2): 249–270. doi:10.1007/s13644-015-0239-9.

Effects of Religiosity Dimensions on Physical Health across Non-elderly Black and White American Panels

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Abstract

This investigation—based on a three-wave national panel of Black and White Americans aged 64 or younger at wave one—gauges variation across races in the indirect, moderating, and direct effects of public and subjective religiosity on a latent physical health outcome comprising chronic illnesses, subjective health, and functional limitations. The multi-population LISREL model specifically addresses the mechanisms through which religiosity is typically presumed to indirectly foster health: enhancement of social support and self-appraisals, and suppression of stress-exposure and unhealthy habits. The extent to which religiosity buffers or exacerbates the impact of specific stressors is also examined. The impact of religiosity on health appears to hinge on race and religiosity dimension: Public religiosity indirectly enhances Blacks' health slightly, and apparently buffers any negative impact of financial strain on their health. Public religiosity does not influence Whites' health; and subjective religiosity does not influence health in either race. The models control for multiple socio-demographic factors.

Keywords

Religiosity; Race; Health; Illness; African-Americans; Stress and coping; Social support; Self-appraisals

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The impact of religiosity on physical health has been heavily investigated, but evidence remains “inconclusive” (Ellison et al. 2010:327). One noticeably unresolved aspect is the possibility of variations among Black and White Americans. The small list of empirical studies gauging Black–White differences in the religiosity–physical health relationship includes four with cross-sectional designs (Drevenstedt 1998; Krause 2002, 2006; Ferraro and Koch 1994), one utilizing a regional elderly panel (Musick 1996), two assessing mortality risks in national adult panels (Hummer et al. 1999; Musick et al. 2004), and one gauging effects of *health* on religiosity in a national panel (Oates 2013). The notion that “religion may ‘work’ differently in shaping health outcomes” for different population segments (Ellison and Levin 1998) remains intriguing—as is the related possibility of variation across dominant and subordinate groups in relationships among coping resources, stressors, and health (Pearlin et al. 1981). These key elements of the stress and coping perspective feature prominently alongside health-related habits in theoretical work on the

impact of religiosity on physical health (e.g., Dull and Skokan 1995; Ellison et al. 2010; Krause 2011a; Son and Wilson 2011). The present study draws substantially on this work.

I marshal nationally representative panel data to assess variation among Black and White Americans in the impact of two religiosity dimensions on a latent health outcome. Longitudinal models facilitate clearer temporal separation of outcomes from predictors (e.g., health from religiosity) than cross-sectional designs, and statistical adjustment for baseline levels of focal constructs such as prior health (Krause 2002; Oates and Goode 2013). Nationally representative samples help to forestall questions about generalizability. I assess the indirect and moderating effects that theoretical contributions have emphasized, alongside direct effects. Another salient feature of this study is its focus on adults no older than 64 at the baseline wave. The elderly have featured in many examinations of the relationship between religiosity and physical health; and the centrality of religiosity in daily life and reliance on religiosity as a coping mechanism are distinguishing attributes of the elderly phase (Cohen and Koenig 2003). Whether religiosity is also consequential to health earlier in life thus becomes intriguing. Additionally, since biomedical precursors of illness reach their apex during the elderly phase (Fries 2000), social phenomena such as religiosity, other ostensible coping resources, stressors and lifestyle habits might have substantial opportunity to influence health earlier in life. Ultimately, the emphasis on non-elderly adults should enhance the generalizability of evidence regarding the relationship between religiosity and physical health—which has been “limited by the preponderance of studies of older people” (George et al. 2002:191).

Mechanisms Through Which Religiosity Might Influence Health

Theoretical contributions typically emphasize mediating and, secondarily, moderating effects of religiosity on physical health. Direct effects are also gauged, since the data may not capture the full range of possible mediating or moderating mechanisms. Considering mediating mechanisms first, religiosity may foster healthy habits and lifestyles, social support, and positive self-appraisals (most notably perceived control, self-esteem, and concomitant view of the world as meaningful and manageable). Religiosity may also inhibit exposure to stressors. Healthful habits, social support and positive self-appraisals may enhance physical health, while stressors may be debilitating (Dull and Skokan 1995; Ellison et al. 2010; Krause 2011a; Son and Wilson 2011). The formulated model specifically tests whether religiosity indirectly influences health via these mediating mechanisms. Moderating mechanisms, which have received less empirical attention, involve religiosity fostering health by buffering potentially injurious effects of stressors (Ellison et al. 2010; George et al. 2002; Krause 2011a). The model gauges the impact on health of interactions between religiosity dimensions and multiple stressors. Detailed explanations for why religiosity may indirectly foster health via social support, self-appraisals, stress exposure and healthy lifestyle pathways, and by buffering stressor-effects, have been provided by Dull and Skokan (1995), Ellison et al. (2010) and Krause (2011a). Social mechanisms aside, religiosity may also be linked to biological precursors of illness. These include hypertension, lipid profiles, immune function, and varying patterns of brain activity (Cohen and Koenig 2003). Biological mechanisms are not directly addressed here.

Black–White Variation in the Impact of Religiosity on Health: Theory and Evidence

The presumption that religiosity benefits Blacks more than Whites appears regularly in health-focused investigations (e.g., Ferraro and Koch 1994; Jang et al. 2003; Krause 2002, 2003, 2006; Musick 1996; Oates and Goode 2013). This hypothesis is typically hinged on either or both of two intertwined phenomena: greater involvement of predominantly Black (vis-à-vis White) churches in addressing their constituencies' nonreligious material and emotional needs; and greater centrality of religiosity in Blacks' lives.

Black churches play a distinctive, multifaceted role in seeing to their congregations' and communities' needs. Such help is delivered mainly through extensive church-based social support networks (Chatters et al. 2011; Ellison et al. 2010). These formal and informal networks routinely deliver critical instrumental, material and emotional assistance to churchgoers and community residents. Tangible forms of help such as caregiving, job referrals, transportation and money, augment non-tangibles like emotional support, information, advice, and counseling. African-Americans are strongly invested in these church-based networks (Chatters et al. 2011).

Black church-centered initiatives that may promote health have been documented by several investigators. Chaves and Higgins (1992) detect greater participation by predominantly black versus white congregations in public education on disease prevention (along with meal service, community development, and civil rights-focused activities). Compared to initiatives in which greater involvement by white congregations is observed, those prioritized by black congregations generally seem more consequential to the physical health of individuals. This key substantive distinction aside, Chavez and Higgins also stress that black church-centered initiatives disproportionately target less privileged segments of “*immediately surrounding communities*,” whereas white church-centered initiatives mainly emphasize “constituencies *well outside* the local environment” or groups “*internal to*” their congregations (p. 434; emphasis added). Collectively, these patterns suggest that not only are persons within the geographic scope of black churches likelier than those living near white churches to be targets of church initiatives emphasizing health, but *need* more likely induces the unconditional receipt of assistance. This theme of assistance to all needy comers is especially palpable in Koch and Beckley's (2006) narration of one substantially Black congregation's involvement in outreach ministry focused on health. Material help to individuals (including food, clothing, transitional living assistance, and substance abuse counseling) is a central plank of this ministry; and it is rendered regardless of targets' level of involvement in church activities, or ostensible moral worthiness. Bopp et al. (2007) document the considerable role of Black faith-based organizations in delivery of interventions addressing physical activity and nutrition. Young et al. (2003) detail the extensive involvement of Black church clergy in counseling. Pastoral counseling in Black churches routinely addresses varied stressors, eclipses the level engaged in by non-Black church clergy, and is distinguished further by openness to referrals with secular professionals. Additionally, Krause (2006) finds that among older Blacks but not Whites, church-based support is a stronger facilitator of physical health than support emitting from

secular sources. These findings suggest that Blacks may derive greater health benefits from church-based support. Unavailability of suitable items precludes explicit analysis of *church-based* support here. However, a larger indirect effect of public religiosity on Blacks' health, via the support constructs utilized, could be deemed congruent with the foregoing patterns.

As indicated earlier, several investigators have hinged predictions of relatively positive effects of religiosity on Blacks' health on greater centrality of religion in their lives. Exploring this theme vis-à-vis physical health, Ferraro and Koch (1994:364) argue that the uniqueness of the Black religious experience could yield disproportionate health benefits. Addressing mental health, Jang et al. (2003:221) propose that since African-American culture upholds social and religious engagement, positive effects of religiosity may be especially salient among African-Americans. Krause (2003:98) stresses that the strong emphasis on religion in the Black community has solidly sociological explanations, with the Black church figuring centrally. Centuries of anti-Black prejudice and discrimination underlie the church's sustained status as the community's social hub. The Black church, for example, was the birthplace of African-American formal education and many other vital community services. Such services originated in the Black church because it was the only social institution built, financed, and controlled entirely by blacks. "Long and strong" is how Marks et al. (2005:449) characterize the Black church's "arm." Its reach extends well into human services, economic, and political arenas where predominantly White churches are less active. The intertwining of Black churches' religious and nonreligious functions presents a pragmatic pull, even on persons less interested in religion per se.

The hypothesis that religiosity enhances Blacks' physical health more than Whites' has received mixed support at best in the studies that have tested it. Neither of the two religiosity dimensions assessed by Musick (1996) elevates the self-rated health of elderly Blacks more than Whites'. A similar pattern is observed by Drevenstedt (1998) among adult GSS participants. Musick et al. (2004) find that the impact of religious attendance at wave one of the three data waves utilized here, on mortality by wave two, does not hinge on being Black. By contrast, Ferraro and Koch (1994) observe more positive "effects" of religious practice and identity on health among Blacks versus Whites in models based only on wave one of this panel. Similarly, Krause (2002) finds that older Black churchgoers reap more subjective health benefits from church-based support than White counterparts. Additionally, in a nationally representative data-based assessment of the link between religious attendance and mortality (Hummer et al. 1999), the life-expectancy advantage among regular attendees, vis-à-vis persons who never attend, is roughly twice as high among Blacks than non-Blacks. The precise composition of the non-Black category, however, is unspecified—thus leaving unclear the nature of Black–White differentials. In the realm of interaction effects, Musick (1996) uncovers marginal signs of religiosity buffering the impact of prior illness on *Whites'* but not Blacks' health. Krause (2006) observes an opposite pattern of stress-buffering: church-based emotional support offsets the negative impact of financial strain on self-rated health among older Blacks, but not Whites.

Addressing the tepid support for the thesis of inordinately positive effects of religiosity on Blacks' health despite its plausibility, Ferraro and Koch (1994) and Musick (1996) raise the possibility of elevated religiosity being substantially a *response to* illness among Blacks in

particular. However, a recent longitudinal databased test of Black–White variation in such “religious consolation” (Oates 2013) generates underwhelming support for this thesis: while Blacks show more signs than Whites of turning to religiosity in the face of psychological distress, no such pattern is apparent for physical health. The present study does not retest for religious consolation. It examines variations among non-elderly Black and White Americans in indirect, moderating, and direct effects of religiosity on physical health.

Modeling Black–White Variation in Health-Effects of Religiosity

Data

Indirect effects of predictors on outcomes are ideally assessed with three waves of data—with second wave mediating variables modeled as endogenous to first wave constructs, and antecedent to third wave outcomes (Son and Wilson 2011). Racial differences in effects of religiosity on physical health have heretofore not been addressed with three data waves. The subsamples comprise the 499 Black and 1154 White participants in all of the first three Americans’ Changing Lives (ACL) face-to-face survey waves (House 1995), who were 64 or younger at wave one (1986). Waves two and three were conducted in 1989 and ‘94 respectively. The substantial falloff in the Black sample size by wave four (2002) precludes assessment of that wave. Cases are weighted to adjust for differential probabilities of inclusion in wave one. ACL is a stratified, multistage, area probability sample of non-institutionalized persons in the contiguous US. The data are well-suited for this investigation, with solid indicators of physical health and many of its possible predictors.

Variables

Detailed descriptions of all analyzed variables (save for interaction terms which will be described later), and LISREL factor loadings for indicators of latent constructs, are provided in Table 1. Several points associated with the variables are noteworthy.

The *physical health* construct—which combines chronic illnesses, self-rated, and functional health—offers insight into wellness from the multiple realms that individuals’ definitions typically incorporate. Thus disease status aside, realms such as health status relative to others, emotional well-being, and ability to perform critical activities should be factored in where possible (Idler 1995:685–86). Prior assessments of racial differences in the religiosity–physical health connection have typically examined one realm. Utilization of this combined health construct yields the benefit of an immensely simplified model, vis-à-vis one examining each indicator separately. The three indicators’ high factor loadings underscore their strong relationship to the underlying construct, and the soundness of combining them.

Public and *subjective* religiosity are the sole religiosity dimensions assessed, because questions tapping each aspect are available at both waves one and two. Items tapping *private* religiosity, another core dimension denoting actions such as reading religious material, praying, or consuming religious programming in non-public settings (Levin et al. 1995), are not included at wave two. Given the closer time-lapse between predictors and outcome and relative recency of the causal paths, direct effects of wave two versus wave one religiosity

constructs on the wave three health outcome seem more meaningful. High correlations between the public and subjective religiosity constructs at both waves induce signs of multicollinearity at the structural phase of the analysis for coefficients involving the subjective construct especially. The strategy employed to navigate this obstacle is detailed later in the results section. (The correlations among Blacks/Whites at wave one are .606/.746, and .578/.719 at wave two).

The first-order positive and negative *self-appraisals* constructs combine items typically indexed separately as indicators of mastery and self-esteem (e.g., Pearlin et al. 1981). The two first-order self-appraisals constructs are combined into the second-order “favorable self-appraisals” construct utilized in the structural phase. Traditional mastery and self-esteem indicators are combined for two main reasons: (1) The two available positively worded items (i.e., “I can do...anything...,” a traditional mastery indicator, and “I take a positive attitude to myself,” a typical self-esteem indicator) correlate much more strongly with each other than with the available negatively worded traditional mastery/esteem indicators (i.e., “...I feel pushed around” and “...no way I can solve the problems I have”/”...I am no good at all” and “...I am a failure”). The same is true of correlations among the negatively worded mastery/self-esteem items, vis-à-vis correlations with their positively worded mastery/esteem counterparts. Loadings for first-order self-appraisals indicators in Table 1 are thus generally higher than they would be were the traditional mastery/self-esteem distinction maintained. (2) Substantive distinctions between mastery and esteem are not emphasized in theoretical work suggesting salutary physical health consequences for favorable self-appraisals (see Dull and Skokan 1995; Ellison et al. 2010; Krause 2011a; Son and Wilson 2011). Commingling of traditional mastery and self-esteem items thus seems reasonable *in the present context*, given the truncated ACL scales. It is possible that had the ACL surveys included full complements of self-esteem and mastery indicators, correlations among mastery/esteem indicators would have been less sharply sensitive to wording direction, and the actual data would reflect the substantive distinction between both constructs (see Hughes and Demo 1989; Oates 2004). Underscoring the problematic internal consistency of the truncated self-esteem and mastery scales in the ACL, Schnittker (2001), who averages the items at wave two, reports low .60 and .42 Alpha reliability coefficients for the respective constructs.

The model assesses the emotional nurturing and supportive network embeddedness properties of *social support* that influential theorizing suggests are especially critical to health (Pearlin et al. 1981; Turner and Marino 1994). The first-order “network size” construct primarily evokes the network embeddedness feature—“the first step” toward having support. The “positive/negative interactions” constructs primarily tap the emotional nurturing aspect, which represents “the final step” toward securing consequential support (Pearlin et al. 1981:340). Collectively, the first-order support constructs (two of which form the second-order “positive social support” measure used at the structural phase) tap exchange of intimate communications and presence of solidarity and trust. These may be the most vital qualities of support (Pearlin et al. 1981; Turner and Marino 1994).

Loadings in Table 1 are obtained from multi-population measurement models with item-variances and covariances, factor loadings and error variances *freed* across the Black and

White samples. Error variances associated with matching indicators of latent constructs are also freed to correlate across waves within each race. While tests for factorial invariance indicate that some loadings differ significantly across groups, most are statistically similar. Even partial measurement invariance facilitates meaningful comparisons of structural effects across groups (Krause 2002; Reise et al. 1993).

Within each race, the overwhelming majority of observed variables either have no missing data, or missing values for a tiny number of cases (fewer than 10 typically). Cases with missing values are replaced with simulated ones reflecting patterns across other items tapping the given construct, using the multiple imputation facility of PRELIS8.5 (Jöreskog and Sörbom 2003).

The Model

Structural equation models may be the “best of all” statistical techniques for examining effects of religiosity on health (Ellison and Levin 1998:711). Figure 1 provides a conceptual outline of the structural portion of the multi-population LISREL model formulated here. The autoregressive approach employed to assess shifts in endogenous constructs—whereby prior-wave counterparts of dependent variables are included among their predictors—is routine in longitudinal data-based studies of the relationship between religiosity and health (e.g., Levin and Taylor 1998; Musick 1996; Oates and Goode 2013; Son and Wilson 2011). The model assesses the precise cluster of mediating mechanisms typically pinpointed in prominent theoretical contributions on the religiosity–health relationship: favorable self-appraisals, social support, health-related habits, and stress exposure (e.g., Dull and Skokan 1995; Ellison et al. 2010; Krause 2011a; Son and Wilson 2011). One major consequence of this fidelity to prominent theory on the religiosity–health relationship is the non-estimation of certain causal “paths” that likely are statistically significant. Most notably, the impact on health and religiosity at wave two of health, religiosity and other potentially consequential wave one constructs is not gauged. Health and religiosity at wave two thus function only as direct predictors of the wave three health outcome, with the impact of health at wave two representing the “stability” path. Had the model included equations predicting health and religiosity at wave two, these two constructs would effectively be mediators. These variables, however, are absent from the above-noted cluster of mediating mechanisms typically identified in theoretical contributions. Structural equation models routinely exclude causal paths that may be significant, but are of secondary theoretical import.

Additionally, save for effects across waves of positive social support and negative interactions on each other, the model excludes effects of specific coping resources, stressors and habits at wave one on other coping resources, stressors or habits at wave two. Causal effects among coping resources and stressors may be quite significant (Pearlin et al. 1981); and preliminary analyses yielded many such examples. However, these same analyses revealed that indirect effects of religiosity dimensions at wave one on health at wave three barely change when effects of specific coping resources and stressors at wave one on others at wave two are included.

Figure 1 also indicates that interactions between religiosity dimensions and specific stressors (financial strain, negative life-events, and ill-health) at wave two, influence health at the

wave three. These multiplicative terms address whether religiosity buffers or intensifies effects of stressors on health. They are added individually, so as to forestall multicollinearity, in separate steps from the main effects. (Problems associated with multiplicative terms involving latent variables are addressed later, in the “limitations” segment).

To forestall problems obtaining convergence, “latent variable score”-equivalents of all multi-indicator constructs are used throughout the structural portion of the analysis. These scores can be generated by LISREL8.8 at measurement phases, and are reliable single-indicator equivalents of their *multi*-item counterparts (Jöreskog 2000). Since latent variable score versions of *single*-item constructs are unreliable, original rather than latent variable score versions of single-item constructs are utilized throughout the analysis. Thus estimates involving life-events, for example, reflect the originally observed item rather than its latent variable score counterpart.

To test for variation across races in the impact of the religiosity constructs on health and mediating stressors, resources, and habits, separate pairs of multi-population models are estimated. 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 predictor on an 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 “null hypothesis” models during these tests for significant differences are the ones with error variances of dependent variables and effects of all predictors freed across races—yielding the coefficients presented in Table 2. The alternative models are the ones with the *path at issue* fixed across groups (e.g., the public religiosity-effect on positive support, but no other path). These alternative models utilize one additional degree of freedom vis-à-vis their baseline model-counterparts.

Limitations of the Model

Except for the “spiritual comfort” indicator of subjective religiosity, items constituting the religiosity constructs do not explicitly address the *content* of 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. Information on whether someone attends religious services weekly, or considers him/herself religious for example, may then be insufficiently elucidative (Cummings and Pargament 2010:31). Thus while the constructs offer solid insight into levels of public and subjective religiosity, they substantially ignore the *objectives* and *intensity* and of such activities and cognitions. As such, effects of religiosity constructs on health and mediating constructs observed here may understate the “true” health-promoting or undermining power of religiosity. (That said, it bears noting that if similar levels of religiosity prove more/less consequential to health across races, that variation might reasonably be attributed to differences in what “religiosity” entails in each group).

Regarding the health outcome, risk of mortality, the ultimate consequence of poor health, is not directly tapped. The question of Black–White variation in effects of religiosity on survival to wave three of the ACL is intriguing—even if prior evidence that being Black

does *not* condition the impact of religious attendance on survival to wave two (Musick et al. 2004) lessens the odds of such variation. The mortality question, however, is one for a “stand-alone” investigation that is not pursued here.

With respect to the segment of the model addressing whether religiosity buffers/enhances the impact of stressors on health differently across races, the coefficients should be interpreted with significant caution: Interaction terms involving latent variables are problematic, given possible contamination by correlated errors among indicators comprising each construct (see Saris et al. 2007).

The estimated model also ignores possible causal relationships among sociodemographic factors; but the seriousness of this limitation is tempered by our primary interest in the *combined* impact of these variables. Possible multicollinearity-induced counterintuitive effects of individual control variables are thus not terribly bothersome. Effects of sociodemographic variables on other factors gauged at wave one are also not modeled—which likely serves to understate their total impact on endogenous constructs. However, since the sociodemographic control variables are not the main focus, their *total* impact on endogenous constructs is not critical. Of far more consequence is the fact that sociodemographic factors are controlled for in equations gauging the impact of the religiosity constructs on outcomes at wave two and three. Utilization of multiple two-indicator latent variables is also not ideal, since three or more indicators are preferable for construction of latent variables (Jöreskog and Sörbom 2003). Unavailability in the ACL of additional viable indicators explains this situation. The model also does not capture possible period-specific variation in the impact of religiosity and other predictors on outcomes. Thus if the impact of a religiosity dimension on health or mediating constructs differed appreciably prior to the 1986 to ‘94 “slice” of Black and White American life assessed here, that variation would be missed. On a related point, the possible time-boundedness of observed patterns warrants noting given the age of the data. Findings should thus be digested with this caveat in mind. The model’s value as a theory testing contribution, however, may counterbalance limitations intertwined with the data’s age. Additionally, powerful arguments for large post-1994 shifts in observed relationships are not immediately apparent.

Results

The impact of religiosity on physical health seemingly hinges on both race and religiosity dimension. Slightly beneficial indirect and moderating effects of public religiosity on health are apparent among Blacks. Table 2 lists all direct effects, along with indirect effects of *religiosity dimensions* on health (as reiterated in note “a” beneath the table). Predictor variables are listed in rows, and outcomes in columns. Column-width constraints necessitate the truncation of some outcome variable-names. All coefficients in Table 2 are fully standardized; thus they facilitate direct comparisons of effects. Brackets enclose effects of religiosity dimensions, mediating coping resources, stressors, and health-related habits that differ significantly across races. Effects of other predictors on specific outcomes may also differ across races; but those significance tests were not performed given the secondary theoretical import of the differences.

The *only* effects of religiosity dimensions that are bracketed are ones that remain significantly different across races *following* tests for multicollinearity that seemingly affects specific coefficients. The straightforward multicollinearity test involves re-estimating the model, alternately excluding public or subjective religiosity, and observing whether specific public/subjective religiosity coefficients remain stable. Significant change to the size of a given coefficient is deemed indicative that it is multicollinearity-induced; and those equivocal coefficients are shaded grey. All displayed coefficients are from the baseline model that includes the public and subjective religiosity dimensions simultaneously. As can be gleaned, most effects of religiosity dimensions are unaffected by multicollinearity; but subjective religiosity-effects are more prone to this equivocality than those denoting the public dimension.

Effects of Religiosity Dimensions at Wave One on Mediators at Wave Two

Among Blacks, public religiosity at wave one substantially elevates self-appraisals and positive support at the mediating wave, while suppressing financial stress. Those effects are .173***, .242***, −.186*** respectively. Each of these coefficients significantly exceeds the corresponding impact among Whites. The “significance” of the positive public religiosity-effect on the habit of exercise among Blacks (i.e., .111***) is however questionable, since that coefficient declines beneath the .05 threshold to .073/ $p < .10$ when subjective religiosity is excluded from the model. There can be firmer confidence regarding the modestly *negative* corresponding impact among Whites (−.039***), as that coefficient barely changes when subjective religiosity is excluded. Ultimately, since the difference between effects of public religiosity on exercise across races is significant *whether or not* subjective religiosity is excluded from the model, the conclusion that the impact is more positive among Blacks seems justified.

“Significant” effects of subjective religiosity on mediating constructs in Table 2 survive the multicollinearity test in a single instance—the negative impact on exercise among Blacks (−.128***). That coefficient remains significantly negative in the alternate model that excludes public religiosity (though declining to −.099*). The modestly negative corresponding impact among whites (−.034*) declines to a non-significant −.028 with in the same alternate model. Since the gap between the subjective religiosity-effect on exercise across races remains significant in both the baseline and alternate scenarios, the conclusion that the inverse association is more pronounced among Blacks seems reasonable.

Effects of Mediators and Religiosity Dimensions at Wave Two on Health at Wave Three

Given patterns reviewed so far, mediating constructs best “positioned” to explain indirect effects of religiosity on health across races are favorable self-appraisals, social support, financial stress, and exercise in the case of public religiosity; and exercise in the case of subjective religiosity. As revealed in Table 2, social support realizes this mediating potential most substantially. This resource, which is more strongly enhanced by public religiosity among Blacks, is also positively associated with their subsequent physical health. The product of the positive effect of public religiosity on social support among Blacks (.242***) and positive social effect of support on their health (.064*), accounts for three-fourths of the modestly significant *indirect* effect of public religiosity on Blacks’ health (i.e., .020*). (In

the alternate model that excludes subjective religiosity, the public religiosity-effect on Blacks' social support remains a robust .211***, and significantly more positive than the +.043* path among Whites. Importantly also, the indirect public religiosity-effects on health remain unchanged at .020* among Blacks and -.004 among Whites). The trivial effect of social support on Whites' health (-.005) cannot be declared "significantly" lower than the corresponding .064* impact among Blacks. However, the 3.39 Chi square differential between the models with that path fixed versus freed across races does approach the .05 significance threshold of 3.84. *Negative* interactions do undermine Blacks' health significantly more than Whites,' (-.109*** vs. .017); but since that construct is not impacted by a religiosity dimension in either race, its mediating impact is trivial. Next to social support, exercise plays the strongest role in mediating effects of public religiosity on health across races. As noted earlier, this health-related habit is facilitated more strongly by public religiosity among Blacks than among Whites. Its beneficial impact on health is however statistically similar across races (.077**/.069*** among Blacks/Whites).

The equivocal status of the small "negative" indirect effect of subjective religiosity on Blacks' health, -.013* in Table 2, is closely tied to the questionable subjective religiosity-effect on social support among Blacks alluded to earlier. With public religiosity excluded from the equation predicting social support, the -.096* effect of subjective religiosity among Blacks declines to a non-significant -.023; and the indirect effect of subjective religiosity on health declines to virtually zero (i.e., -.001). Among whites, the corresponding indirect effect remains at -.004. Thus factoring in multicollinearity induced by the strong correlation between the public and subjective religiosity constructs, the most judicious conclusion is that the indirect impact of subjective religiosity on health is trivial each race.

Direct effects of public and subjective religiosity on health in each race are also most reasonably characterized as *non*-significant. The "significantly" positive impact of public religiosity at wave two on health at wave three among Blacks (.134** in Table 2), becomes a non-significant .045 when the path from subjective religiosity at wave two is excluded. Among Whites, the corresponding path remains trivial at -.009 (vs. -.004 in Table 2). Similarly, the "negative" -.129*** effect of subjective religiosity at wave two on Blacks' health changes to a non-significant -.032 with the path from wave two public religiosity excluded. That same path among whites remains non-significant (shifting from the -.009 value in Table 2 to -.013).

Effects of Interactions Between Religiosity Dimensions and Specific Stressors at Wave Two on Health at Wave Three

The impact of interactions between each religiosity dimension and financial strain, negative life-events and ill-health at wave two, on health at wave three was gauged. Each alternate model included only one of these six interaction terms; and the illness construct was obtained by multiplying the wave 2 health construct by -1. The sole significant interaction effect observed was the -.100*** public religiosity $\times$ financial stress impact among Blacks—which significantly eclipsed the -.004 impact among Whites. The respective main effects of public religiosity and financial stress on health in this same model were .130* and -.069* among Blacks, and -.004 and .004 among Whites. Substantively, this collection of effects

suggests that public religiosity tempers the damaging impact of financial stress on physical health among Blacks specifically. Specification of an alternate model excluding the impact of subjective religiosity does not alter this conclusion.

Summary and Discussion

Black–White variation in the relationship between religiosity and physical health has received surprisingly limited empirical attention; and the popular thesis that religiosity benefits Blacks’ health more strongly than Whites’ has actually been contradicted in some instances (see Drevenstedt 1998; Ferraro and Koch 1994; Krause 2002, 2006; Musick 1996; Musick et al. 2004). This multi-population LISREL investigation—distinguished by utilization of a three-wave nationally representative panel of individuals younger than 65 at the initial wave—uncovers mild evidence of religiosity being a particular health asset for Blacks. Specifically, *public* religiosity exerts a slightly beneficial indirect effect on Blacks’ physical health, and buffers any negative impact on their health that financial strain induces. Public religiosity does not influence Whites’ physical health; and subjective religiosity does not influence health in either race. The models control for multiple socio-demographic factors, and assess the phenomena typically pinpointed in theoretical contributions as mediators of the religiosity–physical health relationship: favorable self-appraisals, social support, health-related habits, and stress exposure (Dull and Skokan 1995; Ellison et al. 2010; Krause 2011a; Son and Wilson 2011).

The earlier-noted reliance on indicators that largely overlook the substantive content of religious activities and cognitions, and this feature’s possibly attenuating impact on effects of religiosity dimensions, warrants reiteration and elaboration. While the hypotheses of stronger health benefits from religiosity among Blacks vis-à-vis Whites reviewed earlier emphasize differences in how religiosity is *experienced or manifested* across races, the indicators utilized here mainly tap levels of involvement. Were actions such as obtaining help from fellow churchgoers to “find solutions” for one’s problems, or cognitions such as synergizing one’s plans “into action together with God” tapped by ACL items, they may well have enhanced the predictive power of the public and subjective religiosity constructs, respectively. (The first of the above-referenced items is included in Krause’s 2002 study of church-based support-effects on health among elderly Blacks and Whites, while the second features in the “Brief RCOPE” religious coping scale Pargament et al. 2011). Relative to the bulk of religiosity indicators assessed here, such items seemingly capture the critical *problem-* and *emotion-*focused coping potential of religious activities and cognitions more incisively (see Pargament et al. 2011). Problem-focused coping involves direct efforts to eliminate a stressor. Emotion-focused coping involves perceiving stressors in ways that render them less corrosive. The sustained practice of problem- and emotion-focused coping may also help forestall the onset of stress, and facilitate access to health-promoting resources (Pearlin 1999). Thus if the religiosity constructs comprised more items directly tapping this problem- and emotion-focused coping potential, more propitious effects on health may have ensued.

The minuscule-to-slight magnitude of effects of religiosity dimensions on Blacks’ and Whites’ health may also, however, reflect the rigor of the test employed here. Evidence of

change in focal dependent variables may be *underwhelming* once baseline levels of those phenomena are factored in. Since longitudinal analyses adjust for such baselines, they generally yield far more rigorous tests of hypotheses than cross-sectional studies (Ellison and Levin 1998; Oates 2013). Additionally, restricted variation in dependent variables limits the capacity for predictors to exert influence, regardless of how theoretically appealing the case for significance might be. The pronounced impact of health at wave on the wave three health outcome (.683***/.810*** among Blacks/Whites in Table 2) indicates considerable stability in the physical health of the Black and White sub-samples—which tempers the capacity for religiosity dimensions and other predictors to exert influence. The stability in health within each subsample is itself unsurprising, given the proliferation of younger persons included. Even eight years after the initial wave when the wave three health outcome was measured, roughly 77 % of the Black and 75 % of White participants had still not reached the Federal Government’s “elderly” threshold of 65; and nearly a half of each group were under 50.

In the context of factors discussed in the preceding two paragraphs, the modest effects of public religiosity on Blacks’ health thus appear meaningful and worthy of interpretation. Confinement of the beneficial health-impact (such as it is) to the public religious realm among Blacks, substantiates avowals to the importance of organizationally grounded religious activity for African-Americans (Brown 2006; Krause 2003). Inasmuch public religious activity among African-Americans still occurs primarily in Black church contexts (Brown 2006; Sherkat 2002), this institution likely figures centrally in shaping observed patterns. For African-Americans especially, the Black church may represent not just a potent structural mechanism for fostering religious activity, but also for translating such activity into nonreligious benefits. One such “benefit” is apparently slightly enhanced physical health.

Addressing the routine tendency for public religiosity to eclipse other religiosity dimensions in sustaining health, Idler et al. (2009) suggest that public participation “is a marker for a multidimensional experience.” Thus the often-observed relatively strong effects of public religiosity on mediators of the religiosity–health relationship are understandable. There is substantial concordance between this perspective and patterns observed among Blacks. A racial context that prioritizes public manifestations of religiosity should also mete a significant social support “payoff” to such expression. Precisely such a pattern is apparent: Public religiosity substantially elevates positive social support among Blacks, to a level exceeding the non-beneficial impact among Whites. The mediating impact of positive support is also the main contributor to the mildly positive indirect impact of public religiosity on Blacks’ health.

This striking combination—salutary effects of public religiosity on positive social support among Blacks and beneficial effects of support on their health—suggests that among Blacks especially, social support constructs substantially capture *church*-based support. As work by Chatters et al. (2011) and Krause (2006) and others has highlighted, these support networks significantly facilitate Blacks’ physical and emotional well-being. The absence of direct church-based support indicators is again acknowledged; but it bears noting that the likelihood of church-based support underlying social support-related patterns among Blacks

hinges on evidence *beyond* the above-referenced “striking” combination. Boundaries between religious and non-religious social networks seem especially porous among African-Americans: Recent findings reveal that whereas secular social ties among African-Americans “can be attributed to the social relationships they maintain in the church...the same is not true” for White Americans Krause (2011b:877).

The additional patterns concurring with an African-American, Black church-facilitated valuing of public religious expression (Brown 2006; Krause 2003) warrant reiterating. A propitious effect of public religiosity on self-appraisals and inhibitory effect on financial stress was observed among Blacks. These impacts eclipsed non-significant coefficients among Whites. Also observed was a significantly more positive effect of public religiosity on the health-promoting habit of exercise among Blacks vis-à-vis Whites. Atop these patterns, public religiosity buffered any harmful effect of financial strain on Blacks’ health specifically. This expansive range of beneficial effects of public religiosity among Blacks, and the likely contribution of Black church-attendance to these patterns, comport solidly with the notion that Black churches are “therapeutic systems of primary prevention” in African-American communities. McRae et al. (1998) predicate this characterization on the previously-discussed multifaceted ways in which Black churches serve their constituents’ physical and emotional needs. A future investigation—replicating this study’s rigorous longitudinal, structural equation design, but utilizing items tapping the substantive content of religious activities more incisively—might document a distinctively therapeutic impact of public religiosity on non-elderly Blacks’ health even more solidly.

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Fig. 1.

Conceptual model of the impact of religiosity on physical health over three waves. ¹Detailed measured information on all variables is provided in Table 1. Constructs comprising the “coping resources, stressors and habits” cluster are favorable self-appraisals and social support, negative interactions, chronic financial stress and undesirable life-events, exercise, alcohol and cigarette consumption. With the exception of the positive support and negative interactions construct, which *are* allowed to impact each other across waves, each stressor/coping resource/habit at wave one directly influences *only* its counterpart at wave two. ²Socioeconomic status, gender (female = 1), age, and employment status (employed = 1) comprise the “socio-demographic” cluster. ³Ill health (the converse of the physical health construct), financial stress, and undesirable life-events, are the wave two stressors featuring in interaction terms with public/subjective religiosity at wave two

Table 1
 Descriptions of all analyzed variables, and completely standardized LISREL loadings for multi-indicator latent variables: Blacks and Whites (ages 64 and younger at wave one) in waves one to three of the ACL

	Wave one factor loading		Wave two factor loading		Wave three factor loading	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
Focal independent or outcome variables						
Physical health						
<i>Chronic illnesses:</i> Sum of "yes" responses (coded 1, vs. no = 0) across items tapping experience over the preceding year of these ailments: Arthritis or rheumatism, lung disease, hypertension, heart trouble, diabetes or high blood sugar or medication for such, cancer or any malignant tumor, foot problems, stroke, broken or fractured bones, and urine-control problems	-.768	-.705	-.678	-.698	-.719	-.712
<i>Self-rated health</i> (5 = excellent...3 = good...1 = poor)	.654	.729	.638	.710	.637	.685
<i>Functional health:</i> An ACL-created Guttman-type scale reflecting these levels of functional impairment: 1 = most severe; 2 = currently bedridden or in wheelchair and/or has much difficulty bathing self or cannot do so; 3 = moderately severe; 4 = has much difficulty climbing stairs/walking several blocks or cannot do so; 5 = least severe impairment: much difficulty doing heavy housework/cannot do it; 6 = no functional impairment whatsoever	.568	.585	.570	.566	.602	.617
Public religiosity						
Attendance at religious services (1 = never...3 = about once monthly, 4 = 2 or 3 times monthly...6 = more than once weekly)	.547	.768	.831	.922	—	—
Volunteer work over past year for church/synagogue/other religious organization (0 = no, 1 = yes)	.756	.711	.510	.614	—	—
Subjective religiosity						
Importance of religious beliefs in day-to-day life (1 = not at all important, ...4 = very important)	.722	.823	.745	.815	—	—
Seeks spiritual comfort seeking spiritual support and comfort when faced with work-/family-/personal life-related problems (1 = never...3 = sometimes...5 = almost always)	.675	.794	.636	.859	—	—
Exercise						
Engages in active sports or exercise (4 = often, 3 = rarely, 2 = sometimes, 1 = never)	.785	.845	.701	.732	—	—
Takes walks (4 = often, 3 = rarely, 2 = sometimes, 1 = never)	.350	.352	.325	.327	—	—
<i>Favorable self-appraisals</i> (wave one) (*This is a second-order latent variable)						
Positive self-appraisals: indicators of this 1st-order construct are described below	.808	.648	.736	.700	—	—
Negative self-appraisals: indicators of this 1st-order construct described below	-.780	-.875	-.658	-.924	—	—
Positive self-appraisals						
I can do just about anything I set my mind to (4 = strongly agree...1 = strongly disagree)	.482	.399	.472	.418	—	—
I take a positive attitude toward myself (4 = strongly agree...1 = strongly disagree)	.527	.702	.428	.703	—	—
Negative self-appraisals						

	Wave one factor loading		Wave two factor loading		Wave three factor loading	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
Sometimes I feel...pushed around in life (4 = strongly agree...1 = strongly disagree)	.528	.537	.543	.541	—	—
There is really no way I can solve the problems I have (4 = strongly agree...1 = strongly disagree)	.529	.578	.580	.548	—	—
At times I think I am no good at all (4 = strongly agree...1 = strongly disagree)	.649	.649	.763	.653	—	—
All in all, I am inclined to feel that I am a failure (4 = strongly agree...1 = strongly disagree)	.763	.645	.644	.679	—	—
<i>Positive social support</i> (*This is a <i>second-order</i> latent variable)						
Support network size: indicators of this 1st-order construct are described below	.554	.732	.849	.762	—	—
Positive interactions...: indicators of this 1st-order construct are described below	.781	.737	.708	.697	—	—
Support network size						
# of friends/relatives R can call on for advice or help (seven or more coded 7)	.465	.464	.426	.469	—	—
# friends/relatives R can share private feelings with (seven or more coded 7)	.515	.525	.621	.489	—	—
<i>Positive interactions</i> with close friends/relatives						
"On the whole, how much do your friends and other relatives make you feel loved and cared for?"	.734	.832	.744	.787	—	—
"How much are these friends and relatives willing to listen when you need to talk about your worries or problems?" *For both items, 5 = a great deal, 4 = quite a bit, 3 = some, 2 = a little, and 1 = not at all	.686	.736	.835	.681	—	—
Negative interactions						
How often friends/relatives make too many demands of R	.532	.614	.785	.596	—	—
How often are friends/relatives critical of R or what R does	.692	.718	.625	.658	—	—
Financial strain						
Satisfaction with financial situation (5 = not at all satisfied...3 = somewhat satisfied 1 = completely satisfied)	.700	.712	.619	.690	—	—
Difficulty faced meeting monthly bills (5 = extremely difficult...3 = somewhat difficult...1 = not difficult)	.857	.843	.904	.856	—	—
Do R's/family's finances usually work out at the end of the month? (3 = not enough \$\$ left over to make ends meet, 2 = just enough \$\$, 1 = \$\$ left over)	.777	.732	.816	.719	—	—
<i>Negative life-events</i> : Total # of negative events—excluding health-related ones— besetting R in the three years preceding each interview. Possibilities include death of a spouse/child/parent/step-parent, or other close relative/ friend, divorce, assault, job loss, home's burglary, or other "bad" events						
	1.000	1.000	1.000	1.000	—	—
Exercise						
Engages in active sports or exercise (4 = often, 3 = rarely, 2 = sometimes, 1 = never)	.785	.845	.701	.732	—	—
Takes walks (4 = often, 3 = rarely, 2 = sometimes, 1 = never)	.350	.352	.325	.327	—	—
# Cigarettes smoked daily (50 or 50)	1.000	1.000	1.000	1.000	—	—
# Alcoholic drinks consumed last month (0 = none, 1 = 1–9, 2 = 10–19, 3 = 20–29, 4 = 30–49, 5 = 50 or >)	1.000	1.000	1.000	1.000	—	—
Socio-demographic control variables						

	Wave one factor loading		Wave two factor loading		Wave three factor loading	
	Blacks	Whites	Blacks	Whites	Blacks	Whites
Socioeconomic status						
Years of education	.846	.695	–	–	–	–
Annual family income (1 = < \$5000, 2 = \$5 g–\$9999, ...5 = \$20 g–\$24,999, 6 = \$25 g–\$29,999, ...9 = \$60 g–\$79,999, 10 = \$80,000 or >)	.557	.588	–	–	–	–
Gender (female = 1)	1.000	1.000	–	–	–	–
Age (in years)	1.000	1.000	–	–	–	–
Marital status (married/cohabiting = 1, not married/cohabiting = 0)	1.000	1.000	–	–	–	–
Employment status (1 = employed, vs. 0 = not employed for pay)	1.000	1.000	–	–	–	–

(1) All *factor loadings* for indicators of multi-item latent variables are statistically significant ($p < .001$); and loadings of 1.000 are assigned for variables with one indicator. (2) *Error variances* associated with specific indicators and their counterparts at subsequent wave(s) are freed. (3) *Dashes* indicate that the given item is not assessed at the survey-wave signaled by the column heading

Table 2

Standardized direct and (selected) indirect effects from multi-population model predicting mediating resources, stressors and habits, and health. Blacks and Whites (ages 64 and under at wave one) in waves one to three of the ACL

PREDICTORS +		+ Self-Appraisals 2	+ Social Support 2	Negative Interacts 2	Life-Events 2	\$\$\$ Stress 2	Exercise 2	Alcohol 2	Cigarette 2	Physical Health 3
Public Religiosity 1	Blacks →		$\left\{ \begin{smallmatrix} .242^{***} \\ -.043 \end{smallmatrix} \right\}$	-.018	-.019	$\left\{ \begin{smallmatrix} -.186^{***} \\ -.006 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} .111^{***} \\ -.039^{***} \end{smallmatrix} \right\}$	-.035	.005	—
	Whites →			-.006	-.052			-.024	-.023	—
Subjective Religiosity 1	Blacks →			-.016	.010	.072 *		-.074	.041	—
	Whites →		-.096 *	-.054	-.079 *	-.004		.004	-.030	—
INDirect Publ. Religiosity 1	Blacks →		—	—	—	—	—	—	—	.020 *
	Whites →		—	—	—	—	—	—	—	-.004
INDirect Subj. Religiosity 1	Blacks →		—	—	—	—	—	—	—	-.013 *
	Whites →		—	—	—	—	—	—	—	-.004
Public Religiosity 2	Blacks →		—	—	—	—	—	—	—	.134 **
	Whites →		—	—	—	—	—	—	—	-.004
Subjective Religiosity 2	Blacks →		—	—	—	—	—	—	—	-.129 **
	Whites →		—	—	—	—	—	—	—	-.009
+ Self-Appraisals 2	Blacks →		—	—	—	—	—	—	—	-.054
	Whites →		—	—	—	—	—	—	—	.001
+ Social Support 2	Blacks →		—	—	—	—	—	—	—	.064 *
	Whites →		—	—	—	—	—	—	—	-.005
Negative Interacts 2	Blacks →		—	—	—	—	—	—	—	$\left\{ \begin{smallmatrix} -.109^{***} \\ .017 \end{smallmatrix} \right\}$
	Whites →		—	—	—	—	—	—	—	—
Life-Events 2	Blacks →		—	—	—	—	—	—	—	.015
	Whites →		—	—	—	—	—	—	—	.013
\$\$\$ Stress 2	Blacks →		—	—	—	—	—	—	—	-.047
	Whites →		—	—	—	—	—	—	—	.004
Exercise 2	Blacks →		—	—	—	—	—	—	—	.077 **
	Whites →		—	—	—	—	—	—	—	.069 ***
Alcohol 2	Blacks →		—	—	—	—	—	—	—	.010

PREDICTORS +	+ Self-Appraisals 2	+ Social Support 2	Negative Interactns 2	Life-Events 2	\$\$\$ Stress 2	Exercise 2	Alcohol 2	Cigarette 2	Physical Health 3
Cigarette 2	Whites →	—	—	—	—	—	—	—	.029
	Blacks →	—	—	—	—	—	—	—	.004
+ Self-Appraisals 1	Whites →	—	—	—	—	—	—	—	.003
	Blacks →	.618***	—	—	—	—	—	—	—
+ Social Support 1	Whites →	.735**	—	—	—	—	—	—	—
	Blacks →	—	.358***	.061	—	—	—	—	—
Negative Interactions 1	Whites →	—	.810***	-.040	—	—	—	—	—
	Blacks →	—	.047	.482***	—	—	—	—	—
Life-Events 1	Whites →	—	-.040	.560***	—	—	—	—	—
	Blacks →	—	—	—	—	—	—	—	—
\$\$\$ Stress 1	Whites →	—	—	.167**	—	—	—	—	—
	Blacks →	—	—	.124**	—	—	—	—	—
Exercise 1	Whites →	—	—	—	.554***	—	—	—	—
	Blacks →	—	—	—	.650***	—	—	—	—
Alcohol 1	Whites →	—	—	—	—	.433***	—	—	—
	Blacks →	—	—	—	—	.840***	—	—	—
Cigarette 1	Whites →	—	—	—	—	—	.631***	—	—
	Blacks →	—	—	—	—	—	.717***	—	—
Physical Health 1	Whites →	—	—	—	—	—	—	.805***	—
	Blacks →	—	—	—	—	—	—	.807***	—
Physical Health 2	Whites →	.186***	-.029	-.099**	-.085	.019	.037	-.010	—
	Blacks →	.155***	.080*	-.019	-.074**	-.007	-.039	-.015	—
Socioecon. Status 1	Whites →	—	—	—	—	—	—	—	.683***
	Blacks →	—	—	—	—	—	—	—	.810***
Gender (Female)	Whites →	.030	.005	-.041	-.066	.114**	-.002	.038	.093**
	Blacks →	-.010	-.040*	.038	-.062*	.078***	-.028	-.001	.017
	Blacks →	-.061*	.083	-.082	.067	-.080	-.065	-.063*	-.014

PREDICTORS +	+ Self-Appraisals 2	+ Social Support 2	Negative Interacts 2	Life-Events 2	\$\$\$ Stress 2	Exercise 2	Alcohol 2	Cigarette 2	Physical Health 3
	Whites →	-.034	-.052 *	-.000	.008	-.008	-.069 ***	.021	.015
Age 1	Blacks →	-.035	-.131 *	-.062	-.053	-.080	-.016	.018	.074 *
	Whites →	.062 **	-.095 **	.043	-.089 **	-.080 ***	.004	-.029	.002
Married 1	Blacks →	.016	-.009	-.091 *	-.041	-.040	-.008	-.067 *	.011
	Whites →	-.019	-.008	-.045	.025	-.034 *	-.001	-.018	.052 ***
Employed 1	Blacks →	.059 *	.006	.054	.020	.040	-.016	-.003	.004
	Whites →	.016	.022	.000	-.002	-.001	-.010	.017	.005

All effects are direct, *unless* otherwise indicated. Brackets enclose effects of religiosity *dimensions* and mediating *coping resources*, *stressors*, and *behaviors/habits* that differ significantly across races. The only religiosity dimension-effects that are bracketed are pairs that differ across races *even after* multi-collinearity induced by high correlations between the public and subjective constructs is adjusted for. Individual religiosity dimension-effects that are likely products of this same multicollinearity source, and thus equivocal, are shaded grey. Effects of other predictors on outcomes may also differ across races, but those significance tests were not performed due to their minor theoretical importance

n = 499 (Blacks)/1154 (Whites),

* $p < .05$;

** $p < .01$;

*** $p < .001$.

RMSEA = .082