

Research paper

An attitude of gratitude: How psychological and social resources mediate the protective effect of religiosity on depressive symptoms



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ABSTRACT

Background: A positive relation between religiosity and psychological well-being has been established, but the mechanisms explaining this protective effect against affective distress are not well understood. Guided by the Lazarus and Folkman Stress and Coping model, this study tested the hypothesis that the relation between religiosity and psychological well-being is mediated by the coping resources of gratitude (a psychological resource) and social support (a social resource).

Methods: Data were drawn from two national U.S. samples: the MIDUS 2 ($N = 1052$) and the MIDUS Refresher ($N = 625$). Participants completed questionnaires assessing religiosity, gratitude, social support, and three indicators of psychological well-being: depressive symptoms (CESD), perceived stress (PSS), and life satisfaction (SWL). Structural Equation Modeling (SEM) was used to test the hypothesized mediation model in the primary sample, with the second sample used for replication. Because data were cross-sectional, causality cannot be inferred; results instead reflect patterns of association consistent with theory.

Results: The relation between religiosity and psychological well-being was fully mediated by gratitude and social support across both datasets. Higher religiosity was significantly associated with higher levels of gratitude and social support. In turn, greater gratitude and social support were significantly associated with lower levels of depressive symptoms and perceived stress, and higher life satisfaction.

Conclusions: Religiosity may confer protection against affective distress by fostering key psychological and social coping resources. These findings highlight the potential clinical utility of interventions designed to cultivate gratitude and strengthen social support networks as a strategy to improve well-being and reduce symptoms of affective disorders.

1. Introduction

A substantial body of research has established a positive relation between religiosity and a range of psychological outcomes, including higher life satisfaction and greater subjective well-being (Abdel-Khalek, 2010, 2011; Emmons and McCullough, 2003). A meta-analysis of 48 longitudinal studies confirmed that religiosity and spirituality were associated with modest but significant improvements in mental health outcomes across diverse populations (Garsen et al., 2021). Similarly, a large-scale cross-cultural study spanning 24 countries found that religiosity robustly predicted greater subjective well-being across nearly all analytic approaches tested (Hoogeveen et al., 2023).

Religious practices often function as a way for individuals to cope with and derive meaning from stressful life events (Lantz et al., 2022), suggesting that religiosity may serve as a significant protective factor

against the development or exacerbation of affective disorders. The evidence for this protective effect is consistent across numerous studies. For instance, in samples of undergraduate students, religiosity has been found to be a protective factor against depression (Berry and York, 2011). This extends to clinical populations, where longitudinal research has shown that higher church attendance is associated with improved psychosocial functioning among those with lifetime diagnoses of Major Depressive Disorder (Kasen et al., 2014). A comprehensive meta-analysis further confirmed significant effects of religiosity on depression and well-being in adolescents and emerging adults (Yonker et al., 2012).

Despite the consistency of these findings, the specific mechanisms through which religiosity confers these psychological benefits remain a notable area of investigation. The current study is guided by the transactional model of stress and coping (Lazarus and Folkman, 1984), a

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framework that posits that health outcomes are determined by an individual's cognitive appraisal of a stressor and their use of coping resources to manage it. This model provides a lens for understanding the religiosity-wellbeing link. Instead of a direct effect, religiosity can be conceptualized as a source of specific psychological and social coping resources that individuals can use to appraise events as less threatening, and to manage emotional distress. This study focuses on two such resources that are central to many religious traditions (i.e., gratitude and social support) and proposes a mediational model where these two coping resources explain the observed relation between religiosity and psychological well-being.

Gratitude, a positive emotional state arising from the recognition of unearned benefits (Emmons and McCullough, 2003), is an important concept in nearly all religious and spiritual traditions (Emmons and Crumpler, 2000). It is therefore not surprising that research has consistently indicated a positive association between religiosity and gratitude. Both private religious practices (such as prayer) and public behaviors (like church attendance) have been linked to a more grateful disposition (Emmons and Kneezel, 2005; Krause, 2009). Furthermore, a study by Rosmarin et al. (2016) found that positive religious coping specifically predicts gratitude, suggesting that it is a key resource for managing challenging life circumstances. As a psychological coping resource, gratitude has been shown to be a key component of resilience to stress and depressive symptoms (Fredrickson et al., 2003). Studies have found that gratitude is associated with lower levels of stress and depression, and this relation appears to be mediated by the adoption of more effective coping styles (Wood et al., 2007). A meta-analysis of 158 samples further supported this pathway, showing that dispositional gratitude is positively associated with multiple indicators of psychological well-being, including life satisfaction and reduced distress (Portocarrero et al., 2020). One potential mechanism for this effect is that gratitude facilitates positive reframing of difficult situations, which in turn predicts fewer depressive symptoms (Lambert et al., 2012). Given its established links to both religiosity and well-being, gratitude is a strong candidate as a key mediator.

Social support is another coping resource that may be bolstered by religious involvement. Participation in a faith community can provide a network of supportive social relationships, offering both tangible and emotional aid that can buffer against the negative effects of stress. While social support has often been provided as an explanation for the positive association between religiosity and well-being, the literature testing this pathway is still developing (Hovey et al., 2014). The available evidence, however, is promising. For example, Choi et al. (2023) found that higher levels of perceived social support were associated with substantially reduced risk of depressive symptoms across a nationally-representative longitudinal sample collected during the COVID-19 pandemic. In a study of university students, Gan et al. (2023) found that social support significantly mediated the relation between religiosity and mental well-being, reinforcing its role as a pathway through which faith-based involvement supports emotional health.

In samples of undergraduate students, studies have found that religiosity is a significant predictor of social support and that this support can mediate the negative relation between religiosity and outcomes such as hopelessness and depression (Hovey et al., 2014; Milevsky, 2017). This dynamic is not limited to young adults. In a sample of depressed older adults, perceived social support was found to be a partial mediator in the pathways between religious practice and suicidal ideation, highlighting its clinical importance (Sachs-Ericsson et al., 2013). Stearns et al. (2018) documented an association between religiosity and depressive symptoms across age cohorts. However, the mechanisms driving this association remain underexamined, particularly the potential mediating roles of gratitude and social support, which this study addresses.

While prior research has examined these variables, few studies have tested the contributions of both psychological (gratitude) and social (social support) mediators simultaneously within a single

comprehensive model. Doing so can help to clarify the relative importance of these pathways. This study sought to extend previous findings by testing a dual-mediation model of the relation between religiosity and multiple indicators of psychological well-being (depressive symptoms, perceived stress, and life satisfaction). Using data from two large, national U.S. samples (MIDUS 2 and MIDUS Refresher), we tested the following hypotheses:

1. Higher levels of religiosity will be positively associated with higher levels of gratitude and social support.
2. Higher levels of gratitude and social support will be associated with better psychological well-being (i.e., lower depressive symptoms and perceived stress, and higher life satisfaction).
3. Gratitude and social support will mediate the relation between religiosity and psychological well-being.

The use of a large, national sample allows for greater generalizability than studies on more homogenous populations, and the second dataset provides a valuable opportunity to test the replication of the proposed model, addressing a common criticism in the field of psychology regarding the replicability of findings (Ioannidis, 2012; Maxwell et al., 2015).

2. Method

2.1. Participants and procedure

Data were drawn from the Midlife in the United States (MIDUS) study, specifically the MIDUS 2 (collected 2004–2006) and MIDUS Refresher (collected 2011–2014) waves. Both datasets are publicly available through the Inter-University Consortium for Political and Social Research (ICPSR). Participants were identified via random-digit dialing, and data for the present study were taken from a subset of participants who completed additional questionnaires as part of a biomarker project.

The primary analysis sample was composed of 1052 participants from the MIDUS 2 dataset. The mean age was 55.3 years (SD = 11.8). The sample was 54.8 % female and 93.5 % Caucasian. A second sample of 625 participants from the MIDUS Refresher dataset (mean age = 51.7, SD = 13.4; 50.6 % female; 83.7 % Caucasian) was used to test for replication of the findings. Detailed demographic information is available in Table 1.

2.2. Measures

2.2.1. Religiosity

A general religiosity score was created using the MIDUS Religiosity Questionnaire (MIDUS-RQ). This is a 37-item instrument developed for the MIDUS study, comprised of eight subscales: Spirituality, Religious Identification, Private Religious Practices, Religious Support, Religious Coping (Behaviors), Religious Coping (Beliefs), Daily Spiritual Experiences, and Mindfulness. The instrument has not been formally validated, though its items were adapted from other sources. Because the subscales use different Likert scales and have a different number of items, a weighted composite score was created. To achieve this, each participant's score on a subscale was divided by the total possible score for that scale, yielding a value between 0 and 1. These standardized scores were then averaged to create the final composite variable, ensuring each subscale contributed equally.

2.3. Psychological well-being

A latent variable for psychological well-being was created using three established scales:

Table 1
Participant demographics for primary and replication samples.

Characteristic	Primary Sample (MIDUS 2) (N = 1052)	Replication Sample (MIDUS Refresher) (N = 625)
Age		
Mean (SD)	55.3 (11.8)	51.7 (13.4)
Range	34–84	25–76
Gender (%)		
Male	45.2 %	49.4 %
Female	54.8 %	50.6 %
Marital Status (%)		
Married	72.2 %	65.5 %
Separated	1.6 %	1.8 %
Divorced	12.7 %	13.8 %
Widowed	5.4 %	3.9 %
Never Married	8.1 %	15.1 %
Racial Ancestry (%) ^a		
Caucasian	93.5 %	83.7 %
African American	3.2 %	7.2 %
Native American	4.2 %	4.6 %
Asian	0.5 %	2.4 %
Pacific Islander	0.1 %	0.5 %
Other	3.6 %	7.4 %
Two or more races	5.4 %	6.4 %
Hispanic Ethnicity (%)	3.6 %	4.3 %
Custodial	6.7 %	4.5 %
Grandparents (%)		

^a Note. Percentages for racial ancestry may not add up to 100 % as participants could select more than one category.

- **Depressive Symptoms:** The Center for Epidemiological Studies-Depression Scale (CESD; Radloff, 1977) is a 20-item measure assessing the frequency of depressive symptoms over the past week. In the primary sample (MIDUS 2), internal consistency was excellent ($\alpha = 0.89$).
- **Perceived Stress:** The 10-item version of the Perceived Stress Scale (PSS; Lee, 2012) assesses the degree to which situations in one's life are appraised as stressful. Internal consistency in the primary sample was good ($\alpha = 0.86$).
- **Life Satisfaction:** The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a 5-item measure of global life satisfaction. Internal consistency for the primary sample was good ($\alpha = 0.88$).

2.4. Gratitude

Gratitude was measured with two items from the 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002): "I have so much in life to be thankful for" and "I am grateful to a wide variety of people." Items were rated on a 7-point Likert scale. Internal consistency for these two items in the primary sample was acceptable ($\alpha = 0.71$).

2.5. Social support

A latent variable for social support was created using the Support and Strain from Partners, Family, and Friends (SSPFF) scale (Walen and Lachman, 2000). This measure assesses positive and negative social exchanges across relationships. The analysis used three higher-order subscales representing affectual solidarity (i.e., the net of support and strain) from a spouse/partner, family, and friends. Internal consistency for the support subscales in the primary sample was excellent, with Chronbach's alphas ranging from 0.84 to 0.90.

2.6. Data analytic plan

Structural Equation Modeling (SEM) was conducted using SPSS AMOS 26.0 to test the hypothesis that gratitude and social support would mediate the relation between religiosity and psychological well-being. The tested model specified religiosity (observed composite

variable) as the predictor, gratitude (observed variable) and social support (latent variable) as the mediators, and psychological well-being (latent variable) as the outcome. In addition, custodial grandparent status was included in the model as a demographic covariate. This variable was selected as it represents a significant and increasingly common life stressor that could plausibly affect both social support and psychological well-being. The unexpected obligation of providing primary care for grandchildren has been shown to be stressful and may disrupt key developmental tasks for older adults, such as retirement (Bailey et al., 2013). Therefore, controlling for this status was deemed important within the study's stress and coping framework.

The model was first tested using the MIDUS 2 sample. To establish the robustness of the findings, the model was then tested for replication using the independent MIDUS Refresher sample. The significance of indirect effects was tested using bootstrapping with 500 samples and bias-corrected confidence intervals. Missing data were minimal across all study variables (<1 % of total data points). Because the proportion was well below 5 %, the choice of imputation method was unlikely to have a substantive effect on the results. Data were handled using regression imputation within AMOS. Due to skip-logic in the original questionnaire, participants who were not part of a religious community or were unmarried did not respond to the respective support subscales. To retain these participants, these missing values were recoded to '0,' reflecting an absence of support or strain from these specific sources. The hypothesized mediation model is depicted in Fig. 1.

3. Results

3.1. Preliminary analyses

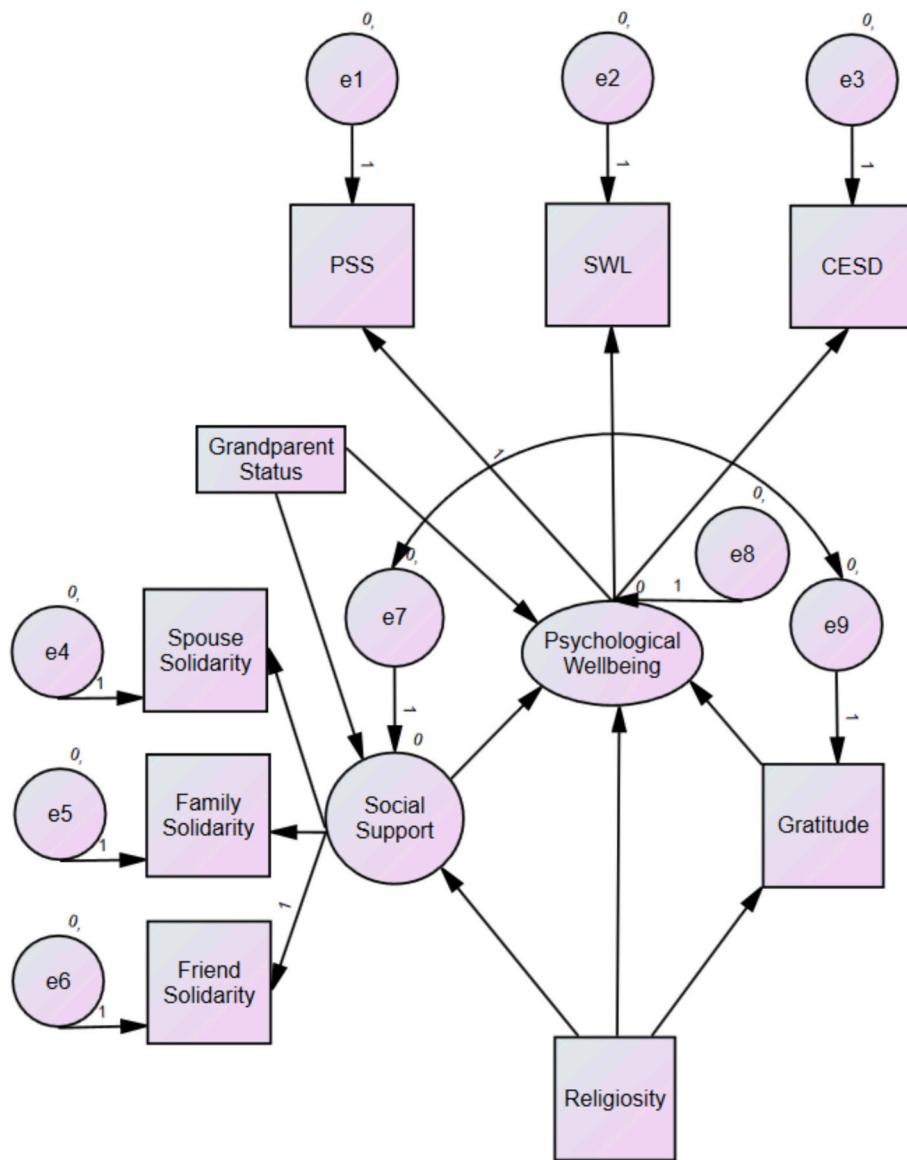
Descriptive statistics for all study variables for both the primary (MIDUS 2) and replication (MIDUS Refresher) samples are presented in Table 2. Bivariate correlations among all study variables are presented in Table 3. Prior to the main analysis, assumptions for structural equation modeling were tested. Skewness and kurtosis values for all variables were within an acceptable range. Bivariate correlations among the predictor and mediator variables were examined (see Table 3) and were not indicative of multicollinearity.

3.2. Primary analysis (MIDUS 2 sample)

A structural equation model was used to test the hypothesis that gratitude and social support mediate the relation between religiosity and psychological well-being. The final model specified full mediation. This was determined after observing that the direct path from religiosity to psychological well-being was significant when tested alone but became non-significant when the mediators were included in the model, thus supporting a more parsimonious full mediation model. Based on theoretical considerations and modification indices, the model was specified with covariance paths between the error terms for life satisfaction and both gratitude and spouse affectual solidarity. This final model provided a good fit to the data, $\chi^2(21) = 122.773, p < .001$; CFI = 0.958; RMSEA = 0.070; SRMR = 0.0386.

First, a significant total effect of religiosity on psychological well-being was observed ($b = -0.151, p = .003$), indicating that higher religiosity was associated with better overall well-being.

Next, the specific paths of the mediation model were examined. As hypothesized, religiosity was positively associated with both gratitude ($b = 0.336, p < .001$) and social support ($b = 0.223, p < .001$). In turn, both gratitude ($b = -0.197, p < .001$) and social support ($b = -0.543, p < .001$) were significantly associated with better psychological well-being (i.e., lower scores on the latent construct, which was reverse-scored). When the mediators were included in the model, the direct path from religiosity to psychological well-being was no longer significant ($b = 0.036, p = .252$). The paths from the grandparent status covariate to social support and psychological well-being were not

**Fig. 1.** The hypothesized dual-mediation model with covariate

Note. Ovals represent latent variables and rectangles represent observed variables. The model hypothesizes that the relation between religiosity and psychological well-being is mediated by social support and gratitude, while controlling for custodial grandparent status.

Table 2
Descriptive statistics for study variables.

Variable	Primary Sample (MIDUS 2) Mean (SD)	Replication Sample (MIDUS Refresher) Mean (SD)
Predictor		
Religiosity	5.65 (1.42)	5.23 (1.49)
Mediators		
Gratitude	6.29 (0.80)	6.18 (0.87)
Spouse Solidarity	2.49 (1.42)	2.27 (1.53)
Family Solidarity	3.26 (0.49)	3.15 (0.55)
Friend Solidarity	3.25 (0.42)	3.25 (0.45)
Outcomes		
Depressive Symptoms (CESD)	8.03 (7.73)	8.86 (7.63)
Perceived Stress (PSS)	21.71 (6.18)	22.42 (6.28)
Satisfaction with Life (SWL)	4.90 (1.28)	4.75 (1.31)

Note. For Religiosity, values represent the weighted composite score. For all other variables, values are the raw scale means (and standard deviations).

statistically significant.

A bootstrapping analysis with 500 samples revealed a significant total indirect effect of religiosity on psychological well-being through gratitude and social support ($b = -0.187, p = .003$). The non-significant direct path in the presence of this significant indirect effect confirms full mediation. Full path coefficients are detailed in Table 4. The final model with standardized path coefficients for the primary sample is shown in Fig. 2.

3.3. Replication analysis (MIDUS refresher sample)

To test the robustness of these findings, the identical model was tested in the independent MIDUS Refresher sample ($N = 625$). The model also demonstrated a good fit in the replication sample, with all fit indices meeting established criteria: $\chi^2(22) = 47.305, p < .001$; CFI = 0.980; RMSEA = 0.047; SRMR = 0.0356. Consistent with the primary analysis, the results confirmed the full mediation model. The total indirect effect of religiosity on psychological well-being was again significant ($b = -0.139, p = .004$), while the direct path from religiosity to

Table 3
Bivariate correlations among study variables.

	1	2	3	4	5	6	7	8	9
1. Religiosity	–	–0.15**	0.18**	–0.08*	0.37**	0.04	0.13**	0.19**	0.07*
2. Depressive Symptoms (CESD)	–0.10*	–	–0.55**	0.75**	–0.38**	–0.18**	–0.39**	–0.30**	0.10**
3. Satisfaction with Life (SWL)	0.16*	–0.56**	–	–0.53**	0.52**	0.27**	0.37**	0.28**	–0.09**
4. Perceived Stress (PSS)	–0.07	0.76**	–0.53**	–	–0.30**	–0.11**	–0.37**	–0.30**	0.07*
5. Gratitude	0.37**	–0.36**	0.47**	–0.30**	–	0.14**	0.27**	0.32**	–0.03
6. Spouse Solidarity	0.10*	–0.21**	0.36**	–0.18**	0.20**	–	0.23**	0.10**	–0.07*
7. Family Solidarity	0.10*	–0.27**	0.29**	–0.31**	0.22**	0.24**	–	0.46**	–0.05
8. Friend Solidarity	0.07	–0.25**	0.23**	–0.29**	0.20**	0.16**	0.40**	–	–0.02
9. GP Status	0.07	0.06	–0.01	–0.02	0.01	0.05	0.06	0.01	–

Note. Correlations for the replication sample (MIDUS Refresher; N = 625) are shown above the diagonal. Correlations for the primary sample (MIDUS 2; N = 1052) are shown below the diagonal.

* $p < .05$.

** $p < .01$.

Table 4
Unstandardized and standardized path coefficients for the final mediation model.

Path	Primary Sample (MIDUS 2)	Replication Sample (MIDUS Refresher)
	<i>b</i> (SE)	β
Predictor → Mediators		
Religiosity → Gratitude	0.35 (0.03)***	0.40***
Religiosity → Social Support	0.18 (0.01)***	0.03***
Mediators → Outcome		
Gratitude → Psychological Well-being	–0.68 (0.11)***	–0.21***
Social Support → Psychological Well-being	–10.88 (0.97)***	–0.54***
Covariate → Outcome		
GP Status → Psychological Well-being	1.24 (0.60)*	0.06*
GP Status → Social Support	–0.06 (0.04)	–0.06
Direct Path		
Religiosity → Psychological Well-being	0.10 (0.12)	0.03
Factor Loadings: Social Support		
Spouse Solidarity	0.97 (0.08)***	0.61***
Family Solidarity	1.44 (0.10)***	0.76***
Friend Solidarity	1.00 ^a	0.52
Factor Loadings: Psychological Well-being		
Depressive Symptoms (CESD)	1.29 (0.05)***	0.86***
Perceived Stress (PSS)	1.00 ^a	0.84
Satisfaction with Life (SWL)	–0.15 (0.01)***	–0.60***

Note. *b* = unstandardized coefficient; SE = standard error; β = standardized coefficient. ^aPath fixed to 1.0 for model identification. * $p < .05$, ** $p < .01$, $p < .001$.

well-being remained non-significant ($b = 0.034$, $p = .411$). The detailed path-by-path coefficients for the replication sample are presented alongside the primary sample in Table 4, and the indirect and total effects are summarized in Table 5.

4. Discussion

This study sought to explain the established relation between religiosity and psychological well-being by examining the mediating roles of gratitude and social support. Guided by a transactional model of stress and coping (Lazarus and Folkman, 1984), our primary hypothesis was that religiosity provides psychological and social coping resources that, in turn, predict better mental health. This hypothesis was fully supported. Across two large, independent national samples, the relation between religiosity and psychological well-being (comprised of depressive symptoms, perceived stress, and life satisfaction) was fully mediated by gratitude and social support. These results suggest that the

benefits of religiosity on affective well-being are not direct but instead operate through the cultivation of key coping resources.

These findings, based on U.S. samples, align with an expanding international research body, highlighting the importance of understanding religiosity within cultural contexts (Jensen, 2021). The strong connection between religiosity and well-being has been confirmed within multiple cultures. For example, a large-scale study by the WHOQOL SRPB Group (2006) across 18 countries found significant links between spirituality, religion, personal beliefs, and psychological and social quality of life aspects. The mediational pathways in our model also align with mechanisms studied in other societies. Recent Polish research, for instance, has shown that meaning-making mediates the pathway between religious comfort and social well-being (Krok et al., 2024). Supporting a key mediator in our model, another study of young Polish adults found that dispositional gratitude mediates the relation between religious experience and self-esteem (Szcześniak et al., 2022). Similarly, research with Vietnamese adults also found gratitude mediates the link between intrinsic religiosity and happiness (Huynh et al., 2024). Overall, this growing international research, from broad surveys to specific mediational studies in European and Asian settings, suggests that fostering psychological resources like gratitude is a powerful, cross-cultural mechanism explaining how religiosity benefits well-being.

While previous research has demonstrated that religiosity is linked to better mental health via gratitude or social support individually, few studies have tested both mechanisms in a single structural model using nationally representative data. For instance, Nooney and Woodrum (2002) showed that church-based social support mediates the relation between religious involvement and mental health in a cross-sectional U.S. sample. Likewise, longitudinal work by Wood et al. (2007) found that dispositional gratitude predicts increased social support and reduced depression but did not examine religiosity as a precursor. More recently, Boylan et al. (2023) used the MIDUS dataset to demonstrate that positive social support mediates the association between religiosity/spirituality and long-term outcomes like mortality.

In contrast, the present study advances the field by testing a dual-mediator model (gratitude and social support) simultaneously within a structural equation framework and replicates these findings across two large national samples. This approach clarifies the relative and combined contributions of psychological versus social resources in the religiosity–affective distress link, offering a more comprehensive and theoretically coherent explanation than models focusing on a single pathway.

The findings provide strong empirical support for a Stress and Coping model interpretation of religiosity's protective effects. Individuals who are more religious tend to report higher levels of gratitude (a psychological resource that can foster positive reframing; Lambert et al., 2012). They also report higher levels of social support (a social resource that can buffer the negative effects of stress; Hovey et al., 2014). The powerful mediating effect of these two variables suggests that they are

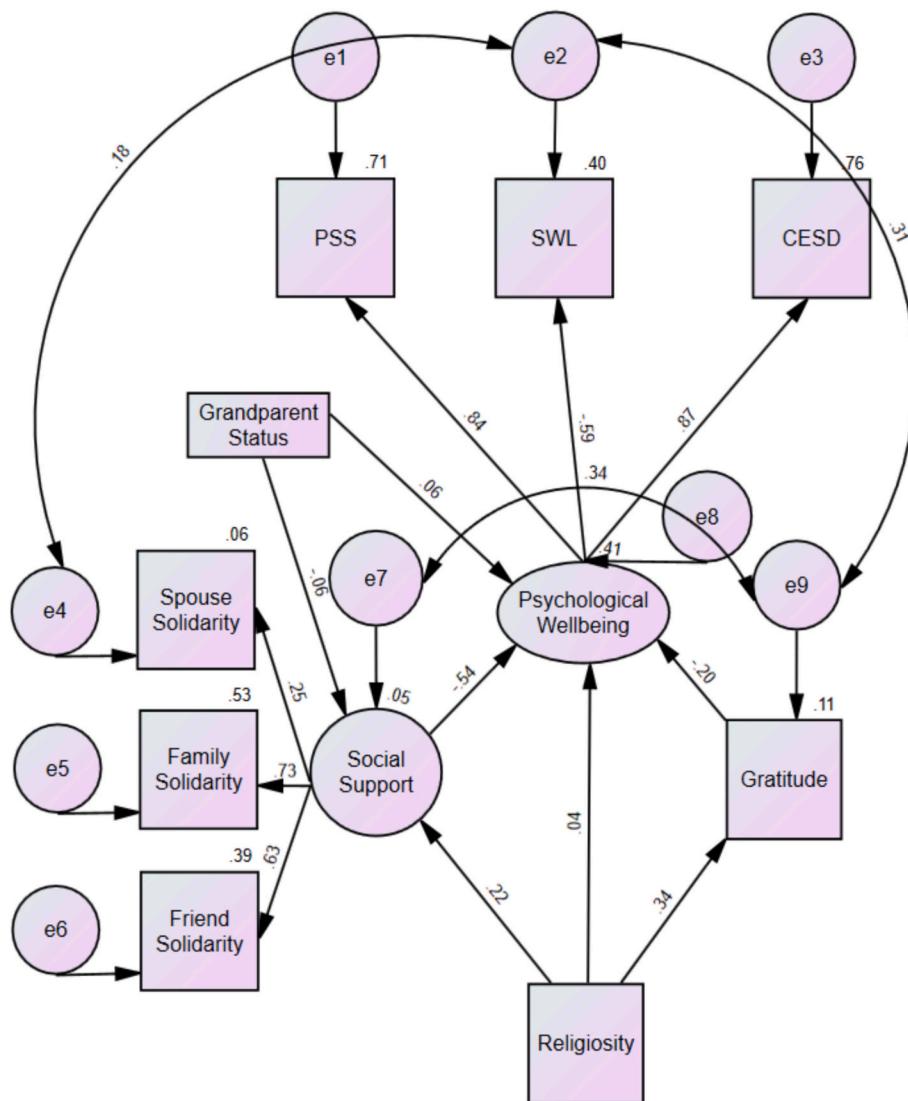


Fig. 2. Final mediation model with standardized path coefficients from the primary sample (MIDUS 2)

Note. Solid lines indicate statistically significant paths. For clarity, only the standardized coefficients for the primary sample are displayed. The model demonstrated a good fit and was successfully replicated in the second sample.

Table 5

Unstandardized Indirect and Total Effects of Religiosity on Psychological Well-being.

Effect	Primary sample (MIDUS 2) <i>b</i> (<i>p</i> -value)	Replication sample (MIDUS refresher) <i>b</i> (<i>p</i> -value)
Total Effect	-0.151 (0.003)	-0.105 (0.022)
Total Indirect Effect	-0.187 (0.003)	-0.139 (0.004)

Note. *b* = unstandardized coefficient from bootstrapping analysis with 500 samples. The total indirect effect represents the effect of religiosity on the psychological well-being latent variable through the mediators of gratitude and social support.

primary pathways through which religiosity is associated with a lower burden of depressive symptoms and perceived stress.

From a clinical standpoint, these findings have significant implications for preventing and treating affective disorders. Instead of viewing religiosity as a uniform protective factor, clinicians can target specific, modifiable mechanisms identified here. For example, meta-analyses have found that interventions like gratitude practices have shown notable promise in enhancing psychological well-being (Davis et al.,

2016). Practical, evidence-based exercises such as gratitude journaling (where individuals regularly write down things they are thankful for) are easy to incorporate into therapy. This practice, often called “counting blessings,” has proven to boost positive emotions, optimism, and health behaviors in both students and clinical populations (Emmons and McCullough, 2003). Another related exercise is the “three good things” activity, where clients list three positive occurrences from their day and consider their attributions (Killen and Macaskill, 2015; Seligman et al., 2005). These exercises work by shifting focus toward positive life aspects, helping to reframe negative experiences, and foster resilient personal resources (Emmons and Stern, 2013; Wood et al., 2010). This study offers a strong theoretical basis for why these targeted interventions may be especially effective for religious clients, as they complement and activate existing value systems.

Contrary to our expectations, being a custodial grandparent did not significantly predict psychological well-being or social support in the final analysis. Several reasons might explain this. First, the MIDUS questionnaire asked participants if they had “ever” been responsible for a grandchild for six months or longer, rather than focusing on *current* caregiving. Adverse effects on well-being might decrease once the intensive caregiving period ends. Second, the small number of custodial

grandparents in both datasets ($N = 70$ in MIDUS 2; $N = 28$ in MIDUS Refresher) may have limited the study's ability to detect an effect. Lastly, the different and potentially traumatic circumstances leading to grandparent caregiving, such as parental death, incarceration, or substance abuse, were not examined, and not all such situations may have an equally negative effect on caregivers.

A major strength of this study is the replication of the full mediation model in a second, large national sample. The consistency of the findings across the MIDUS 2 and MIDUS Refresher datasets, collected nearly a decade apart, speaks to the robustness of the model and addresses calls for greater emphasis on replicability in psychological science (Ioannidis, 2012; Maxwell et al., 2015).

Several limitations, which also point toward important future directions, should be noted. First, the cross-sectional design of this study precludes any causal interpretations. While our model is grounded in theory, longitudinal research is needed to establish the temporal sequence of these relations (for instance, to confirm that changes in religiosity precede changes in coping resources, which in turn precede changes in depressive symptoms). Future longitudinal studies could also clarify how the "social value" of religiosity may change over time and influence well-being, particularly as the number of religiously unaffiliated individuals in the U.S. continues to increase (Pew Research Center, 2015).

Second, there were limitations in measurement. Gratitude was assessed with only two items, which may not fully capture the breadth of this construct. Future research should use more comprehensive, validated measures of gratitude to replicate these findings. Similarly, while the composite measure of religiosity was broad, its psychometric properties have not been formally validated. Further, while missing data were minimal, the use of regression imputation has known limitations (Templeton et al., 2021), and future studies could confirm these findings using more advanced techniques such as full information maximum likelihood (FIML).

An additional limitation was the underrepresentation of racial and ethnic minorities in the samples. In the MIDUS 2 sample, African Americans comprised 3.2 % and Hispanic individuals 3.6 % of participants, whereas U.S. Census data from the mid-2000s estimated these populations to be approximately 12.2 % and 14.2 %, respectively, highlighting their underrepresentation (U.S. Census Bureau, 2007a, 2007b; Pew Research Center, 2008). This limits the generalizability of the findings, particularly as levels of religiosity and the experience of stress can differ across demographic groups (Hudson et al., 2015). While subgroup analyses would be a valuable way to test the model's robustness, the sample sizes for non-Caucasian groups in the current datasets were too small to conduct such analyses with adequate statistical power. Future research is needed to test this model in more diverse and representative samples.

Third, although we accounted for the potential stress related to custodial grandparenting, we did not include other demographic factors such as income or education level, which may also confound the relation between stress and well-being. Future studies could examine whether these mediation pathways remain consistent when controlling for a broader set of demographic variables. Further, the present study did not test for potential moderation by demographic factors such as gender, age, or race. The strength of the mediated pathways may differ across these groups, and future research should investigate these possibilities using multigroup SEM to explore potential differences in the model's effects.

5. Conclusion

In conclusion, this study provides strong, replicated evidence that the protective relation between religiosity and affective well-being is explained by the psychological resource of gratitude and the social resource of social support. This work advances a Stress and Coping model by identifying and validating two specific, potent mechanisms

through which the broad disposition of religiosity may translate into better mental health outcomes. Practically, this provides clinicians with evidence-based targets for intervention that are more direct and actionable than simply encouraging religious faith itself. Ultimately, these findings suggest that therapeutic strategies aimed at enhancing gratitude and strengthening social connectedness may be fruitful avenues for reducing depressive symptoms and promoting psychological health.

CRediT authorship contribution statement

Ethan D. Lantz: Writing – review & editing, Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization. **Danielle K. Nadorff:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Conceptualization.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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