Mental Health, Religion & Culture

ISSN: 1367-4676 (Print) 1469-9737 (Online) Journal homepage: www.tandfonline.com/journals/cmhr20

Enhancing health outcomes in cancer patients: exploring self-forgiveness and the mediating role of spiritual growth through the transcendental self-healing model – a longitudinal study

Sebastian Binyamin Skalski-Bednarz

To cite this article: Sebastian Binyamin Skalski-Bednarz (08 May 2026): Enhancing health outcomes in cancer patients: exploring self-forgiveness and the mediating role of spiritual growth through the transcendental self-healing model – a longitudinal study, Mental Health, Religion & Culture, DOI: 10.1080/13674676.2025.2505583

To link to this article: https://doi.org/10.1080/13674676.2025.2505583

MENTAL HEALTH, RELIGION & CULTURE
https://doi.org/10.1080/13674676.2025.2505583

Routledge
Taylor & Francis Group

Enhancing health outcomes in cancer patients: exploring self-forgiveness and the mediating role of spiritual growth through the transcendental self-healing model – a longitudinal study

Sebastian Binyamin Skalski-Bednarz [a,b]

[a]Faculty of Philosophy and Education, Katholische Universität Eichstätt-Ingolstadt, Eichstätt, Germany; [b]Institute of Psychology, Ignatianum University in Cracow, Cracow, Poland

ABSTRACT

This study explores the role of self-forgiveness and spiritual growth in enhancing health outcomes among cancer patients through a three-wave longitudinal mediation model. Conducted within a Christian demographic in Western Canada, the research involved 212 participants undergoing treatment at oncological rehabilitation centres. Utilising validated scales, the study measured self-forgiveness, spiritual growth, and health outcomes, with data collected at three-month intervals. The findings reveal that spiritual growth significantly mediates the relationship between self-forgiveness and improved mental and physical health. The study highlights the therapeutic potential of integrating spiritual and emotional dimensions into healthcare practices, suggesting that self-forgiveness and spiritual development can play critical roles in patient care and well-being. This research contributes to the literature on psycho-oncology and offers insights into the mechanisms through which spirituality and self-forgiveness impact health outcomes in chronic illness contexts.

ARTICLE HISTORY
Received 6 May 2024
Accepted 7 May 2025

KEYWORDS
Self-forgiveness; spiritual growth; cancer; health

Cancer presents not only a formidable physical challenge but also imposes significant psychological and emotional strain on individuals (Brunckhorst et al., 2021; Fortin et al., 2021). Navigating the complexities of an oncological illness requires effective coping mechanisms to manage its often extended and unpredictable course (Ahmadi et al., 2015; Büssing & Fischer, 2009). This challenge is particularly evident in regions like Western Canada, where cancer prevalence remains high, with British Columbia and Alberta accounting for a substantial proportion of cases nationally (Canadian Cancer Society, 2024). To address the psychological impact of cancer, programmes such as Alberta Health Services' Psychosocial Oncology and BC Cancer's Patient and Family Counselling services provide crucial emotional and psychological support to patients (Alberta Health Services, 2024; BC Cancer, 2024). One such coping mechanism, forgiveness – particularly valuable in psychological care – has emerged as a potential strategy to help

CONTACT Sebastian Binyamin Skalski-Bednarz sebastian.skalski@ku.de

individuals regulate their affective and cognitive responses, thereby alleviating the burden of their oncological condition. Defined primarily as a process through which an individual moves beyond resentment and grants pardon to those who have caused harm (Gall & Bilodeau, 2021; Worthington, 2020; Worthington, Hook et al., 2007), forgiveness has been linked to the promotion of adaptive coping strategies, resulting in improved adjustment and heightened psychological resilience in the face of the challenges associated with oncological illnesses (Lawler-Row, 2010; Skalski-Bednarz et al., 2025; Toussaint, 2022; Toussaint et al., 2014, 2023; Webb & Toussaint, 2020).

Empirical evidence supports the notion that forgiveness is correlated with reduced psychological distress and improved emotional well-being in individuals coping with oncological and chronic illnesses (Skalski-Bednarz et al., 2024; Toussaint et al., 2014, 2023; Vosvick & Dejanipont, 2023). Although the precise dynamics of how forgiveness interacts with oncological illnesses are not fully elucidated, theoretical frameworks such as the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984) and the stress-and-coping models of forgiveness, both for oneself (Toussaint, Webb et al., 2017) and others (Strelan, 2020), suggest that forgiveness serves as an emotion-focused coping mechanism. This mechanism is instrumental in regulating negative emotions, mitigating stress-related physiological reactions, and reshaping an individual's perception of their illness. Consequently, it fosters resilience and personal growth, providing significant therapeutic benefits in the management of oncological illnesses.

In particular, self-forgiveness – a dimension of forgiveness where individuals reconcile themselves with their perceived role in causing or exacerbating their illness – has shown a strong correlation with psychological indicators such as anxiety, depression, and overall mental health (Rasmussen et al., 2019; Webb et al., 2017). This suggests that self-forgiveness may be an invaluable resource for adapting to life with an oncological illness. Engaging in self-blame, or the tendency of patients to attribute their condition to their own actions or traits, has been identified as a significant factor that aggravates psychological distress and diminishes quality of life (Toussaint et al., 2014). Moreover, oncological disease patients may experience self-condemnation, believing they have contributed to their condition through neglect or lifestyle choices, further complicating their emotional and mental health landscape (Harris & Thoresen, 2007; Ingersoll-Dayton et al., 2010; Worthington et al., 2001; Worthington, Witvliet et al., 2007).

Research by Skalski-Bednarz et al. (2025) on HIV-positive individuals revealed that self-forgiveness contributes to greater acceptance of one's chronic conditions. This suggests that letting go of self-blame and negative feelings about the illness can foster a more compassionate view of oneself. Against this backdrop, therapeutic strategies centred on self-forgiveness, similar to those outlined by Toussaint et al. (2014), have proven effective in enhancing the quality of life for cancer patients (Cardoso et al., 2026; Shallu, 2021). These methods aid in promoting acceptance, diminishing pessimism, and motivating self-enhancement. In separate findings, Toussaint, Barry et al. (2017) found that self-forgiveness among cancer patients and their caregivers is inversely related to self-blame and psychological distress and positively associated with hope. Moreover, an indirect link was observed between self-forgiveness and diminished psychological distress. Consequently, existing research highlights the harmful effects of self-blame and the considerable benefits of self-forgiveness in boosting psychological resilience and enhancing life quality in those dealing with cancer. This insight paves the way for further exploration into the

positive effects of self-forgiveness on health in oncological conditions, providing valuable avenues for supporting both cancer patients and their caregivers.

Spiritual growth

For those confronting cancer, the act of self-forgiveness opens a door to spiritual awakening, granting them resilience, hope, and a revitalised sense of purpose amidst their health struggles. This journey of self-forgiveness is identified as a key step toward *spiritual growth* (named alternately "spiritual transformation") – a deep and all-encompassing shift in one's beliefs, values, and understanding that fosters a closer bond with the divine or transcendent (Pargament et al., 2022). Such a transformation marks an evolution in self-awareness, purpose, and enriches life with greater meaning (Cole et al., 2008; Eames & O'Connor, 2022; Skalski-Bednarz et al., 2022; Vis & Marie Boynton, 2008). While the specifics of spiritual growth may differ across various spiritual and religious traditions, it universally represents a quest for self-discovery, the pursuit of inner wisdom, and the contemplation of existential questions, reshaping one's identity (Hermans, 2013; Kremer & Ironson, 2009; Tassell-Matamua & Frewin, 2019).

Post et al. (2020) suggest that in facing cancer, a reevaluation of one's spirituality can convert profound suffering into spiritual growth and enhanced psychospiritual well-being. Connolly and Timmins (2021) argue that grappling with the advancement of disease can usher in a period of internal and spiritual expansion, proving beneficial in managing a cancer diagnosis and navigating the challenges of a potentially grim prognosis. This reorientation towards spirituality and self-reflection can fundamentally alter how individuals experience and cope with their journey through cancer, offering a framework for healing and transformation that transcends physical well-being.

Notable frameworks such as the Faith-development Model (Fowler & Dell, 2006) illustrate a progression through six stages of faith development, from simple beliefs to an intricate and unified worldview that resonates with a profound connection to the divine. Similarly, the integral theory of consciousness (Wilber, 1997) suggests that spiritual transformation involves the integration of cognitive, emotional, social, and moral facets of human experience, resulting in an enhanced spiritual consciousness. Transpersonal psychology further enriches our understanding by focusing on the transcendent dimensions of human experience, advocating for a transformation that transcends the ego and fosters a sense of unity with all existence (Caplan et al., 2003; Schneider et al., 2015; Tassell-Matamua & Frewin, 2019).

Like post-traumatic growth, spiritual transformation embodies a process of personal evolution, where individuals experience significant psychological and emotional shifts, often culminating in a more optimistic and fulfilling perspective on life (Calhoun & Tedeschi, 2006). Both phenomena emerge in response to profound life challenges, with spiritual transformation often being triggered by existential crises that prompt individuals to seek a deeper understanding of their place in the world and their spiritual connections (Shaw et al., 2005). Similarly, post-traumatic growth arises from traumatic experiences that compel individuals to reassess their values, beliefs, and life's purpose (Sarıalioğlu et al., 2022). Both processes are associated with positive outcomes, such as enhanced emotional well-being, resilience, and a deeper sense of peace or life satisfaction (Calhoun & Tedeschi, 2006; Hall & Edwards, 2018).

Spirituality and religion are significant for many, offering solace, companionship, and a sense of purpose through religious practice (Park, 2005). These spiritual pursuits provide a framework for interpreting life's challenges and are a source of social support, positively affecting mental states and health outcomes (Ai et al., 2003; Denney & Aten, 2020; Krok, 2015; Taheri-Kharameh et al., 2016). While religion typically involves organised beliefs and communal practices, spirituality is often understood more broadly as an individual's personal experience of the sacred or transcendent (Zinnbauer et al., 1997). Pargament (1997) characterises religion as a quest for meaning connected to the sacred, with spirituality at its core, seeking the divine or ultimate reality. This spiritual engagement can significantly impact various positive outcomes, including fostering forgiveness through empathy, compassion, and exemplary role models that emphasize forgiveness (Tsang et al., 2005).

For individuals battling cancer, the act of self-forgiveness – liberating oneself from negative emotions and cultivating a positive mindset – may serve as a bridge from initial feelings of guilt or shame towards personal growth (Calhoun & Tedeschi, 2006). The model introduced by Enright and Fitzgibbons (2000) supports this notion, suggesting that engaging in forgiveness can trigger a reevaluation of one's life purpose. In addition, Schultz et al. (2010) underscore the pivotal role that spirituality and religion play in connecting forgiveness with personal development. Expanding on these ideas, Skalski-Bednarz and Toussaint (2025) argue that forgiveness is a fundamental aspect of spiritual development, providing individuals with tools to overcome difficulties and enrich their sense of meaning in life. This model advocates the cultivation of spiritual experiences to strengthen the link between forgiveness and well-being, presenting forgiveness as an integral component of a broader philosophical or religious life approach. This approach emphasizes enhancing one's relationship with the divine and deepening the understanding of life's meaning, moving beyond simple cognitive interpretation to a more holistic appreciation of one's resilience and existence amidst adversity. By adopting such a spiritual perspective, individuals can improve their health and gain access to spiritual tools beneficial for well-being. While the conceptual link between forgiveness and growth is intriguing, empirical research exploring this relationship is sparse. However, the existing literature indicates that spirituality may act as a bridge between forgiveness and psychological well-being, suggesting a beneficial relationship between self-forgiveness and health in cancer patients by offering hope, ethical foundations, and opportunities to find meaning in their journey (Arefpour et al., 2021; Schultz et al., 2010; Seybold et al., 2001; Skalski-Bednarz et al., 2025; Zarzycka & Zietek, 2019).

Present study

This study explores the impact of spiritual growth on the relationship between state of self-forgiveness and health among cancer patients by proposing the Transcendental Self-healing Model. Based on the literature review above, this innovative model posits that self-forgiveness acts as a pivotal facilitator for spiritual evolution, physical health, and psychological well-being. It suggests that self-forgiveness transcends the mere dispelling of negative emotions to also promote spiritual vitality, clarity, and peace. Additionally, the model proposes that self-forgiveness catalyses profound metaphysical shifts, elevating consciousness and enriching life experiences with joy and enlightenment, thereby contributing to both personal and collective spiritual awakening. According to

this presented hypothetical framework, in a three-wave longitudinal study, it is postulated that self-forgiveness positively impacts spiritual growth, which in turn is anticipated to lead to improvements in both mental and physical health.

Conducted within the Christian demographic of Canada – a reflection of the country's substantial Christian population (Thiessen & Wilkins-Laflamme, 2020) – this research underscores the intricate link between spiritual development and religious traditions, particularly during the adversities posed by chronic illnesses like cancer (Pargament et al., 2022). By concentrating on how spiritual growth, spurred by religious practices, intermediates between self-forgiveness and health, the study seeks to shed light on the distinct spiritual paths of religious individuals. Through emphasizing the significance of religious identification in the process of healing, it aspires to broaden the discourse on the interplay between self-forgiveness, spirituality, and health, offering deeper insights into the spiritual experiences unique to religious cancer patients.

Materials and methods

Participants and procedure

This three-wave study, approved by the university's ethics committee for the period of 2023–2024, involved 212 Christian individuals undergoing treatment at oncological rehabilitation centres in Western Canada. Participants ranged in age from 19 to 67 years, with a mean age of 42.8 years ($SD = 12.6$), and the majority were female (68%). Eligibility criteria required participants to be at least 18 years old, have a cancer diagnosis, not have severe cognitive impairments, identify as Christian, be willing to participate, and be fluent in English. Recruitment was conducted through targeted advertisements and promotions within the healthcare facilities. Data were collected using anonymous, paper-based questionnaires that participants completed with their physicians during routine appointments. The initial survey date was recorded in each participant's medical record, and follow-up questionnaires were issued every three months. To ensure anonymity, participants were asked to sign the surveys with a fictitious ID that did not reveal their identity. The retention rate was 43%. Participants did not receive financial compensation for their involvement. Demographic analysis showed that 65% were cisgender females, 3% transgender females, 30% cisgender males, and 2% transgender males. Further demographic details indicated that 65% of participants lived with a partner, 71% were employed, and 8% had children under 14 years of age at the time of recruitment. The study did not collect or analyse specific data regarding medical conditions and treatments. The procedure involved participants completing questionnaires designed to assess self-forgiveness, spiritual growth, and health outcomes, with each assessment taking approximately seven minutes to complete.

Measures

In assessing self-forgiveness, the State Self-Forgiveness Scale (SSFS), an 18-item instrument developed by Wohl et al. (2008), was employed. This scale, among the few validated tools for measuring immediate self-forgiveness experiences, evaluates forgiveness across two dimensions: emotional and behavioural, and cognitive. Responses were recorded on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). The total SSFS score

reported in this study demonstrated high internal consistency ($\alpha = .91$). The validation study by Wohl et al. (2008) confirmed the SSFS's strong factorial and predictive validity, with positive correlations to mental health indicators. Example items include expressions of self-compassion or self-rejection following a misdeed, such as "I feel compassionate toward myself" and "I feel rejecting of myself".

For measuring spiritual growth, the Spiritual Growth Subscale from the Spiritual Transformation Scale (Cole et al., 2008), comprising 29 items ($\alpha = .97$ in this study), was utilised. This subscale quantifies the depth of spiritual changes across four dimensions – worldview, life objectives, interpersonal relationships, and self-perception – rated on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Its validity is supported by significant correlations with the Positive and Negative Affect Scale, the Daily Spiritual Experiences Scale, and the Post-traumatic Growth Inventory. Participants assessed their experiences of spiritual change in difficult situations with items like "Because of the spiritual changes I've been through, I've changed my priorities" and "I pay more attention to things that are spiritually important and overlook the small things that used to bother me".

To assess perceived health, the PROMIS Global Health Scale (Hays et al., 2017) was used, including two subscales: *physical health* and *psychological well-being*, each with two items, indicating internal consistencies of $\alpha = .81$ and $\alpha = .83$, respectively. Responses were given on a five-point Likert scale (1 = excellent, 5 = poor), with higher scores reflecting better health upon score inversion. The PROMIS Scale has demonstrated large correlations with other comprehensive mental and physical health measures in the validation study by Hays et al. (2017). Example questions are "In general, how would you rate your physical health?" and "In general, how would you rate your mental health, including your mood and your ability to think?"

Statistical Analyses

Preliminary tests, including the Kolmogorov–Smirnov and Levene's tests, confirmed the suitability of parametric approaches for our study, with an appropriate sample size determined using G*Power 3.0.7.8. The interconnections between variables were examined using Pearson's *r* correlation analysis and structural equation modelling (SEM), employing maximum likelihood estimation. Model fit was evaluated through several indices: the chi-squared (χ^2) statistic, the Comparative Fit Index (CFI), the Goodness-of-Fit Index (GFI), and the Tucker-Lewis Index (TLI), where values greater than .95 suggest a good model fit and those above .9 are considered acceptable. Additional fit indicators included the standardised root mean square residual (SRMR, with values below .08) and the root mean square error of approximation (RMSEA, with values below .05 indicating an ideal fit and values under .08 deemed acceptable) (Byrne, 2016). Cohen (2013) provided the benchmarks for interpreting correlation effect sizes (small: $r = .10$, medium: $r = .30$, large: $r = .50$). Data analysis was carried out using IBM SPSS Statistics 29 and IBM SPSS Amos 29, with a significance threshold established at $p < .05$.

Results

Table 1 displays the mean scores, standard deviations, skewness, kurtosis, and correlations for all variables examined across multiple time points. The constructs of self-forgiveness,

Table 1. Descriptive statistics of the study variables ($N = 212$).

	M (*SD*)	Skewness	Kurtosis	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Self-Forgiveness T1	2.5 (.5)	.51	−.13	–										
2. Self-Forgiveness T2	2.6 (.7)	.67	−.38	.71***	–									
3. Self-Forgiveness T3	2.8 (.6)	.61	−.68	.81***	.76***	–								
4. Spiritual Growth T1	3.8 (1.9)	.85	−.77	.38***	.52***	.43***	–							
5. Spiritual Growth T2	4.0 (1.7)	.80	−.84	.34***	.57***	.34***	.80***	–						
6. Spiritual Growth T3	3.6 (1.8)	.78	−.91	.37***	.43***	.44***	.75***	.81***	–					
7. Physical Health T1	3.3 (1.1)	.26	−.79	.34***	.31***	.29***	.40***	.35***	.29***	–				
8. Physical Health T2	3.4 (.9)	.95	−.51	.30***	.36***	.21**	.37***	.39***	.32***	.73***	–			
9. Physical Health T3	3.4 (1)	.78	−.56	.32***	.33***	.29***	.35***	.33***	.38***	.71***	.70***	–		
10. Mental Health T1	3.3 (1.3)	.27	−.12	.32***	.27***	.24***	.37***	.40***	.40***	.51***	.55***	.55***	–	
11. Mental Health T2	3.6 (1.2)	.25	−.39	.29***	.29***	.22***	.32***	.43***	.36***	.41***	.57***	.58***	.73***	–
12. Mental Health T3	3.5 (1.3)	.27	−.22	.20**	.26***	.26***	.31***	.38***	.41***	.48***	.51***	.57***	.75***	.69***

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

spiritual growth, and both physical and mental health showed moderate stability throughout the observation period. Additionally, the analyses indicated that the relationships between self-forgiveness, spiritual growth, and health metrics were consistently positive, though small, at each measurement time point. The exceptions were the relationships between physical and mental health, which demonstrated medium effects. Furthermore, sociodemographic factors did not show significant associations with the constructs under investigation.

To ensure the effects of the measures remain unbiased across different time intervals, the study employed longitudinal measurement invariance tests following the protocols suggested by Cheung and Rensvold (2002) and Brown (2006). An initial baseline model, which did not assume invariance and allowed for varying factor loadings, demonstrated a good fit: $\chi^2_{(30)} = 29.81$, $p = .475$, CFI = .999, TLI = .999, RMSEA = .010 (90% CI [.001, .062]), and SRMR = .031. Subsequently, a model with full invariance showed no statistically significant decline in fit compared to the baseline model, with $\Delta\chi^2_{(6)} = 9.71$, $p = .137$, resulting in $\chi^2_{(36)} = 39.52$, $p = .316$, CFI = .978, TLI = .978, RMSEA = .052 (90% CI [.025, .097]), and SRMR = .049. Given that the chi-square difference test ($\Delta\chi^2$) between nested models resulted in a p-value greater than .05, we accepted the hypothesis of measurement invariance over time.

Following Cole and Maxwell (2003), SEM was employed to explore the potential indirect effect of spiritual growth on the relationship between self-forgiveness and health, treating health as a latent variable comprising both mental and physical components. Figure 1 displays the longitudinal mediation model tested in this study, allowing residuals at each time point to correlate.

The investigation focused on the time-specific indirect effect from self-forgiveness at Time 1 (T1) to health at Time 3 (T3), via the pathway from self-forgiveness T1 to spiritual growth at Time 2 (T2), and then from spiritual growth T2 to health T3. This analysis includes various types of indirect effects across different measurement waves,

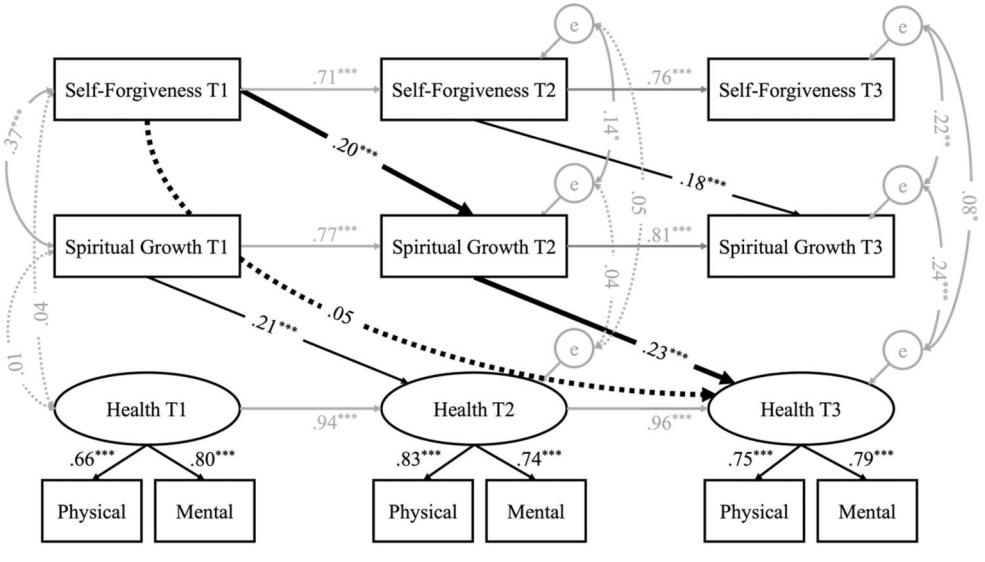

Figure 1. Model analysis from the present study ($N = 212$): Standardised coefficients and significance levels (*$p < .05$, **$p < .01$, ***$p < .001$).

emphasizing the importance of reporting both the total and time-specific indirect effects. Utilising a three-wave longitudinal design, this study examined a singular type of time-specific indirect effect.

The model's fit indices proved to be satisfactory, with $\chi^2_{(41)} = 32.11$, $p = .838$, CFI = .992, TLI = .992, RMSEA = .043 (90% CI [.001, .079]), and SRMR = .033. Notably, the path from self-forgiveness at Time 1 (T1) to spiritual growth at Time 2 (T2; $\beta = .20$, $p < .001$) and from spiritual growth T2 to health at Time 3 (T3; $\beta = .23$, $p < .001$) were both statistically significant. Furthermore, the indirect effect of self-forgiveness at T1 on health at T3 through spiritual growth at T2 was significant (indirect effect, $\beta = .08$, $p < .001$), whereas the direct effect from self-forgiveness T1 to health T3 was not significant (direct effect, $\beta = .05$, $p = .276$), suggesting that the relationship between self-forgiveness and health is entirely indirect through spiritual growth.

Finally, the sequence of self-forgiveness and spiritual growth in relation to health outcomes was inverted to test if the proposed model was superior to an alternative configuration. The fit indices for this reverse model indicated a poor fit to the data, with a $\chi^2_{(41)} = 102.55$, $p < .001$, CFI = .655, TLI = .655, RMSEA = .213 (90% CI [.105, .337]), and SRMR = .26. Consequently, the data do not support the notion that self-forgiveness mediates the relationship between spirituality and well-being.

Discussion

This longitudinal study investigates the mediating role of spiritual growth in the relationship between self-forgiveness and health outcomes among cancer patients. The findings underscore the critical roles that self-forgiveness and spiritual growth play in enhancing mental and physical health in chronic illness contexts. Utilising a robust three-wave longitudinal design, the research provides significant empirical evidence that clarifies the relationships among these factors and their collective impact on chronic illness management. Notably, the data indicate that self-forgiveness at the initial time point significantly predicts spiritual growth in the subsequent phase, which in turn positively influenced health outcomes in the final phase, thereby supporting the indirect effect hypothesis. This dynamic is consistent with Lazarus and Folkman's (1984) transactional theory of stress and coping, which posits that effective coping strategies, such as self-forgiveness and spirituality, can alleviate the stress associated with chronic conditions.

The observed indirect effect highlights spiritual growth as a critical mechanism through which self-forgiveness influences health outcomes – an innovative insight in the cancer context that enhances existing literature on psychological resilience and chronic disease management (Cole et al., 2008; Post et al., 2020; Toussaint et al., 2014; Toussaint, Barry et al., 2017). Furthermore, the study expands the findings of Skalski-Bednarz et al. (2024), illustrating how these constructs are interconnected within vulnerable populations, and emphasizes the profound influence of spiritual beliefs and practices on the management and experience of chronic conditions. Integrating spirituality into the coping process provides a meaningful framework for patients to reinterpret and navigate their illness experiences, potentially leading to better health outcomes (Pargament et al., 2022; Skalski-Bednarz et al., 2022; Tassell-Matamua & Frewin, 2019).

The findings are in line with prior research suggesting that spirituality is a significant component of post-traumatic growth, particularly following traumatic experiences such

as severe illness (Connolly & Timmins, 2021; Eames & O'Connor, 2022; Post et al., 2020; Schultz et al., 2010; Vis & Marie Boynton, 2008). This growth includes a deeper connection with God, an increased sense of control attributed to divine intervention, and heightened spiritual and emotional support from others, which can foster a strong sense of divine peace and well-being.

Conversely, research has consistently demonstrated a positive correlation between self-forgiveness and health among healthy individuals and specific patient groups, including those with cancer (Davis et al., 2015; Rasmussen et al., 2019; Toussaint et al., 2014; Toussaint, Barry et al., 2017; Toussaint et al., 2023; Vosvick & Dejanipont, 2023; Webb & Toussaint, 2017). However, the mediating role of spiritual growth in this relationship suggests that self-forgiveness may bolster adaptive capacities beyond direct health benefits. For instance, a study by Toussaint, Barry et al. (2017), involving cancer patients and their caregivers, showed that self-forgiveness indirectly reduces psychological distress by fostering hope. In conjunction with these findings, the current study emphasizes the potential of self-forgiveness as a therapeutic target to enhance resilience and improve mental health outcomes in cancer care.

Moreover, the findings robustly support the contextual Transcendental Self-Healing Model introduced in this study, which posits that self-forgiveness transcends mere alleviation of negative emotions and plays a crucial role in both spiritual and psychological growth, thereby promoting improved health outcomes. The results depict self-forgiveness as a transformative process that merges human experience with spiritual evolution. This process encompasses psychological healing and spiritual growth, underpinned by metaphysical perspectives that collectively highlight the profound impact of self-forgiveness on an individual's spirituality. This approach demonstrates that self-forgiveness not only alleviates negative emotions but also significantly promotes spiritual and psychological development. Key aspects of this development include psychological and emotional liberation through the release of negative feelings, the deepening of spiritual connections, and the fostering of empathy and compassion towards oneself – elements essential for substantial spiritual growth. Additionally, metaphysical realignments and vibrational shifts that align individuals with higher spiritual frequencies foster a state of peace, enhancing self-acceptance. These dynamics suggest that acts of self-forgiveness are integral to global spiritual awakening and human development.

Limitations and future directions

This study significantly enhances our understanding of how spiritual growth mediates the relationship between self-forgiveness and health outcomes among cancer patients. However, it is crucial to acknowledge several limitations that would be wise to address in further research. The sample, predominantly comprising Christian participants from Western Canada, restricts the generalizability of the findings across different cultural and religious contexts. Future studies could enhance the validity of the Transcendental Self-Healing Model by including a more diverse demographic to assess its universal applicability and cultural nuances. Moreover, the study did not consider individual objective health conditions, prognoses, or treatments that could impact outcomes. The reliance on self-reported measures introduces potential biases, suggesting that future research could benefit from incorporating more objective health metrics and adopting experimental

designs to improve reliability. As with many patient studies, the sample used was a convenience sample, which may not accurately represent the broader cancer patient population. Integrating measures of self-forgiveness and spiritual growth into national patient registries could enable more representative, population-based research.

Practical implications

As indicated, the integration of psychospiritual care into cancer treatment protocols is essential, particularly focusing on self-forgiveness as a therapeutic intervention. The "Restore: The Journey to Self-Forgiveness" programme, developed by Toussaint et al. (2014), has been effective in enhancing the quality of life for cancer patients and their caregivers by reducing psychological distress and fostering hope. Implementing such programmes provides patients with critical resources to navigate the emotional and spiritual challenges posed by cancer, potentially leading to improved overall health outcomes. The research suggests that self-forgiveness is particularly effective in managing chronic diseases when patients view their condition as an opportunity for introspection, mindfulness, strengthening faith, and fostering compassion and empathy. This transformative perspective can amplify the therapeutic effects of self-forgiveness by connecting individuals with higher values and a deeper sense of purpose. It is important to note, however, that achieving spiritual growth should not require suffering from cancer-related trauma and can occur independently of such experiences. In line with this, clinical teams may consider employing spiritual history-taking tools – such as Puchalski's (2021) FICA model – to systematically explore patients' spiritual needs and incorporate them into the therapeutic process. This aligns with the principles of integrative oncology, where spiritual care complements psychological and medical support, enhancing the overall quality of care. Although much existing research on forgiveness interventions is secular, spiritually adapted programmes often resonate more with those holding religious beliefs, potentially enhancing motivation (Worthington et al., 2019). Despite their benefits for spiritual well-being, these interventions typically do not exceed the effectiveness of secular approaches in improving other health outcomes (Captari et al., 2018).

Conclusions

This study not only reaffirms the health benefits of self-forgiveness but also highlights spiritual growth as a critical component of the healing process in cancer care. This emphasizes the need for healthcare systems to incorporate psychospiritual care frameworks that support self-forgiveness and spiritual counselling as a part of comprehensive cancer care. Future research should investigate these dynamics across different cultural and religious contexts to generalise these findings more broadly and to delineate the universal versus context-specific aspects of spiritual interventions in healthcare.

Acknowledgements

This research was conducted by a scholarship beneficiary (SBS-B), supported by the Foundation for Polish Science (FNP). No additional funding was received from other public, commercial, or not-for-profit agencies.

Consent to participate

Informed consent was obtained from all individual participants included in the study.

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Open Access funding enabled and organized by Projekt DEAL. The study was funded by the International Visegrad Fund [grant number #52410344].

Ethics approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study was approved by the Ethics Committee of the University of Economics and Human Sciences in Warsaw (approval number: 1/6/2023).

ORCID

Sebastian Binyamin Skalski-Bednarz http://orcid.org/0000-0002-6336-7251

References

Ahmadi, Z., Darabzadeh, F., Nasiri, M., & Askari, M. (2015). The effects of spirituality and religiosity on well-being of people with cancer: A literature review on current evidences. *Jundishapur Journal of Chronic Disease Care*, *4*(2), e28386. https://doi.org/10.5812/JJCDC.28386

Ai, A. L., Peterson, C., & Huang, B. (2003). RESEARCH: The effect of religious-spiritual coping on positive attitudes of adult Muslim refugees from Kosovo and Bosnia. *International Journal for the Psychology of Religion*, *13*(1), 29–47. https://doi.org/10.1207/S15327582IJPR1301_04

Alberta Health Services. (2024). *Psychosocial oncology program*. https://www.albertahealthservices.ca

Arefpour, A. M., Izanloo, A., Shojaei, F., Mirkazemi, M., & Hjialiloo Sami, S. (2021). A study of spirituality, self-forgiveness and self-blame in the quality of life of patients with breast cancer. *Razavi International Journal of Medicine*, *9*(2), 16–20.

BC Cancer. (2024). *Patient and family counseling services*. https://www.bccancer.bc.ca

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. Guilford Press.

Brunckhorst, O., Hashemi, S., Martin, A., George, G., Van Hemelrijck, M., Dasgupta, P., Stewart, R., & Ahmed, K. (2021). Depression, anxiety, and suicidality in patients with prostate cancer: A systematic review and meta-analysis of observational studies. *Prostate Cancer and Prostatic Diseases*, *24*(2), 281–289. https://doi.org/10.1038/s41391-020-00286-0

Büssing, A., & Fischer, J. (2009). Interpretation of illness in cancer survivors is associated with health-related variables and adaptive coping styles. *BMC Women's Health*, *9*(1), 2. https://doi.org/10.1186/1472-6874-9-2

Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). Routledge.
Calhoun, L. G., & Tedeschi, R. G. (2006). The Foundations of Posttraumatic Growth: An Expanded Framework. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research & practice* (pp. 3–23). Lawrence Erlbaum Associates Publishers.
Canadian Cancer Society. (2024). *Cancer statistics at a glance*. https://cancer.ca
Caplan, M., Hartelius, G., & Rardin, M. A. (2003). Contemporary viewpoints on transpersonal psychology. *Journal of Transpersonal Psychology*, *35*(2), 143–162.
Captari, L. E., Hook, J. N., Hoyt, W., Davis, D. E., McElroy-Heltzel, S. E., & Worthington, E. L. (2018). Integrating clients' religion and spirituality within psychotherapy: A comprehensive meta-analysis. *Journal of Clinical Psychology*, *74*(11), 1938–1951. https://doi.org/10.1002/jclp.22681
Cardoso, A. R., Remondes-Costa, S., Veiga, E., Almeida, V., Rocha, J., Teixeira, R. J., Macedo, G., & Leite, M. (2026). Meaning of life therapy: A pilot study of a novel psycho-existential intervention for palliative care in cancer. *OMEGA – Journal of Death and Dying*, *92*(3), 1529–1558. https://doi.org/10.1177/00302228231209654
Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5
Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Routledge.
Cole, B. S., Hopkins, C. M., Tisak, J., Steel, J. L., & Carr, B. I. (2008). Assessing spiritual growth and spiritual decline following a diagnosis of cancer: Reliability and validity of the Spiritual Transformation Scale. *Psycho-Oncology*, *17*(2), 112–121. https://doi.org/10.1002/pon.1207
Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, *112*(4), 558–577. https://doi.org/10.1037/0021-843X.112.4.558
Connolly, M., & Timmins, F. (2021). Spiritual care for individuals with cancer: The importance of life review as a tool for promoting spiritual well-being. *Seminars in Oncology Nursing*, *37*(5), 151209. https://doi.org/10.1016/j.soncn.2021.151209
Davis, D. E., Hook, J. N., Van Tongeren, D. R., DeBlaere, C., Rice, K. G., & Worthington, E. L. (2015). Making a decision to forgive. *Journal of Counseling Psychology*, *62*(2), 280–288. https://doi.org/10.1037/COU0000054
Denney, R. M., & Aten, J. D. (2020). Religious coping. In D. A. Leeming (Ed.), *Encyclopedia of psychology and religion* (pp. 1996–1998). Springer. https://doi.org/10.1007/978-3-030-24348-7_578
Eames, C., & O'Connor, D. (2022). The role of repetitive thinking and spirituality in the development of posttraumatic growth and symptoms of posttraumatic stress disorder. *PLoS One*, *17*(8), e0272036. https://doi.org/10.1371/journal.pone.0272036
Enright, R. D., & Fitzgibbons, R. P. (2000). *Helping clients forgive: An empirical guide for resolving anger and restoring hope*. American Psychological Association.
Fortin, J., Leblanc, M., Elgbeili, G., Cordova, M. J., Marin, M.-F., & Brunet, A. (2021). The mental health impacts of receiving a breast cancer diagnosis: A meta-analysis. *British Journal of Cancer*, *125*(11), 1582–1592. https://doi.org/10.1038/s41416-021-01542-3
Fowler, J. W., & Dell, M. L. (2006). Stages of faith from infancy through adolescence: Reflections on three decades of faith development theory. In E. C. Roehlkepartain, P. E. King, L. Wagener, & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence* (pp. 34–45). Sage Publications, Inc. https://doi.org/10.4135/9781412976657.n3
Gall, T. L., & Bilodeau, C. (2021). The role of forgiveness as a coping response to intimate partner stress. *Journal of Spirituality in Mental Health*, *23*(4), 319–341. https://doi.org/10.1080/19349637.2020.1745725
Hall, T. W., & Edwards, K. J. (2018). The initial development and factor analysis of the spiritual assessment inventory. *Journal of Psychology and Theology*, *24*(3), 233–246. https://doi.org/10.1177/009164719602400305
Harris, A. H. S., & Thoresen, C. E. (2007). Forgiveness, unforgiveness, health, and disease. In E. L. Worthington Jr. (Ed.), *Handbook of forgiveness* (pp. 345–358). Routledge.

Hays, R. D., Schalet, B. D., Spritzer, K. L., & Cella, D. (2017). Two-item PROMIS® Global Physical and Mental Health Scales. *Journal of Patient-Reported Outcomes*, *1*(1), 2. https://doi.org/10.1186/s41687-017-0003-8

Hermans, C. A. (2013). Spiritual transformation: Concept and measurement. *Journal of Empirical Theology*, *26*(2), 165–187. https://doi.org/10.1163/15709256-12341275

Ingersoll-Dayton, B., Torges, C., & Krause, N. (2010). Unforgiveness, rumination, and depressive symptoms among older adults. *Aging & Mental Health*, *14*(4), 439–449. https://doi.org/10.1080/13607860903483136

Kremer, H., & Ironson, G. (2009). Everything changed: Spiritual transformation in people with HIV. *The International Journal of Psychiatry in Medicine*, *39*(3), 243–262. https://doi.org/10.2190/PM.39.3.c

Krok, D. (2015). The role of meaning in life within the relations of religious coping and psychological well-being. *Journal of Religion and Health*, *54*(6), 2292–2308. https://doi.org/10.1007/s10943-014-9983-3

Lawler-Row, K. A. (2010). Forgiveness as a mediator of the religiosity—health relationship. *Psychology of Religion and Spirituality*, *2*(1), 1–16. https://doi.org/10.1037/A0017584

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.

Pargament, K. I. (1997). *The psychology of religion and coping*. Guilford Press.

Pargament, K. I., Wong, S., & Exline, J. J. (2022). The holiness of wholeness: Religious contributions to human flourishing. In L. Tay & J. O. Pawelski (Eds.), *The Oxford handbook of the positive humanities* (pp. 432–442). Oxford University Press.

Park, C. L. (2005). Religion and meaning. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 295–314). Guilford Press.

Post, L., Ganzevoort, R. R., & Verdonck-de Leeuw, I. M. (2020). Transcending the suffering in cancer: Impact of a spiritual life review intervention on spiritual re-evaluation, spiritual growth and psycho-spiritual wellbeing. *Religions*, *11*(3), 142. https://doi.org/10.3390/rel11030142

Puchalski, C. (2021). Spiritual care in health care: Guideline, models, spiritual assessment and the use of the ©FICA spiritual history tool. In A. Büssing (Ed.), *Spiritual needs in research and practice* (pp. 27–45). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-70139-0_3

Rasmussen, K. R., Stackhouse, M., Boon, S. D., Comstock, K., & Ross, R. (2019). Meta-analytic connections between forgiveness and health: The moderating effects of forgiveness-related distinctions. *Psychology & Health*, *34*(5), 515–534. https://doi.org/10.1080/08870446.2018.1545906

Sarıalioğlu, A., Çiftçi, B., & Yıldırım, N. (2022). The transformative power of pain and posttraumatic growth in nurses with Covid-19 PCR positive. *Perspectives in Psychiatric Care*, *58*(4), 2622–2630. https://doi.org/10.1111/ppc.13102

Schneider, K. J., Pierson, J. F., & Bugental, J. F. T. (2015). *The handbook of humanistic psychology: Theory, research, and practice*. Sage Publications, Inc.

Schultz, J. M., Tallman, B. A., & Altmaier, E. M. (2010). Pathways to posttraumatic growth: The contributions of forgiveness and importance of religion and spirituality. *Psychology of Religion and Spirituality*, *2*(2), 104–114. https://doi.org/10.1037/a0018454

Seybold, K. S., Hill, P. C., Neumann, J. K., & Chi, D. S. (2001). Physiological and psychological correlates of forgiveness. *Journal of Psychology and Christianity*, *20*(3), 250–259. https://psycnet.apa.org/record/2001-09309-004

Shallu, P. B. (2021). Efficacy of gratitude and forgiveness as positive psychological intervention in reducing depression. *IAHRW International Journal of Social Sciences*, *9*(1), 61–65.

Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion & Culture*, *8*(1), 1–11. https://doi.org/10.1080/1367467032000157981

Skalski-Bednarz, S. B., Konaszewski, K., Toussaint, L. L., Büssing, A., & Surzykiewicz, J. (2022). Positive religious coping acts through perception of nature and silence in its association with well-being and life satisfaction among Polish Catholics. *Frontiers in Public Health*, *10*, 4170. https://doi.org/10.3389/fpubh.2022.1020007

Skalski-Bednarz, S. B., & Toussaint, L. L. (2025). A relational model of state of forgiveness and spirituality and their influence on well-being: A two-wave longitudinal study of women with a sexual

assault history. *Psychology of Religion and Spirituality*, *17*(1), 38–46. https://doi.org/10.1037/rel0000526

Skalski-Bednarz, S. B., Toussaint, L. L., Konaszewski, K., & Surzykiewicz, J. (2024). Beyond HIV shame: the role of self-forgiveness and acceptance in living with HIV. *AIDS Care*, *36*(10), 1424–1433. https://doi.org/10.1080/09540121.2024.2343770

Skalski-Bednarz, S. B., Toussaint, L. L., Konaszewski, K., & Surzykiewicz, J. (2025). Episodic forgiveness in young American adults and its pathways to distress by health, outlook, spirituality, aggression, and social support. *Health Psychology Report*, *13*(3), 236–249. https://doi.org/10.5114/hpr/185739

Strelan, P. (2020). The stress-and-coping model of forgiveness: Theory, research, and the potential of dyadic coping. In E. L. Worthington, Jr. & N. G. Wade (Eds.), *Handbook of forgiveness* (2nd ed., pp. 63–73). Routledge/Taylor & Francis Group.

Taheri-Kharameh, Z., Zamanian, H., Montazeri, A., Asgarian, A., & Esbiri, R. (2016). Negative religious coping, positive religious coping, and quality of life among hemodialysis patients. *Nephro-Urology Monthly*, *8*(6), 38009. https://doi.org/10.5812/numonthly.38009

Tassell-Matamua, N. A., & Frewin, K. E. (2019). Psycho-spiritual transformation after an exceptional human experience. *Journal of Spirituality in Mental Health*, *21*(4), 237–258. https://doi.org/10.1080/19349637.2018.1481487

Thiessen, J., & Wilkins-Laflamme, S. (2020). *None of the above: Nonreligious identity in the US and Canada*. New York University Press.

Toussaint, L. (2022). Forgiveness and flourishing. *Spiritual Care*, *11*(4), 313–320. https://doi.org/10.1515/spircare-2022-0042

Toussaint, L., Barry, M., Angus, D., Bornfriend, L., & Markman, M. (2017). Self-forgiveness is associated with reduced psychological distress in cancer patients and unmatched caregivers: Hope and self-blame as mediating mechanisms. *Journal of Psychosocial Oncology*, *35*(5), 544–560. https://doi.org/10.1080/07347332.2017.1309615

Toussaint, L., Barry, M., Bornfriend, L., & Markman, M. (2014). Restore: The journey toward self-forgiveness: A randomized trial of patient education on self-forgiveness in cancer patients and caregivers. *Journal of Health Care Chaplaincy*, *20*(2), 54–74. https://doi.org/10.1080/08854726.2014.902714

Toussaint, L., Skalski-Bednarz, S. B., Lanoix, J.-P., Konaszewski, K., & Surzykiewicz, J. (2023). The relationship between forgiveness and health outcomes among people living with HIV: A cross-sectional study in France. *AIDS and Behavior*, *27*(10), 3332–3341. https://doi.org/10.1007/s10461-023-04052-w

Toussaint, L. L., Webb, J. R., & Hirsch, J. K. (2017). Self-forgiveness and health: A stress-and-coping model. In L. Woodyatt, E. L. Worthington Jr., M. Wenzel, & B. J. Griffin (Eds.), *Handbook of the psychology of self-forgiveness* (pp. 87–99). Springer. https://doi.org/10.1007/978-3-319-60573-9_7

Tsang, J. A., McCullough, M. E., & Hoyt, W. T. (2005). Psychometric and rationalization accounts of the religion-forgiveness discrepancy. *Journal of Social Issues*, *61*(4), 785–805. https://doi.org/10.1111/J.1540-4560.2005.00432.X

Vis, J., & Marie Boynton, H. (2008). Spirituality and transcendent meaning making: Possibilities for enhancing posttraumatic growth. *Journal of Religion & Spirituality in Social Work: Social Thought*, *27*(1–2), 69–86. https://doi.org/10.1080/15426430802113814

Vosvick, M., & Dejanipont, B. (2023). Behavioral and psychosocial predictors of self-efficacy for managing chronic disease among people living with HIV: Forgiveness, life perspective, and social support. *AIDS Care*, *35*(11), 1716–1723. https://doi.org/10.1080/09540121.2022.2104796

Webb, J. R., Bumgarner, D. J., Conway-Williams, E., Dangel, T., & Hall, B. B. (2017). A consensus definition of self-forgiveness: Implications for assessment and treatment. *Spirituality in Clinical Practice*, *4*(3), 216–227. https://doi.org/10.1037/scp0000138

Webb, J. R., & Toussaint, L. L. (2017). Self-forgiveness as a critical factor in addiction and recovery: A 12-step model perspective. *Alcoholism Treatment Quarterly*, *36*(1), 15–31. https://doi.org/10.1080/07347324.2017.1391057

Webb, J. R., & Toussaint, L. L. (2020). Forgiveness, well-being, and mental health. In E. L. Worthington & N. G. Wade (Eds.), *Handbook of forgiveness* (2nd ed., pp. 188–197). Routledge.

Wilber, K. (1997). An integral theory of consciousness. *Journal of Consciousness Studies*, *4*(1), 71–92.

Wohl, M. J. A., DeShea, L., & Wahkinney, R. L. (2008). Looking within: Measuring state self-forgiveness and its relationship to psychological well-being. *Canadian Journal of Behavioural Science / Revue Canadienne des Sciences du Comportement*, *40*(1), 1–10. https://doi.org/10.1037/0008-400x.40.1.1.1

Worthington, E. L., Jr. (2020). Understanding forgiveness of other people: Definitions, theories, and processes. In E. L. Worthington & N. G. Wade (Eds.), *Handbook of forgiveness* (2nd ed., pp. 11–21). Routledge/Taylor & Francis Group.

Worthington, E. L., Jr., Berry, J. W., & Parrott, L. (2001). Unforgiveness, forgiveness, religion, and health. In T. G. Plante & A. C. Sherman (Eds.), *Faith and health: Psychological perspectives* (pp. 107–138). Guilford Press.

Worthington, E. L. Jr., Hook, J. N., Utsey, S. O., Williams, J. K., & Neil, L. R. (2007, October 5). *Decisional and emotional forgiveness*. Paper presented at the International Positive Psychology summit, Washington, DC.

Worthington, E. L., Rueger, S. Y., Davis, E. B., & Wortham, J. (2019). "Mere" Christian forgiveness: An ecumenical christian conceptualization of forgiveness through the lens of stress-and-coping theory. *Religions*, *10*(1), 44. https://doi.org/10.3390/REL10010044

Worthington, E. L., Witvliet, C. V. O., Pietrini, P., & Miller, A. J. (2007). Forgiveness, health, and well-being: A review of evidence for emotional versus decisional forgiveness, dispositional forgivingness, and reduced unforgiveness. *Journal of Behavioral Medicine*, *30*(4), 291–302. https://doi.org/10.1007/s10865-007-9105-8

Zarzycka, B., & Zietek, P. (2019). Spiritual growth or decline and meaning-making as mediators of anxiety and satisfaction with life during religious struggle. *Journal of Religion and Health*, *58*(4), 1072–1086. https://doi.org/10.1007/s10943-018-0598-y

Zinnbauer, B. J., Pargament, K. I., Cole, B., Rye, M. S., Butter, E. M., Belavich, T. G., Hipp, K. M., Scott, A. B., & Kadar, J. L. (1997). Religion and spirituality: Unfuzzying the fuzzy. *Journal for the Scientific Study of Religion*, *36*(4), 549–564. https://doi.org/10.2307/1387689