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Research paper



Mechanistic and Applied Insights into religious Emotion: Mediation–Moderation Evidence Linking Religiosity to Optimism–Pessimism in Taiwanese Undergraduates

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Abstract

Religious experience is inherently affective, yet the mechanisms by which religious belief relates to psychological outlook remain underspecified. This study tests a three-factor model of emotions toward God as affective mechanisms that mediate and/or moderate links between religiosity and dispositional outlook in Taiwanese undergraduates. A sample of 551 students completed validated measures of multidimensional religiosity (CRSi-14), emotions toward God (EtG; good, bad, moral), and dispositional optimism/pessimism (LOT-R). Confirmatory factor analysis supported the three-factor EtG structure. Hayes PROCESS models examined mediation (Model 4) and moderation (Model 1). Mediation analyses showed that good emotions significantly mediated the positive association between religiosity and optimism (indirect β=0.32, 95% Confidence Interval; CI [0.13, 0.51]), whereas bad emotions fully mediated the religiosity-pessimism link (indirect β=0.15, 95% CI [0.048, 0.254]); moral emotions did not mediate either outcome. Moderation tests indicated that good emotions moderated the religiosity-pessimism relationship (β interaction = -0.282, p=.019), such that religiosity related more strongly to reduced pessimism when good emotions were lower; no significant moderation emerged for bad or moral emotions. Findings advance basic affective theory by specifying valenced religious emotions as distinct mechanisms, and they inform applied mental-health practice by identifying emotion-focused targets (amplifying "good" emotions, addressing "bad" emotions) through which religiosity may shape youth outlook.

Keywords: *Religiosity; Emotions Toward God; Optimism; Pessimism; Affective Mechanisms; Mediation; Moderation; Taiwanese Undergraduates.*

1. Introduction

Late adolescence and emerging adulthood are pivotal for identity formation and the consolidation of religious and spiritual beliefs, making undergraduates an informative population for studying these processes (Hardy & Nelson, 2023; Jensen, 2021). Many believers see this God or the Divine as a type of attachment figure, actively seek to be close to God (Kirkpatrick, 2005), and attribute elevated characteristics to the Divine, such as omnipotence, omniscience, and benevolence (Metcalf, 2004). Significantly, beyond cognition and doctrine, religious life is saturated with affect, which is integral to how beliefs are formed, maintained, and enacted (Corrigan, 2007; Vishkin et al., 2020). Positive emotions broaden cognition and facilitate coping (Fredrickson, 2013). Positive emotions typically serve adaptive functions, motivate approach, and feel pleasant (Smith et al., 2014). Fredrickson's (2013) Broaden-and-Build theory proposes that such emotions widen momentary thought-action repertoires and, cumulatively, build enduring psychosocial resources. Importantly, positive emotions are not monolithic. Scholars distinguish self-transcendent or other-praising emotions (e.g., awe, gratitude, compassion, reverence) from self-praising emotions (e.g., pride, satisfaction) (Haidt, 2003; Sauter, 2010; Yaden et al., 2017). Negative emotions (e.g., fear, anger, guilt) are aversive and can disrupt functioning, although positive emotions may buffer or accelerate recovery from their lingering effects (Fredrickson et al., 2000).

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Perceiving God as benevolent is associated with joy, serenity, gratitude, hope, and inspiration; perceiving God as distant or punitive can evoke anger, doubt, fear, or guilt (Dein et al., 2020; Exline et al., 2015). Accumulating evidence links religious practices with self-transcendent emotions and, in turn, with well-being (Abernethy et al., 2016; Ellison & Fan, 2008; Łowicki & Zajenkowski, 2017; Myers, 2018; Ramsay et al., 2019; Van Cappellen et al., 2016; Winzer & Gray, 2019). Belief Maintenance theory further argues that people actively seek affective experiences congruent with their religious commitments, thereby reinforcing belief (Vishkin et al., 2020). Together, these strands imply that valenced religious emotions may be the mechanisms through which religiosity shapes psychological outlook.

Yet two gaps remain. First, research often aggregates "religious emotion" rather than modeling distinct good, bad, and moral emotions toward God (encompassing EtG). Second, the field rarely tests whether EtG functions only as a mediator (explanatory pathway) or also as a moderator (boundary condition) of religiosity's links to dispositional outlook. Addressing these gaps is especially relevant for youth, an age group navigating identity, belief, and future orientation within non-Western contexts. Using Taiwanese undergraduates as the sample and employing the validated measures of multidimensional religiosity (CRSi-14) (Huber & Huber, 2012), dispositional optimism and pessimism (LOT-R) (Carver & Scheier, 2002; Scheier & Carver, 1985; Scheier et al., 1994), and a three-factor EtG model (Huber & Richard, 2010), the current study tested EtG's mediating and moderating roles in the links between religiosity and dispositional outlook.

Significance of the Study. This study advances basic and applied science in four ways. Theoretical precision that specifies which religious emotions matter by modeling EtG as three distinct factors (good, bad, moral) rather than a unitary construct. Mechanistic clarity demonstrates that good emotions mediate religiosity towards optimism, and bad emotions mediate religiosity towards reduced pessimism, clarifying affective routes from belief to outlook. Boundary conditions show that good emotions also moderate the religiosity-pessimism link (a stronger inverse association at lower levels of good emotions), identifying when religiosity is most consequential in dampening pessimism. Lastly, cultural and applied relevance, which contributes evidence from Taiwanese youth, informs culturally sensitive, emotion-focused interventions (e.g., cultivating gratitude/reverence; addressing fear/guilt) to support student mental health.

Theoretical Framework. The current study integrates four complementary perspectives to explain how religiosity shapes dispositional outlook through EtG. First, *Attachment to God* (Kirkpatrick, 2005) suggests that people form relational representations of God or the Divine (secure rather than anxious), which color emotional experience. Second, *Appraisal-Based Emotion* theories (Scherer, 2001) hold that emotions arise from meaning appraisals; perceiving God as benevolent versus punitive, or as morally salient, yielding distinct affective states. Third, the *Broaden-and-Build model* (Fredrickson, 2001, 2013) proposes that positive emotions widen thought-action repertoires and, over time, accumulate into coping resources. Fourth, *Belief Maintenance theory* (Vishkin et al., 2020) posits that people seek and sustain affective experiences that reinforce religious commitment. In combination, these perspectives imply that religiosity shapes appraisals to God or the Divine, which elicit differentiated EtG: good emotions (e.g., joy, gratitude, hope) tend to broaden coping and future orientation, thereby fostering higher optimism; bad emotions (e.g., fear, anger, guilt) narrow coping and heighten threat focus, thereby promoting higher pessimism, or lower pessimism when such emotions are attenuated; and moral emotions (e.g., awe, reverence, moral elevation) signal sacred-norm salience with more ambiguous direct effects on optimism or pessimism.

Although each theoretical tradition contributes unique insights, their predictions diverge in ways that clarify the distinct pathways observed in this study. Attachment-to-God theory suggests that perceiving God as secure and benevolent elicits good emotions (trust, gratitude, hope), whereas insecure or punitive appraisals elicit bad emotions (anxiety, anger, shame). In contrast, Appraisal-Based Emotion theory proposes that emotions arise from meaning-making evaluations; thus, appraisals of divine threat should preferentially activate bad emotions, while moral transgressions may activate moral emotions (fear, guilt) independent of benevolence or punishment. Broaden-and-Build theory uniquely predicts that only good emotions should generate upward spirals toward optimism, whereas bad and moral emotions should narrow attentional and coping repertoires. Meanwhile, Belief Maintenance theory implies that religious individuals selectively cultivate emotion states congruent with their commitments, leading to systematic differences in the prevalence of good versus bad/moral emotions across levels of religiosity. Taken together, these frameworks explain why the three EtG pathways should diverge: good emotions reflect relational security, bad emotions reflect threat-focused appraisals, and moral emotions reflect norm-violation concerns, each of which is theoretically associated with different outcomes.

Overall, the research objectives (RO) are as follows:

- RO1. Validate the EtG Structure: Conducting confirmatory factor analysis to test a three-factor model of EtG (good, bad, moral) in Taiwanese undergraduates.
- RO2. Test Mediation (PROCESS Model 4): Examining whether (a) good emotions mediate the positive association between religiosity and optimism, and (b) bad emotions mediate the inverse association between religiosity and pessimism; (c) explore moral emotions as mediators.
- RO3. Test Moderation (PROCESS Model 1): Assessing whether EtG factors (good, bad, moral) moderate links between religiosity and optimism/pessimism with specific attention to the religiosity–pessimism interaction by good emotions.
- RO4. Compare Valence Pathways: Comparing and contrasting the effect sizes of good, bad, and moral emotions to identify the most influential affective routes from religiosity to dispositional outlook.

Relevance to Applied Sciences. Although the present study is situated at the intersection of religion and psychology, its contribution lies squarely within the domain of applied sciences, particularly in applied behavioral and health-related research. Emotional dispositions toward God, whether positive, negative, or moral, have demonstrated implications for coping, resilience, and mental health outcomes. By empirically modeling how religiosity and specific emotional pathways shape optimism and pessimism among adolescents, the study provides evidence with direct applications to counseling, school-based mental health interventions, and community health programs. Understanding these mechanisms helps practitioners identify risk and protective factors in youth well-being, inform culturally sensitive psychological assessments, and design prevention or intervention strategies that acknowledge the role of spirituality in emotional functioning. In this way, the study extends beyond theoretical psychology and contributes to the broader applied sciences agenda of improving human well-being through evidence-based practice.

2. Conceptual Backgrounds

2.1. Multidimensional religiosity

Religiosity is not a single trait, but a multidimensional system of meanings, practices, and experiences (Yaden et al., 2023). The Centrality of Religiosity Scale (CRS/CRSi) models five interrelated dimensions, namely intellectual, ideological, public, private, and experiential, yielding both facet scores and an overall index suitable for interreligious research and cross-cultural comparisons (Huber & Huber, 2012). Treating religiosity as multidimensional is essential when theorizing affective mechanisms, because different facets (e.g., private prayer

versus public worship) plausibly recruit distinct emotions and coping scripts that connect belief with psychological outlook (Prazeres et al., 2021; Zuo & Bai, 2025).

2.2. Religiosity and emotions

In the context of religiosity, how the believers perceive God or the Divine elicits either positive or negative emotions. When God is perceived as benevolent, a variety of positive emotions may be elicited, including joy, serenity, gratitude, hope, inspiration, and many others (Aghababaei & Tabik, 2013; Watkins et al., 2024). When God or a Divine figure is perceived as cruel, distant, or punishing, it may elicit negative feelings of anger, doubt, and fear (Burris & Petrican, 2011; Exline et al., 2015).

2.3. Recent studies on religious emotion/coping, resilience, and well-being

Surzykiewicz et al. (2022) examined practicing Catholics (N=317) and found that the negative side of religious coping, particularly demonic reappraisal, passive deferral, and spiritual discontent, mediated the resilience to mental well-being link, amplifying resilience's benefits; surprisingly, positive coping showed little mediation beyond religious practices. This result highlights that the valence of religious emotions/coping can differentially channel psychological resources into well-being, which is highly consistent with separating EtG into "good" and "bad" pathways. In addition, Lefevor et al. (2023) proposed the Religious/Spiritual Stress and Resilience (RSSR) model for sexual and gender minorities, integrating minority stress and RS-health pathways. They argued that RS can be health-promoting or health-damaging, depending on moderators (e.g., congregational stance and identity integration). For the current study, this argument supports modeling moderation by emotional context (such as EtG levels) rather than assuming uniformly beneficial religious effects.

Another study by Dolcos et al. (2023) showed that religious coping is associated with lower distress through cognitive reappraisal and coping self-efficacy, which are two emotion-regulation mechanisms. This evidence aligns with the notion that good EtG may foster adaptive reappraisal and efficacy, linking religiosity to optimism, whereas bad EtG may impede those routes. Similarly, Edara et al. (2021), using Taiwanese university students during COVID-19 (N=399), validated a three-valence structure of emotions (pleasant, unpleasant, moral) and found that religiosity and EtG predicted resilience and wellness; resilience mediated the relationships between religiosity and wellness. This result provides local, culturally relevant evidence for our EtG triad and mediation logic in Taiwanese youth.

Chang et al. (2021) further studied Taiwanese healthcare workers and found that religion is moderately associated with better psychological well-being (Christians/Catholics) and lower distress (Buddhists/Taoists) during COVID-19, with temporal improvements. Their results highlight culturally embedded protective roles of religion, suggesting heterogeneity across traditions and echoing the need to model boundary conditions (moderation). Furthermore, Schlechter et al. (2021) compared refugees and residents (N=410) and found higher distress among refugees, partly explained by lower social support and resilience; perceived support from religious faith was higher among refugees. These findings situate religious support within broader resilience systems, suggesting that EtG would likely operate alongside social resources. Lastly, Polizzi and Lynn (2021) systematically reviewed emotion regulation and resilience, concluding that emotional regulation is positively associated with resilience and that strategy effectiveness is context-dependent, bolstering the assumption that EtG (as emotion-laden appraisals) interface with regulatory processes to shape outlook.

2.4. Synthesis for the recent studies

Across diverse contexts several key facts are noted: (1) valence matters in understanding how negative religious coping/emotions undermine or re-route benefits, and how positive practices/emotions often facilitate well-being; (2) mechanisms frequently involve emotion regulation (e.g., reappraisal, efficacy) and resilience; (3) moderators (identity integration, cultural tradition, congregational stance) determine when religion helps or harms. Building on this, the current study treated EtG as parallel mediators (good towards optimism; bad towards pessimism) and as moderators that set boundary conditions for religiosity's links with dispositional outlook, which were tested within Taiwanese youth, where EtG's three-valence structure has local support. Although prior research has documented links between religiosity, emotional experience, and psychological well-being, existing findings remain theoretically fragmented. Attachment-to-God theory emphasizes relational security and predicts that benevolent images of the Divine evoke pleasant emotions that support adaptive coping, whereas punitive images evoke distressing emotions. In contrast, Appraisal-Based Emotion theory focuses on the cognitive evaluations that activate emotional pathways, suggesting that moral transgressions may elicit guilt and fear independently of relational security. Broaden-and-Build theory, however, highlights the functional consequences of positive emotions, namely, the expansion of cognitive and behavioral repertoires, implying that only pleasant EtG should promote optimism. Recent studies (e.g., Dolcos et al., 2023; Lefevor et al., 2023) further reveal that religious emotions vary not only in valence but also in motivational direction, yet few models compare how these theoretical lenses diverge in their predictions. Critically, no previous research has systematically contrasted threat-based, relational, and moral-salient emotional pathways within the same empirical model, nor assessed how they differentially shape adolescents' optimism and pessimism. This gap provides the theoretical basis for the present study, which tests distinct EtG pathways and evaluates whether each contributes uniquely to youth outlook and resilience.

3. Methodology

3.1. Study design

The current study adopted a cross-sectional quantitative design, using self-administered questionnaires, to examine the relationships among religiosity, emotions toward God, and dispositional outlooks (optimism and pessimism) among university students in Taiwan. Data were collected during a single academic term from undergraduate students in a private Catholic university in northern Taiwan. Participants were recruited through a volunteer sampling method. Instructors of general education courses announced the study in class, and interested students participated voluntarily without academic incentives. The questionnaire was administered either on paper or via an online platform during scheduled class periods under the researcher's supervision. All participants provided informed consent before participation. The study protocol was reviewed and approved by the Institutional Review Board of Fu Jen Catholic University (IRB-C109126). All procedures complied with the ethical standards of the Declaration of Helsinki and local institutional research ethics guidelines.

Inclusion criteria for the participants are as follows: (1) Enrolled as an undergraduate student at the participating private university in Taiwan; (2) Aged 18 years or older at the time of data collection; (3) Able to read and understand Traditional Chinese; and (4) Provided

informed consent to participate in the study voluntarily. While the exclusion criteria included: (1) Non-university students (e.g., graduate students, non-degree enrollees); (2) Incomplete questionnaires with more than 20% missing responses on the main scales (CRSi-14, EtG, or LOT-R). (3) Failure to pass attention-check items or evidence of patterned/invalid responses (e.g., identical answers across all items); and (4) Withdrawal of consent at any point during participation. The total sample used in this research analysis was 551 students.

3.2. Research instruments

Religiosity was measured using the CRSi-14 developed by Huber and Huber (2012), which was later validated among Taiwanese undergraduate students (del Castillo et al., 2021; Edara et al., 2021). The CRSi-14 assesses the centrality of religious meanings and experiences in a person's life. It includes five subscales: intellect (interest in religious questions; sample item –"How interested are you in learning more about religious topics?"), ideology (belief in the existence of God or the transcendent; sample items – "To what extent do you believe that God or something divine exists?"), public practice (participation in religious services; sample items – "How important is it to take part in religious services?"), private practice (prayer and meditation; sample items – "How important is personal prayer for you?"), and religious experience (perceived contact with the divine; sample items – "How often do you experience situations in which you have the feeling that God or something divine intervenes in your life?"). Each subscale contains four items rated on a five-point Likert (1932) scale ranging from 1 ("not at all") to 5 ("very much so"). Three behavioral items (e.g., frequency of prayer or service attendance) use eight-point frequency scales. Following standard CRSi scoring procedures, paired items (e.g., "a" and "b" versions) were compared, and the higher value of each pair was used in computing mean subscale scores. Higher scores indicate greater centrality of religiosity. In the present study, the CRSi-14 demonstrated excellent internal consistency with a Cronbach's (1951) Alpha of .92 (Cohen et al., 2007).

Dispositional optimism and pessimism were measured using the LOT-R (Carver & Scheier, 2002; Scheier & Carver, 1985; Scheier et al., 1994). The instrument includes 10 statements with six substantive items and four fillers. Items are rated on a Likert 5-point type scale (0 = strongly disagree to 4 = strongly agree). Three positively worded items measure optimism (sample item "In uncertain times, I usually expect the best", and three negatively worded items measure pessimism (sample item "If something can go wrong for me, it will"). Consistent with established practice, separate optimism and pessimism subscale scores were computed, along with a total LOT-R score (Herzberg et al., 2006; Hinz et al., 2017; Segerstrom et al., 2011). In the current study, LOT-R demonstrated adequate internal consistency (Cronbach's alpha = .71).

Emotions toward God were measured using Huber and Richard's (2010) EtG inventory that assesses 16 emotions, validated into a three-factor model of EtG with good emotions (protection, joy, awe, gratitude, trust, happiness, reverence, hope, and release from guilt), bad emotions (anxiety, failure, shame, anger, and rage), and moral emotions (fear and guilt). Confirmatory factor analysis of EtG was evaluated with multiple indices. The Chi-square test was significant with $\chi^2(93) = 554.03$, $p < .001$, and the normed Chi-square indicated modest misfit, $\chi^2/df = 5.96$ (Byrne, 2010). Incremental fit indices were high: Comparative Fit Index (incremental model fit; ≥ .90 acceptable, ≥ .95 good) = .948 and Tucker–Lewis Index (non-normed fit; ≥ .90 acceptable, ≥ .95 good) = .933, suggesting good relative fit compared with the independence model (Schreiber et al., 2006). Absolute fit was boundary with Root Mean Square Error of Approximation (absolute misfit; ≤ .08 acceptable, ≤ .06 good; report 90% Confidence Interval and PCLOSE), which was .095 with 90% CI [.087, .103], PCLOSE < .001, indicating mediocre approximation (Hu & Bentler, 1999). Convergent validity was supported for all three EtG factors: good emotions (Composite Reliability; CR = .951, Average Variance Extracted; AVE = .684), bad emotions (CR = .897, AVE = .636), and moral emotions (CR = .979, AVE = .958), exceeding conventional thresholds (CR ≥ .80/.90; AVE ≥ .50) (Fornell & Larcker, 1981). Overall, the factor structure showed strong model fit, but slight room for improvement in absolute fit (see the correlations table for more details).

3.3. Data analysis

All analyses were conducted in IBM SPSS Statistics (version 26; IBM Corp.) and AMOS (version 26; Arbuckle). Data were first screened for accuracy, missingness, and assumptions. Univariate normality was assessed using skewness/kurtosis and the Shapiro–Wilk test (Cohen et al., 2007). Descriptive statistics and reliability were reported using means (M), standard deviations (SD), and Pearson correlations for all study variables. Internal consistency was summarized with Cronbach's Alpha and CR (Fornell & Larcker, 1981). Confirmatory factor analysis (as noted in the previous section) was tested in AMOS using maximum likelihood, following appropriate reporting standards for model fit (Schreiber et al., 2006). Group comparisons for gender (female versus male students) differences and Christian versus non-Christian differences were tested with independent-samples t-tests. Effect sizes were expressed as Cohen's d. To examine differences across three levels of religiosity (non-religious, moderate, highly religious; grouped by CRSi-14), a one-way ANOVA and follow-up pairwise comparisons (Tukey) were conducted. Effect sizes for ANOVA are presented using Cohen's f (Olejnik & Algina, 2003). For mediation and moderation, the Hayes (2018) PROCESS for SPSS (Model 4 mediation; Model 1 moderation) was used. Indirect effects were estimated with bias-corrected bootstrap confidence intervals based on 5,000 resamples (Preacher & Hayes, 2008). An indirect effect was deemed significant when the 95% CI excluded zero.

3.4. Hypothesis development

Previous research has highlighted the multifaceted nature of religiosity and its psychological correlates in adolescents. While many studies affirm that higher levels of religiosity are primarily associated with greater well-being and lower mental distress (King & Roeser, 2009; McIntosh et al., 2021; Park, 2013; Upenieks, 2022), the mechanisms through which religiosity exerts these effects are still under exploration; particularly the affective dimensions of religious experience (Pargament, 2007; Zembylas, 2022, 2023).

Hypothesis 1 - Good EtG mediates the positive relationship between religiosity and optimism. This hypothesis stems from the idea that positive emotions toward God, such as love, trust, and comfort, contribute to a secure spiritual attachment and foster a hopeful future orientation (Granqvist & Kirkpatrick, 2004; Kelley et al., 2024). Adolescents who perceive God as benevolent may internalize positive emotional schemas, leading to greater optimism (Piko, 2023). Mediation is expected, as affective religious experience acts as a bridge between beliefs and emotional well-being (Newman et al., 2023; Pargament, 2007) (see Figure 1 for more details).

Hypothesis 2 - Bad EtG mediates the negative relationship between religiosity and pessimism. Religiosity does not always generate positive emotions. Feelings of guilt, anger, abandonment, or fear related to God have been shown to correlate with anxiety, depression, and psychological distress (Exline et al., 2015; Exline et al., 2011; Exline et al., 2023; Exline et al., 2000; Sherman et al., 2021). This hypothesis posits that negative emotional experiences in one's religious life may partially explain why some religious adolescents experience greater pessimism or distress, mainly if their religiosity includes harsh or punitive views of the Divine (see Figure 1 for more details).

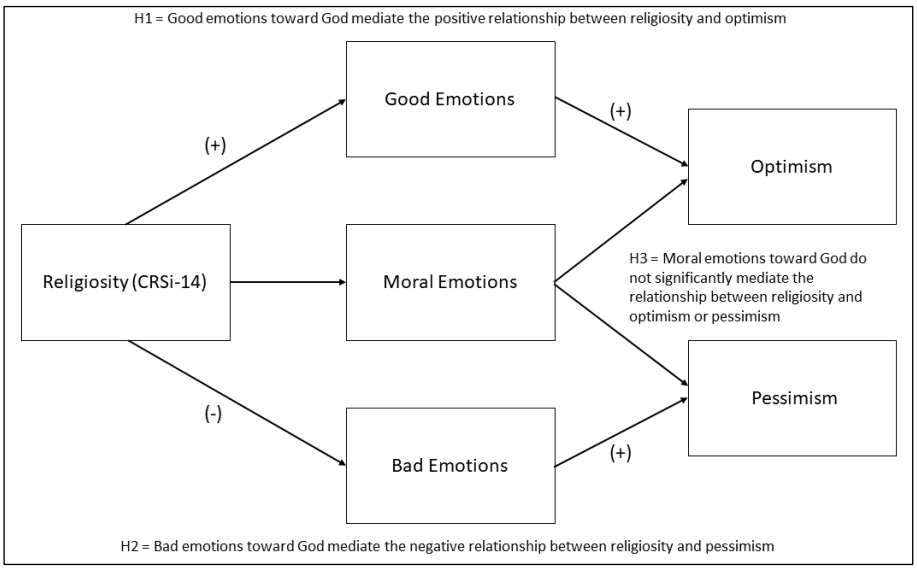


Fig. 1: Conceptual Diagram for H1 to H3.

Figure note. Conceptual mediation model linking Religiosity (CRSi) to Optimism and Pessimism through three EtG factors. Solid arrows depict hypothesized paths tested in H1–H3; "+" and "–" indicate expected valence (e.g., religiosity → good emotions [+]; religiosity → bad emotions [−]; mediators → outcomes as labeled). H1: Good emotions (e.g., protection, joy, awe) mediate a positive religiosity–optimism link. H2: Bad emotions (e.g., shame, anger, rage) mediate a negative religiosity–pessimism link. H3: Moral emotions (e.g., fear, guilt) are not expected to mediate either outcome. Outcomes were assessed with the LOT-R (optimism and pessimism subscales). Paths are theory-driven and evaluated with bootstrap mediation (PROCESS Model 4); arrows do not imply causality beyond the tested statistical model.

Hypothesis 3 - Moral EtG does not significantly mediate the relationship between religiosity and optimism or pessimism. Moral emotions such as guilt, obligation, or shame are often linked to moral reasoning rather than emotional well-being (Bajovic & Rizzo, 2021; Goering et al., 2024; Tangney et al., 2007). While they may play a role in self-regulation or moral development, they are not expected to mediate the relationship between religiosity and dispositional outlook to a substantial extent, particularly when optimism and pessimism are defined in terms of hope and despair about the future (see Figure 1 for more details).

Hypothesis 4 - Good EtG moderates the relationship between religiosity and pessimism. This hypothesis is rooted in the idea that emotional closeness with God can buffer against pessimism, particularly when other cognitive aspects of religiosity are low. Prior studies show that secure attachment to God mitigates distress, but its buffering power may vary by emotional experience (Bock et al., 2023; Granqvist & Kirkpatrick, 2004; Lloyd & Reid, 2022). Hence, it is expected that the inverse relationship between religiosity and pessimism will be stronger when good emotions are low, suggesting a compensatory effect (see Figure 2 for more details).

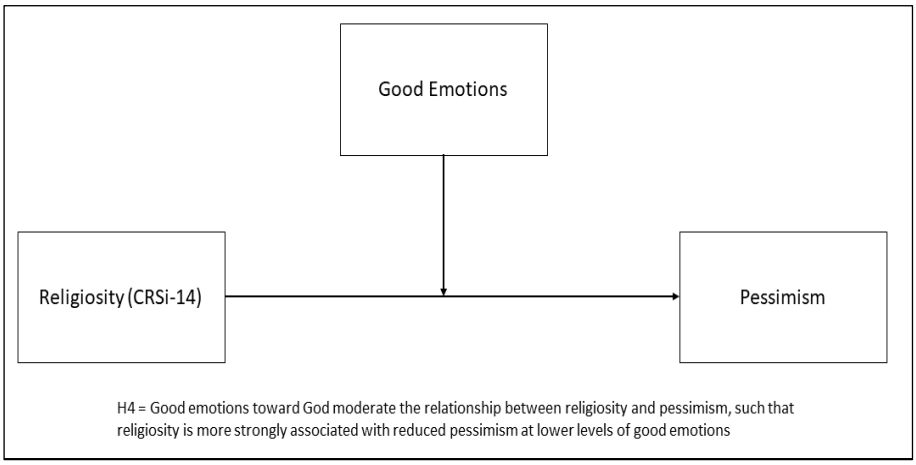


Fig. 2: Conceptual Diagram for H4.

Figure note. Moderation model (H4) testing whether Good Emotions (EtG; e.g., protection, joy, awe) condition the association between Religiosity (CRSi-14) and Pessimism (LOT-R subscale). The vertical arrow indicates the moderator's effect on the path from religiosity to pessimism (PROCESS Model 1). A negative interaction (Religiosity × Good Emotions) suggests that religiosity is more strongly related to lower pessimism when good emotions are lower; the association weakens as good emotions increase.

Hypothesis 5 - Moral emotions moderate the relationship between religiosity and optimism. Although moral emotions are not hypothesized to mediate the relationship, they may act as moderators, influencing how religiosity translates into positive expectations. For example, individuals who experience religiosity as a moral obligation rather than as a source of joy may derive less psychological benefit from it (Brown et al., 2023; Nelson et al., 2023; Preston et al., 2023; Ryan et al., 1993). Hence, religiosity may relate more strongly to optimism among those low in moral EtG (see Figure 3 for more details).

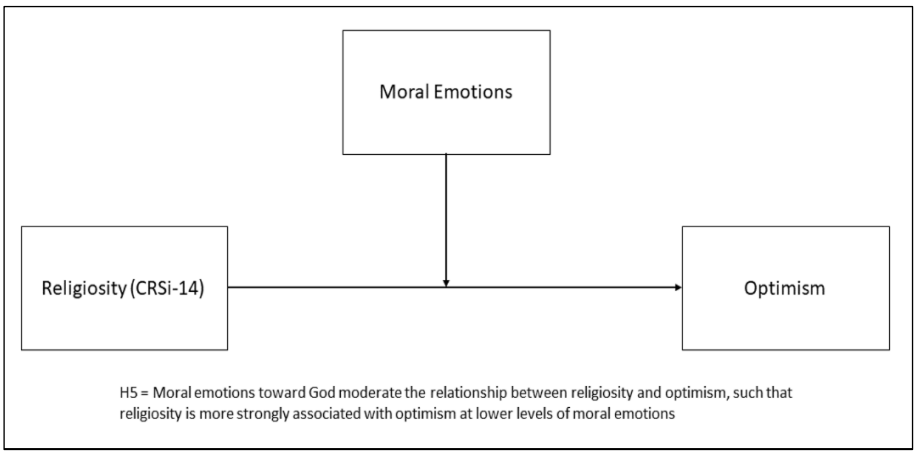


Fig. 3: Conceptual Diagram for H5.

Figure note. Moderation model (H5) testing whether Moral Emotions, EtG factor composed of fear and guilt, condition the association between Religiosity (CRSi-14) and Optimism (LOT-R subscale). The vertical arrow indicates the moderator acting on the religiosity → optimism path (PROCESS Model 1). The hypothesized pattern is a stronger positive association between religiosity and optimism at lower levels of moral emotions.

Hypothesis 6 - Bad emotions do not significantly moderate the relationship between religiosity and either optimism or pessimism. While negative emotions are expected to mediate the religiosity-pessimism link, they are unlikely to moderate its strength substantially. Once these emotions are activated, their effect may be direct rather than conditional on religiosity levels. Thus, this hypothesis assumes no significant interaction effect (see Figure 4 for more details).

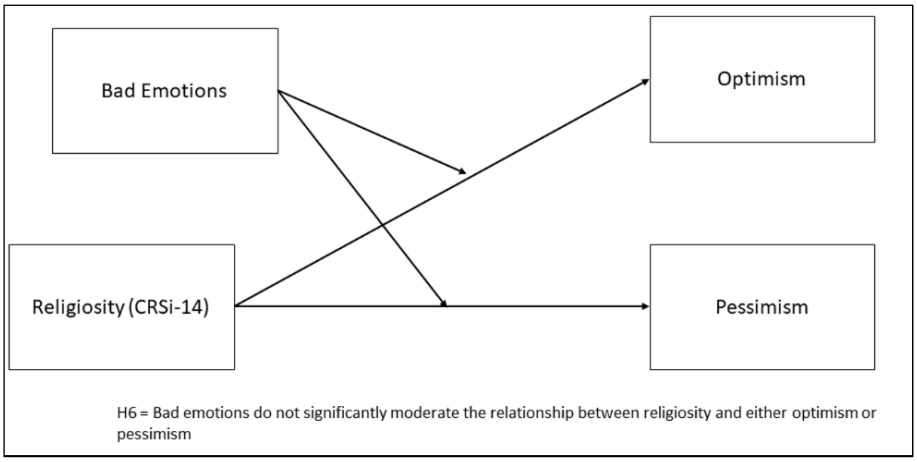


Fig. 4: Conceptual Diagram for H6.

Figure note. Moderation model for H6 evaluating whether Bad Emotions (e.g., shame, anger, rage) moderate the links between Religiosity (CRSi-14) and Optimism/Pessimism (LOT-R subscales). Two interaction terms were tested in PROCESS Model 1: Religiosity × Bad Emotions → Optimism and Religiosity × Bad Emotions → Pessimism. The hypothesis specifies no significant moderation for either outcome (i.e., the strength of the religiosity–optimism/pessimism associations is not contingent on levels of bad emotions), consistent with the view that bad emotions primarily act as mediators rather than boundary conditions. Arrows denote hypothesized statistical relations, not causal effects.

4. Results and Discussions

4.1. Gender differences in CRSi, LOT-R, and EtG

Table 1 presents independent-samples t-tests examining gender differences in religiosity (CRSi), dispositional outlook (LOT-R), and emotions toward God (EtG). Females reported slightly higher ideology (belief), $t(549) = 2.07$, $p = .039$, Cohen's $d = 0.18$, and higher religious experience, $t(549) = 2.59$, $p = .010$, Cohen's $d = 0.22$, than males. On the EtG composites, good emotions were higher among females, $t(549) = 4.13$, $p < .001$, Cohen's $d = 0.37$, whereas bad emotions and moral emotions did not differ. At the facet level, females scored higher on protection, $t(549) = 4.37$, $p < .001$, Cohen's $d = 0.39$; joy, $t(549) = 3.06$, $p = .002$, Cohen's $d = 0.27$; awe, $t(549) = 3.73$, $p < .001$, Cohen's $d = 0.34$; gratitude, $t(549) = 3.17$, $p = .002$, Cohen's $d = 0.28$; trust, $t(549) = 3.78$, $p < .001$, Cohen's $d = 0.33$; happiness, $t(549) = 3.95$, $p < .001$, Cohen's $d = 0.36$; reverence, $t(549) = 4.18$, $p < .001$, Cohen's $d = 0.37$; and hope, $t(549) = 4.62$, $p < .001$, Cohen's $d = 0.41$. Females also showed slightly higher anger, $t(549) = 2.13$, $p = .034$, Cohen's $d = 0.19$. No gender differences emerged for LOT-R total, optimism, or pessimism. Overall, Cohen's d effects were small (Cohen et al., 2007).

These patterns suggest that women report more intense positive religious emotions (good EtG) and modestly higher belief/experience facets of religiosity, while dispositional outlook (optimism/pessimism) is comparable across genders. This aligns with research suggesting that religious participation and self-transcendent emotions (e.g., awe, gratitude, reverence) are reliably linked to well-being (Ramsay et al., 2019; Van Cappellen et al., 2016), and with Taiwan-based evidence that religiosity and EtG predict resilience and wellness (Edara et al., 2021). The significant effect sizes highlight that gender differences are present, but not large; they nonetheless dovetail with our mediation

results, which locate valenced religious emotion, particularly good EtG, as the proximal route from religiosity to a more hopeful outlook. The lack of gender gaps in optimism/pessimism itself suggests that EtG differences may influence outlook chiefly as mechanisms (i.e., when religiosity is considered) rather than as direct gender effects, consistent with the mechanistic framing and the broader literature that emphasizes emotion-regulation pathways linking religion and well-being (Dolcos et al., 2023).

Table 1: Gender Differences in Religiosity, LOT-R, and EtG

Factor/Item	Total		Female = 353		Male = 198		*t*	*p*	Cohen's d
	Mean	SD	Mean	SD	Mean	SD			
Age	18.50	0.50	18.49	0.501	18.52	0.50	0.56	.573	
CRSi	2.66	0.67	2.70	0.63	2.59	0.73	1.85	.064	
Intellect	1.99	0.73	1.99	0.71	1.99	0.78	0.04	.967	
Ideology	3.46	0.84	3.51	0.77	3.36	0.93	2.07	.039	0.18
Public practice	2.49	1.02	2.54	1.01	2.39	1.03	1.60	.111	
Private practice	2.32	0.87	2.34	0.84	2.27	0.90	0.88	.381	
Religious experience	3.04	0.82	3.10	0.76	2.92	0.90	2.59	.010	0.22
LOT-R	18.75	3.42	18.79	3.41	18.68	3.43	0.38	.701	
Optimism	9.42	2.39	9.46	2.36	9.37	2.44	0.41	.681	
Pessimism	8.67	2.30	8.66	2.36	8.69	2.18	0.14	.887	
Good emotion	2.73	1.03	2.86	0.96	2.49	1.09	4.13	< .001	0.37
Protection	3.00	1.23	3.17	1.19	2.70	1.23	4.37	< .001	0.39
Joy	2.50	1.17	2.61	1.14	2.29	1.22	3.06	.002	0.27
Awe	2.77	1.21	2.92	1.15	2.52	1.27	3.73	< .001	0.34
Gratitude	2.80	1.22	2.93	1.17	2.59	1.28	3.17	.002	0.28
Trust	2.86	1.25	3.01	1.19	2.60	1.31	3.78	< .001	0.33
Happiness	2.56	1.20	2.71	1.17	2.29	1.20	3.95	< .001	0.36
Reverence	2.99	1.29	3.16	1.22	2.69	1.35	4.18	< .001	0.37
Hope	2.89	1.25	3.07	1.19	2.57	1.30	4.62	< .001	0.41
Release from Guilt	2.19	1.06	2.20	1.01	2.18	1.16	0.15	.885	
Bad emotion	1.99	0.85	2.04	0.84	1.90	0.87	1.89	.059	
Anxiety	2.03	1.03	2.09	1.04	1.93	1.01	1.77	.077	
Failure	1.95	0.99	2.00	1.00	1.87	0.96	1.53	.127	
Shame	1.74	0.83	1.76	0.82	1.71	0.86	0.71	.480	
Anger	2.24	1.12	2.31	1.12	2.10	1.10	2.13	.034	0.19
Rage	2.00	1.04	2.06	1.03	1.90	1.04	1.72	.086	
Moral emotion	1.82	0.89	1.87	0.89	1.74	0.90	1.52	.129	
Fear	1.83	0.90	1.88	0.89	1.74	0.91	1.71	.089	
Guilt	1.81	0.91	1.85	0.91	1.75	0.92	1.30	.193	

Notes. N = 551, SD = standard deviation.

4.2. Differences with Christians and non-Christians in CRSi, LOT-R, and EtG

Within table 2, relative to non-Christians, Christians scored higher on overall religiosity (CRSi), t(549) = 6.07, $p < .001$, Cohen's d = 0.91, with considerable differences on intellect (religious interest), t(549) = 6.33, $p < .001$, Cohen's d = 1.28, and moderate differences on public practice, t(549) = 4.67, $p < .001$, Cohen's d = 0.70, private practice, t(549) = 5.77, $p < .001$, Cohen's d = 0.86, and religious experience, t(549) = 2.86, $p = .006$, Cohen's d = 0.49. On outlook, Christians reported higher LOT-R total, t(549) = 3.73, $p < .001$, Cohen's d = 0.56, higher optimism, t(549) = 2.59, $p = .010$, Cohen's d = 0.39, and lower pessimism, t(549) = 2.82, $p = .005$, Cohen's d = 0.42. For EtG, Christians showed substantially higher good emotions overall, t(549) = 5.33, $p < .001$, Cohen's d = 0.80. All nine "good" facets were higher among Christians. While bad emotions were nonsignificant, with only anxiety being higher among Christians, t(549) = 2.40, $p = .017$, Cohen's d = 0.36. Moral emotions were modestly higher among Christians, t(549) = 2.56, $p = .011$, Cohen's d = 0.38, driven by fear, t(549) = 2.74, $p = .006$, Cohen's d = 0.40, and guilt, t(549) = 2.32, $p = .020$, Cohen's d = 0.34. Effect sizes ranged from small to large, with the largest difference for religious intellect (Cohen's d ≈ 1.28).

These results that Christians report markedly higher centrality of religiosity, especially religious interest, practice, and experience, alongside stronger good EtG and a more positive dispositional outlook is actually consistent with research linking religious engagement to self-transcendent emotions and well-being (Ellison & Fan, 2008; Ramsay et al., 2019; Van Cappellen et al., 2016). The Taiwan-based evidence that religiosity and EtG predict resilience and wellness (Edara et al., 2021) provides local convergence, and our pattern maps onto belief-maintenance accounts in which religious commitment is sustained by desired affect (Vishkin et al., 2020). Notably, bad emotions did not differ overall (with a slight elevation in anxiety among Christians). In contrast, moral emotions (fear, guilt) were modestly higher, echoing research that moral-norm salience can co-occur with both uplifting and duty-oriented affect.

Table 2: Differences with Christians and non-Christians in Religiosity, LOT-R, and EtG

Factor/Item	Non-Christians = 353		Christians = 198		*t*	*p*	Cohen's d
	Mean	SD	Mean	SD			
Age	18.50	0.50	18.45	0.50	0.73	.467	
CRSi	2.61	0.64	3.19	0.70	6.07	< .001	0.91
Intellect	1.91	0.66	2.80	0.95	6.33	< .001	1.28
Ideology	3.44	0.84	3.67	0.72	1.91	.057	
Public practice	2.42	1.01	3.12	0.93	4.67	< .001	0.70
Private practice	2.25	0.84	2.98	0.88	5.77	< .001	0.86
Religious experience	3.00	0.80	3.39	0.93	2.86	.006	0.49
LOT-R	18.58	3.37	20.47	3.41	3.73	< .001	0.56
Optimism	9.34	2.37	10.27	2.45	2.59	.010	0.39
Pessimism	8.76	2.28	7.80	2.34	2.82	.005	0.42
Good emotion	2.66	1.00	3.46	1.05	5.33	< .001	0.80
Protection	2.93	1.21	3.69	1.16	4.20	< .001	0.63
Joy	2.41	1.14	3.37	1.20	5.60	< .001	0.84
Awe	2.70	1.18	3.49	1.28	4.43	< .001	0.67

Gratitude	2.73	1.21	3.59	1.04	4.84	< .001	0.72
Trust	2.78	1.24	3.63	1.07	4.63	< .001	0.70
Happiness	2.48	1.17	3.35	1.27	4.92	< .001	0.74
Reverence	2.94	1.28	3.53	1.24	3.09	.002	0.46
Hope	2.82	1.23	3.59	1.19	4.17	< .001	0.63
Release from Guilt	2.12	1.01	2.88	1.29	3.99	< .001	0.73
Bad emotion	1.97	0.84	2.21	0.96	1.89	.059	
Anxiety	2.00	1.01	2.37	1.11	2.40	.017	0.36
Failure	1.94	0.99	2.14	1.02	1.40	.163	
Shame	1.72	0.82	1.94	0.97	1.75	.080	
Anger	2.22	1.11	2.41	1.17	1.13	.259	
Rage	1.98	1.02	2.20	1.15	1.45	.149	
Moral emotion	1.79	0.88	2.13	0.99	2.56	.011	0.38
Fear	1.80	0.88	2.16	1.01	2.74	.006	0.40
Guilt	1.79	0.90	2.10	1.01	2.32	.020	0.34

Notes. N = 551, SD = standard deviation.

4.3. Differences across CRSi levels in LOT-R and EtG

Table 3 shows the analysis of variance (ANOVA) results with mean differences by religiosity group (G1-non-religious, G2-moderate religious, and G3-highly religious). As expected, overall CRSi and all five CRSi facets showed large graded differences (all Fs ≥ 120.09, all *p*s < .001; Cohen's fs = 0.66–0.98), with G3 > G2 > G1 on intellect, ideology, public practice, private practice, and religious experience. For outlook, optimism differed across groups, F(2, 548) = 21.21, $p < .001$, Cohen's f = 0.28 (G3 > G2 > G1), whereas pessimism did not, F(2, 548) = 0.62, $p = .538$. On EtG, the good-emotion composite and each of its nine facets showed medium effects with G3 > G2 > G1 for protection, joy, awe, gratitude, trust, happiness, reverence, hope, and release from guilt. The bad-emotion composite and facets were also higher with religiosity, but at small magnitudes, with similar G3 > G2 > G1. Moral emotions (fear, guilt) showed small graded differences, Fs = 14.13–14.68, *p*s < .001, Cohen's fs ≈ .23; G3 > G2 > G1. For LOT-R total, the pattern was significant, F(2, 548) = 10.33, $p < .001$, Cohen's f = .19 (G3 > G2 > G1).

Table 3: Differences Across Religiosity Levels in LOT-R and EtG

Factor/Item	Non-religious = 94		Moderate religious = 437		Highly religious = 20		*t*	*p*	Cohen's f
	Mean	SD	Mean	SD	Mean	SD			
Age	18.55	0.50	18.48	0.50	18.60	0.50	1.19	.306	
CRSi	1.69	0.32	2.79	0.44	4.35	0.24	444.03	< .001	1.27
Intellect	1.33	0.42	2.06	0.64	3.52	0.82	120.09	< .001	0.66
Ideology	2.44	0.86	3.62	0.64	4.55	0.56	145.06	< .001	0.73
Public practice	1.23	0.40	2.66	0.84	4.55	0.47	207.65	< .001	0.87
Private practice	1.24	0.35	2.45	0.67	4.38	0.55	262.33	< .001	0.98
Religious experience	2.22	0.83	3.13	0.63	4.75	0.40	143.07	< .001	0.72
LOT-R	18.04	2.93	18.76	3.41	21.80	4.11	10.33	< .001	0.19
Optimism	8.53	2.58	9.49	2.25	12.15	2.21	21.21	< .001	0.28
Pessimism	8.49	2.53	8.73	2.21	8.35	3.03	0.62	.538	
Good emotion	1.87	0.93	2.84	0.91	4.35	0.62	76.65	< .001	0.53
Protection	2.06	1.14	3.13	1.13	4.55	0.61	54.94	< .001	0.45
Joy	1.83	1.13	2.56	1.09	4.15	1.04	40.89	< .001	0.39
Awe	1.86	1.05	2.89	1.11	4.45	0.95	58.34	< .001	0.46
Gratitude	1.84	1.07	2.93	1.12	4.50	0.76	62.72	< .001	0.48
Trust	1.84	1.02	3.00	1.15	4.60	0.68	66.69	< .001	0.49
Happiness	1.88	1.15	2.62	1.13	4.30	0.73	42.10	< .001	0.39
Reverence	2.09	1.26	3.11	1.19	4.70	0.47	50.68	< .001	0.43
Hope	1.90	1.10	3.04	1.16	4.40	0.82	56.44	< .001	0.45
Release from Guilt	1.56	0.84	2.27	1.00	3.50	1.47	37.01	< .001	0.37
Bad emotion	1.49	0.69	2.09	0.83	2.31	1.17	21.52	< .001	0.28
Anxiety	1.47	0.80	2.13	1.01	2.55	1.40	20.04	< .001	0.27
Failure	1.48	0.81	2.05	0.98	2.10	1.29	13.76	< .001	0.22
Shame	1.37	0.62	1.81	0.83	2.00	1.17	12.10	< .001	0.21
Anger	1.63	0.82	2.35	1.11	2.65	1.53	18.59	< .001	0.26
Rage	1.52	0.88	2.09	1.03	2.25	1.25	12.86	< .001	0.22
Moral emotion	1.40	0.65	1.89	0.90	2.20	1.15	14.13	< .001	0.23
Fear	1.41	0.66	1.90	0.90	2.30	1.17	14.68	< .001	0.23
Guilt	1.39	0.66	1.89	0.92	2.10	1.21	13.21	< .001	0.22

Notes. N = 551, SD = standard deviation. G1 = non-religious, G2 = moderate religious, and G3 = highly religious. All post-hoc comparisons were performed using Tukey, with significant differences: G3 > G2 > G1.

The monotonic increase in optimism and good religious emotions with higher religiosity replicates evidence that religious engagement is associated with self-transcendent affects (awe, gratitude, reverence) that, in turn, support well-being (as noted in various studies). In Taiwan, Edara et al. (2021) similarly found that religiosity and EtG predicted resilience and wellness, consistent with the current findings of the G3 > G2 > G1 pattern. Importantly, the small but reliable increases in bad and moral emotions at higher religiosity likely reflect the mixed-affect profile of lived religion- where sacred-norm salience and moral self-assessment can co-occur with uplifting emotions (Haidt, 2003; Vishkin et al., 2020). In other words, more religious students feel more of everything. Still, the positive, other-praising emotions dominate and are the more potent route to a hopeful outlook, which is consistent with Broaden-and-Build dynamics (Fredrickson, 2013).

4.4. Correlations among Age, CRSi, LOT-R, and EtG

As indicated in Table 4, the bivariate correlations showed that overall religiosity (CRSi) was positively related to optimism (Pearson's r = .288, $p < .01$) and LOT-R total (r = .182, $p < .01$), and was unrelated to pessimism (r = .028, nonsignificant; ns). Religiosity correlated strongly with good EtG (r = .534, $p < .01$) and, to a lesser degree, with bad (r = .283, $p < .01$) and moral emotions (r = .250, $p < .01$). As expected, optimism and pessimism were inversely associated (r = −.716, $p < .01$). In the EtG domain, good emotions correlated positively with optimism (r = .273, $p < .01$) and were unrelated to pessimism (r = −.062, ns), whereas bad emotions were positively related to pessimism (r = .145, $p < .01$) and unrelated to optimism (r = .075, ns). Moral emotions showed small positive links with both optimism (r = .119, $p < .01$) and pessimism (r = .070, ns). Age showed only trivial associations (|r| ≤ .096). Within CRSi facets, private/public practice and religious experience were the strongest internal correlates (|r| = .474–.870). In addition, CV was adequate for all multi-item constructs (all CR ≥ .80; all AVE ≥ .50). Discriminant validity was broadly supported, with one notable exception: the correlation between bad and moral EtG was high (r = .782).

Table 4: Correlations among Age, Religiosity, LOT-R, and EtG

Factor	Alpha	CR	AVE	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Age				.014	-.033	.009	.016	.029	.027	.007	< .001	-.010	-.092*	-.080	-.096*
(2) CRSi	.92				.692**	.760**	.841**	.870**	.722**	.182**	.288**	.028	.534**	.283**	.250**
(3) Intellect		.67	.41			.365**	.454**	.606**	.354**	.215**	.303**	-.005	.455**	.232**	.249**
(4) Ideology		.85	.66				.481**	.474**	.660**	.062	.161**	.074	.327**	.202**	.152**
(5) Public practice		.79	.56					.836**	.409**	.173**	.245**	-.002	.473**	.247**	.207**
(6) Private practice		.81	.59						.428**	.182**	.247**	-.014	.504**	.287**	.245**
(7) Religious experience		.84	.63							.080	.173**	.060	.315**	.131**	.127**
(8) LOT-R	.71										.741**	-.716**	.177**	-.045	.036
(9) Optimism		.75	.50									-.062	.273**	.075	.119**
(10) Pessimism		.82	.61										.021	.145**	.070
(11) Good emotion	.95	.95	.68											.530**	.481**
(12) Bad emotion	.90	.90	.64												.782**
(13) Moral emotion	.98	.98	.96												

Notes. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). CV = Convergent Validity, AVE = Average Variance Extracted.

The correlation pattern aligns with the study's core mechanism: religiosity is positively associated with a more hopeful outlook, but chiefly through its emotional correlates. Overall, CRSi showed a small to moderate association with optimism and LOT-R total, whereas its association with pessimism was near zero. This is consistent with a pathway in which religiosity builds positive expectations rather than simply suppressing negative expectations. In contrast, valenced EtG clarified that pathway. Good EtG correlated positively with optimism and was unrelated to pessimism, echoing Broaden-and-Build logic that self-transcendent positive affect widens future-oriented appraisals (Fredrickson, 2013) and prior research linking religious practice to uplifting emotions and well-being (Ramsay et al., 2019; Van Cappellen et al., 2016). In contrast, bad emotions were selectively related to pessimism, not to optimism, dovetailing with appraisal-based accounts that threat-focused affect narrows coping and heightens negative expectancy. Together, these patterns support the study's mediation hypotheses: good EtG is a plausible conduit to optimism, whereas bad EtG is a plausible conduit to pessimism.

Further, moral emotions showed small, mixed links with both optimism and pessimism. Substantively, this ambiguity fits the idea that moral-norm salience can motivate constructive change (supporting hope), but can also carry perceived obligation and self-reproach (tugging toward pessimism). Psychometrically, the high bad-moral intercorrelation suggests overlapping variance between the two "unpleasant" clusters. This overlap is interpretable (e.g., fear and guilt are affectively unpleasant) even as it cautions against over-interpreting fine distinctions between "bad" and "moral" pathways in this dataset. Furthermore, the facet-level CRSi correlations (private/public practice, religious experience) were strongest with good EtG, consistent with belief-maintenance views that people both seek and sustain affects that fit their commitments (Vishkin et al., 2020) and attachment-to-God perspectives, in which perceived benevolence promotes security and trust.

Practically, these findings point to emotion-focused targets for student support. Programs that cultivate gratitude, awe, reverence, and hope in religiously engaged students (e.g., reflective practices, service framed as other-praising) may strengthen optimistic expectancies, while counseling that addresses anxiety, anger, shame, and fear of divine disapproval may help curb pessimistic styles. Importantly, such efforts should be culturally sensitive to Taiwan's plural traditions and avoid assuming uniform benefits of religiosity; as the correlations show, religiosity can co-occur with both uplifting and unpleasant moral emotions. In sum, the correlation structure aligns with theory and model tests: valenced religious emotions are the proximate mechanisms, with good EtG linking religiosity to optimism and bad EtG linking religiosity to pessimism. While moral emotions sit at the intersection of devotion and duty, partly overlapping with unpleasant affect.

4.5. EtG as mediator between CRSi and LOT-R

Using Hayes' PROCESS Model 4 with 5,000 bias-corrected bootstrap samples, Table 5 shows that good emotions significantly mediated the association between religiosity and optimism (B = 0.320, SEboot = 0.095, 95% CI [0.134, 0.508]). The direct effect remained positive (B = 0.709), indicating partial mediation. In contrast, bad emotions significantly mediated religiosity's link to pessimism, B = 0.145, SEboot = 0.053, 95% CI [0.048, 0.254]; the residual direct effect was near zero (B = −0.049), consistent with complete mediation. All other indirect paths were nonsignificant: good → pessimism (B = 0.014, 95% CI [−0.179, 0.196]), bad → optimism (B = −0.007, 95% CI [−0.088, 0.073]), moral → optimism (B = 0.045, 95% CI [−0.027, 0.121]), and moral → pessimism (B = 0.058, 95% CI [−0.020, 0.145]), indicating that moral emotions did not operate as mediators and that the effects of religiosity on outlook are valence-specific: through good EtG → optimism and bad EtG → pessimism.

Table 5: Indirect Effects from Religiosity to Optimism and Pessimism Through Etg

Mediator	Outcome	Indirect Effect	Bootstrap Standard Error	95% Confidence Interval	Direct Effect	Mediation
Good Emotions	Optimism	0.320	0.095	[0.134, 0.508]	0.709	Yes
Good Emotions	Pessimism	0.014	0.095	[-0.179, 0.196]	0.082	No
Bad Emotions	Pessimism	0.145	0.053	[0.048, 0.254]	-0.049	Yes
Bad Emotions	Optimism	-0.007	0.041	[-0.088, 0.073]	1.035	No
Moral Emotions	Optimism	0.045	0.037	[-0.027, 0.121]	0.984	No
Moral Emotions	Pessimism	0.058	0.042	[-0.020, 0.145]	0.038	No

Note. Indirect effects are based on 5,000 bootstrap samples. Significant mediation is indicated when the 95% confidence interval does not contain zero.

H1 (supported). As predicted, good EtG carried the effect of religiosity to optimism, while the direct path remained positive. This is classic partial mediation and fits Broaden-and-Build and belief-maintenance accounts: students who are more religious report more other-praising/secure emotions toward God (gratitude, reverence, trust, hope), which in turn broaden future-oriented expectancies. The size of the indirect effect is non-trivial relative to the direct path, suggesting that a meaningful share of religiosity's link to optimism is affective rather than purely cognitive.

H2 (supported). Bad EtG significantly mediated religiosity to pessimism, and the direct effect was null, indicating full mediation. In other words, religiosity itself is not associated with lower pessimism unless it corresponds to lower levels of anxiety/anger/shame toward God. This aligns with appraisal-based and attachment-to-God perspectives: threat-colored divine appraisals narrow coping and sustain negative expectancies, whereas attenuating such appraisals removes the pessimistic link.

H3 (not supported - as hypothesized). Moral EtG did not mediate religiosity's effect on either outcome. Conceptually, fear/guilt appear orthogonal to dispositional outlook once good/bad EtG are accounted for, which is consistent with the idea that moral-norm salience regulates behavior and conscience more than it shapes global expectancies about the future.

Overall, the pattern is valence-specific: religiosity relates to higher optimism through good EtG and to lower pessimism only insofar as bad EtG is low. This clarifies the mechanism: belief does not uniformly brighten or darken outlook; the felt tone of the divine relationship does. Practically, student-support efforts that cultivate gratitude/awe/hope (e.g., reflective rituals, service framed as other-praising) may strengthen optimism, whereas counseling that targets anxiety/anger/shame toward God may be the lever for reducing pessimism. The non-mediation for moral EtG suggests caution in relying on guilt-based messaging to influence psychological outlook.

4.6. EtG as moderator between CRSi and LOT-R

Using PROCESS Model 1, Table 6 shows that EtG modified the associations between religiosity and dispositional outlook. The religiosity × good emotions interaction was significant for pessimism, $\beta = -0.282$, SE = 0.120, $p = .019$, but not for optimism, $\beta = -0.011$, SE = 0.119, $p = .928$; ns. The negative coefficient indicates that the inverse relation between religiosity and pessimism was stronger when good emotions were lower, and weaker as good emotions increased. Interactions with bad emotions were nonsignificant for both optimism ($\beta = -0.186$, SE = 0.160, $p = .244$) and pessimism ($\beta = -0.175$, SE = 0.159, $p = .271$). Moral emotions showed a small, nonsignificant trend for optimism ($\beta = -0.299$, SE = 0.158, $p = .059$) and no interaction for pessimism ($\beta = -0.211$, SE = 0.159, $p = .186$).

Table 6: Indirect Effects from Religiosity to Optimism and Pessimism Through EtG

Moderator	Outcome	Interaction	Standard Error	*p*	Moderation	Interpretation
Good Emotions	Optimism	-0.011	0.119	.928	No	No interaction
Good Emotions	Pessimism	-0.282	0.120	.019	Yes	Stronger effect at low good emotion
Bad Emotions	Optimism	-0.186	0.160	.244	No	No interaction
Bad Emotions	Pessimism	-0.175	0.159	.271	No	No interaction
Moral Emotions	Optimism	-0.299	0.158	.059	No	Slight trend only
Moral Emotions	Pessimism	-0.211	0.159	.186	No	No interaction

H4 (supported). As hypothesized, good EtG moderated the religiosity-pessimism link: religiosity was associated more strongly with lower pessimism when good EtG was lower. This compensatory buffering fits the Attachment-to-God view (secure affect dampens threat appraisals) and Broaden-and-Build logic (positive affect supplies alternative coping). When students already feel high levels of gratitude/hope/trust toward God, religiosity adds comparatively less incremental reduction in pessimism; when such good emotions are low, religiosity matters more for dampening pessimistic expectations.

H5 (not supported; marginal trend only). The religiosity × moral emotions interaction for optimism showed only a trend ($p \approx .06$). Consistent with our theoretical stance that fear/guilt signal moral-norm salience more than global future expectancies, moral EtG did not reliably condition the benefits of religiosity for optimism in this sample.

H6 (supported). Negative emotions did not moderate the links between religiosity and either outcome. Combined with the mediation results, this suggests that aversive EtG (anxiety/anger/shame/rage) operates primarily as pathways (mediators) to pessimism, rather than as contextual qualifiers of religiosity's effects.

Taken together with the mediation findings, the moderation pattern reinforces a valence-specific model: (a) good EtG are a beneficial route to optimism and also a context that shapes when religiosity most reduces pessimism (especially at low levels of good EtG); (b) bad EtG function as a mechanistic channel to pessimism, but do not alter the strength of religiosity's relations; and (c) moral EtG are orthogonal primarily to these outlook processes. Applied programs for student well-being might therefore (i) cultivate good EtG (e.g., practices of gratitude, awe, reverence, hope) and (ii) treat bad EtG directly (address divine anxiety/anger/shame), rather than relying on guilt-based moral appeals to influence optimism or pessimism (see Table 7 for the summary of all hypotheses and corresponding results).

Table 7: Hypotheses Checklist

Hypothesis	Statement	Supported	Evidence
H1	Good emotions mediate the positive link between religiosity and optimism	Yes	Significant indirect effect: $\beta = 0.32$, 95% CI [0.13, 0.51]
H2	Bad emotions mediate the link between religiosity and reduced pessimism	Yes	Significant indirect effect: $\beta = 0.15$, 95% CI [0.048, 0.254]
H3	Moral emotions do not significantly mediate the link between religiosity and optimism/pessimism	Yes	All indirect effects nonsignificant; CIs contain zero
H4	Good emotions moderate the religiosity–pessimism link (stronger effect when good emotion is low)	Yes	Significant interaction: $\beta = -0.282$, $p = .019$

H5	Moral emotions moderate the religiosity–optimism link (stronger effect when moral emotion is low)	No	Trend only: interaction $\beta = -0.299$, $p = .059$ (not significant)
H6	Bad emotions do not moderate the link between religiosity and optimism/pessimism	Yes	All interactions nonsignificant: $p > .24$

4.7. Cultural interpretation and Taiwan's religious landscape

The present findings should be interpreted in light of Taiwan's highly pluralistic religious culture, where Buddhism, Daoism, folk religion, Christianity, and popular devotional practices coexist within the same social environment. These traditions emphasize distinct relational and emotional orientations toward the Divine, which may partially explain the differentiated EtG patterns observed in this study. For instance, Christian adolescents, whose religious identity emphasizes a personal and relational God, may be more likely to interpret divine interactions through attachment-based frameworks, thereby producing stronger pleasant emotions such as trust, gratitude, and hope. In contrast, Buddhist and Daoist traditions often foreground karmic accountability, cosmic order, and ethical conduct, which may enhance the salience of moral emotions such as guilt, fear, or reverence without necessarily evoking threat-based bad emotions such as anger or anxiety. Meanwhile, youth raised within Taiwanese folk religion may experience divine presence as mediated through ancestors, deities, and ritual obligations, producing a more situational and contextual form of emotional appraisal. These cultural variations highlight the importance of viewing EtG not as a universal or monolithic construct, but as shaped by tradition-specific beliefs, ritual practices, and moral frameworks. Future studies could compare emotional pathways across these groups to determine whether pleasant, bad, and moral emotions function similarly in predicting optimism and pessimism, or whether cultural meaning systems moderate these trajectories. Such comparisons would deepen understanding of how Taiwanese adolescents' religious emotions develop within a syncretic cultural environment.

5. Conclusion: Implications, Limitations, and Future Directions

This study clarifies how religiosity relates to dispositional outlook in Taiwanese undergraduates: the route is affective and valence-specific. Religiosity predicted greater optimism primarily through good EtG (e.g., gratitude, reverence, hope), and related to lower pessimism only through reduced bad emotions (e.g., anxiety, anger, shame). Moral emotions (fear, guilt) were largely orthogonal to these outlook processes. Moderation tests further showed that good emotions shape when religiosity dampens pessimism; wherein religiosity mattered most for reducing pessimism when good emotions were low, whereas bad and moral emotions did not qualify the relations. Together, the findings advance the affective theory of religion by specifying distinct emotional mechanisms and identifying actionable emotional targets for supporting student mental health.

Practical Implications. For campus counseling, chaplaincy, and student affairs practice, the results suggest two complementary levers: cultivate positive religious emotions and address negative religious emotions. Programs that intentionally foster gratitude, awe, reverence, trust, and hope (e.g., reflective rituals, service-learning framed as other-praising, nature-based contemplative exercises) may strengthen optimistic outlooks among religiously engaged students. Clinical services can screen for and treat divine anxiety/anger/shame (e.g., scrupulosity, fear of disapproval) using cognitive reappraisal, compassion-focused, and attachment-repair interventions, which should, in turn, reduce pessimism. Given the small and mixed role of moral emotions, guilt-centric messaging is unlikely to improve outlook and may backfire; hence, instead, emphasize compassionate, meaning-making approaches. Implementation should be culturally sensitive to Taiwan's plural religious landscape, voluntary (non-coercive), and integrated with existing well-being services, with routine outcome monitoring to evaluate impact.

Limitations. Several constraints temper interpretation. First, the design is cross-sectional and based on self-reports from a single private university, limiting causal inference and generalizability. Second, the high correlation between bad and moral EtG indicates partial construct overlap; confirmatory factor analysis absolute fit was acceptable, but RMSEA ≈ .095 suggests room to refine measurement. Third, the highly religious group was small ($n = 20$), which widens CIs for group comparisons. Fourth, unmeasured confounds (e.g., baseline depression/anxiety, general emotion regulation, social desirability) and common-method variance may inflate associations. Fifth, the distinction between bad and moral emotions warrants caution. Although the three-factor EtG structure demonstrated acceptable incremental fit, the RMSEA indicated mediocre absolute fit, and the high correlation between bad and moral emotions ($r = .782$) suggests substantial shared variance. This overlap likely reflects the inherently aversive nature of both clusters, as fear and guilt (moral emotions) often co-occur with anxiety, shame, and anger (bad emotions) in religious contexts. Conceptually, however, the two clusters remain differentiable: bad emotions map onto threat-oriented appraisals of God, whereas moral emotions reflect norm-violation and conscience-related processes. Future research should test higher-order or bi-factor models to disentangle shared unpleasant affect from the theoretically meaningful distinctions between threat-focused and moral-salient responses. Lastly, PROCESS estimates are unstandardized by default and reflect observed (not latent) variables; residual measurement error may attenuate or distort paths.

Recommendations for Future Research. Several promising avenues arise from this work. First, longitudinal studies would help clarify the temporal ordering among religiosity, emotional responses to the Divine, and psychological outlook. Although the cross-sectional mediation pathways observed here are theoretically grounded, longitudinal or panel models could determine whether pleasant EtG prospectively predicts increases in optimism or whether pessimistic dispositions shape how adolescents interpret divine encounters over time. Second, the field would benefit from integrating neural and physiological measures to examine the biological correlates of religious emotion. Emerging work in affective neuroscience suggests that positive and negative religious emotions may recruit distinct neural networks involved in reward, threat detection, and moral evaluation. Third, future work could investigate contextual moderators, such as family religiosity, school climate, and social support, to examine how relational environments shape emotional responses to God. Additionally, qualitative or mixed-methods designs could capture adolescents' lived experiences of divine emotion, providing richer interpretive depth beyond factor scores and structural pathways. Finally, expanding the scope beyond Taiwan to include comparative samples from other East and Southeast Asian societies would allow researchers to test the cultural generalizability of EtG structures and to explore how Confucian, Buddhist, Islamic, or Christian traditions differentially cultivate emotional experiences toward the Divine.

6. AI Use Declaration

We used Wordtune solely to assist with grammar, wording, and style refinement. The tool did not generate text, analyze data, or contribute intellectual content. All study design, analyses, interpretations, and conclusions are the authors' own. The authors reviewed and approved the final manuscript and accept full responsibility for its accuracy and integrity.

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