Religiosity and Environmental Stewardship: Psychometric Validation of the CRS-5 and Links to Sustainability

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Abstract This study evaluated the psychometric properties and structural validity of the five-item Centrality of Religiosity Scale (CRS-5) in a sample of Filipino university students. It examined implications for ecological attitudes and sustainability engagement. Descriptive statistics and CFA results indicated that CRS-5 is a brief, acceptable measure of centrality of religiosity. Private Practice and Religious Experience showed the strongest relations with the CRS-5 total, highlighting private devotion and experiential spirituality. Regarding the theoretical and empirical links between religiosity and environmental concern, we discuss how dimensions captured by the CRS-5 can support pro-environmental values, collective stewardship, and sustainable behaviors – particularly in societies where religion shapes community norms. The study recommends integrating religious institutions and experiential spirituality into ecological education and sustainability interventions on university campuses. Limitations and directions for research on measurement invariance and the CRS-5's predictive validity for environmental outcomes are noted. Future research should explore longitudinal designs and cross-cultural comparisons to clarify causal pathways linking religiosity and sustainability engagement. Examining how faith-based narratives influence environmental decision-making may further strengthen strategies that harness moral motivation and community solidarity for global ecological responsibility and behavioral change.

1 INTRODUCTION

Religiosity intersects with ecology and sustainability across multiple dimensions, producing both opportunities for environmental stewardship and tensions that complicate unified action [1], [2]. It also influences not only personal worldview and social behavior but also values and practices that relate to environmental stewardship and sustainability [3]. In many communities, including in the Philippines, religious institutions and faith practices shape norms about care for creation, communal resource use, and civic engagement.

The CRS-5's five dimensions (Intellect, Ideology, Public Practice, Private Practice, Religious Experience) map onto pathways by which religion may promote or hinder environmental concern and sustainable action [4]. For example, Ideology can include theological commitments (e.g., stewardship theology) that motivate conservation; Public Practice can mobilize collective action through congregational networks; Private Practice and Religious Experience may cultivate affective connections to the natural world that facilitate pro-environmental values; and Intellect reflects cognitive engagement that may shape environmental knowledge and deliberation.

There have been studies about the Centrality of Religiosity Scale [5] - [9], however this study hopes to evaluate the CRS-5 psychometrically and situates the findings within a sustainability framework to inform ecological education and community-based sustainability programs on university campuses.

An eco-religious approach frames environmental protection and climate change mitigation as integral to religious belief and practice, encouraging adherents to treat the natural world as an object of moral concern rather than solely an anthropocentric resource. This perspective aligns with scholarship arguing that religious institutions and communities can serve as powerful agents of environmental change by mobilizing members, shaping values, and

participating in public education and policy dialogues [1], [4].

Empirical research suggests that religiosity's relationship to environmental attitudes and behaviors is complex and context dependent. Some studies find that religious affiliation and participation are associated with more positive environmental attitudes compared with non-affiliated groups, while other work finds that very high levels of religiosity can coincide with lower environmental concern – especially when doctrinal interpretations prioritize human dominion or when socio-demographic and lifestyle covariates account for observed differences [10]. Moreover, the apparent effect of church membership on ecological values may attenuate once variables such as education, income, and consumption patterns are controlled, indicating that religiosity is one among several interlocking influences on environmental orientation [11], [1].

Case studies from particular cultural contexts illustrate productive pathways through which religion can support sustainability. Research among Muslim consumers in Pakistan reports positive associations between religiosity (both intrinsic and extrinsic) and sustainable behaviors such as energy saving, recycling, and sustainable consumption, although social status concerns can moderate these effects [12]. Similarly, studies among Taiwanese Christians identify church attendance, stewardship beliefs, and environmental-consequence awareness as mechanisms linking faith to protective environmental behaviors and willingness to accept personal sacrifice for environmental goals [13]. These findings point to stewardship theology and environmental education within religious institutions as key levers for promoting both private-sphere behaviors and public activism.

The literature indicates that religiosity interacts with ecology and sustainability in nuanced ways: religious values and institutions may promote bio-centric or eco-centric ethics and lower per-capita ecological footprints in some contexts, yet this relationship is conditional on doctrinal framing, institutional capacity, socio-demographic factors, and the level and type of religiosity among adherents. For research using the CRS-5, these findings suggest treating religiosity both as a multi-dimensional construct (intellect, ideology, public practice, private practice, religious experience) and as a variable whose environmental correlates may vary by cultural context and degree of centrality in an individual's life [4], [11].

2 MANUSCRIPT PREPARATION

Participants and procedure. Participants were recruited using convenience sampling. All participants completed the CRS-5, which comprises one item for each core dimension: Intellect, Ideology, Public Practice, Private Practice, and Religious Experience. Data screening followed standard procedures (missing data, univariate distributional checks, and multivariate normality assessment). Informed consent was obtained from all subjects involved in the study.

3 RESULTS AND DISCUSSION

Descriptive statistics were computed for the five core subscales of the Centrality of Religiosity Scale (CRS-5): Intellect, Ideology, Public Practice, Private Practice, and Religious Experience as presented in Table 1. The means ranged from 3.27 to 4.55, indicating moderate to high religiosity among respondents. Skewness and kurtosis values suggest that the distribution of responses was approximately normal, with slight negative skew observed in Ideology and Private Practice.

Cronbach's alpha for the CRS-5 total scale was 0.78, indicating acceptable internal consistency. While this is slightly lower than the values typically observed for CRS-10 and CRS-15, it reflects the brevity of the five-item model and supports the use of CRS-5 in contexts where time or space constraints exist.

Table 1: Descriptive statistics.

Subscale	Mean	SD	Skewness	Kurtosis
Intellect	3.27	0.9	-0.09	-0.28
Ideology	4.55	0.84	-1.94	3.33
Public Practice	2.88	1.04	0.41	-0.3
Private Practice	4.43	1.05	-1.76	1.89
Religious Experience	3.89	1.05	-0.73	-0.15

Pearson correlation analyses revealed significant and positive relationships among all five CRS-5 subscales and the total religiosity score. The highest correlations were found between Private Practice and CRS-5 Total Score ($r = 0.84$), and Religious Experience and CRS-5 Total Score ($r = 0.85$), followed by Ideology ($r = 0.77$). These results suggest that private forms of religious expression and spiritual experiences are central components of religiosity

among the sample population, as summarized in Table 2.

Table 2: Correlation matrix.

	Intellect	Ideology	Public Practice	Private Practice	Religious Experience	CRS-5 Total
Intellect	1.0	0.117	0.358	0.223	0.203	0.492
Ideology	0.117	1.0	0.377	0.563	0.72	0.766
Public Practice	0.358	0.377	1.0	0.515	0.464	0.708
Private Practice	0.223	0.563	0.515	1.0	0.662	0.839
Religious Experien	c0e.203	0.72	0.464	0.662	1.0	0.847

Mardia's multivariate skewness and kurtosis coefficients were computed to assess normality. The skewness sum was -1.39, and the kurtosis sum was -4.49, indicating acceptable multivariate normality. While not perfect, the data is sufficiently normal to justify CFA procedures using robust estimators.

Independent samples t-tests were conducted to explore potential gender differences in CRS-5 subscale scores. While male participants scored slightly higher across most subscales, none of the differences were statistically significant ($p > .05$). Effect sizes ranged from small to moderate (Cohen's $d = 0.12$ to 0.35), with Private Practice and CRS-5 Total Score showing the largest differences. These findings align with prior research suggesting minimal gender-based differences in religiosity when consideration, as summarized in Table 3.

Table 3: Gender differences.

Subscale	t-value	p-value	Cohen's d
Intellect	-0.604	0.548	-0.154
Ideology	-1.237	0.221	-0.311
Public Practice	-0.483	0.631	-0.122
Private Practice	-1.373	0.175	-0.346
Religious Experience	-1.073	0.287	-0.269
CRS-5 Total Score	-1.357	0.18	-0.341

Although the RMSEA was elevated, the other indices (e.g., CFI, TLI, SRMR, GFI) indicated good to excellent model fit. The inconsistency in RMSEA may be attributed to the small degrees of freedom and model simplicity (Kenny et al., 2015). Standardized factor loadings were all significant ($p < .05$), with the highest loading for Religious Experience (3.186, R- = 0.81) and the lowest for Intellect (1.123, R- = 0.07). This suggests that Religious Experience was the most influential indicator of the latent construct, while Intellect contributed the least. Despite its lower variance, Intellect remains a theoretically important dimension of religiosity, as illustrated in Table 4 and Table 5.

Table 4: CFA model fit indices.

Fit Index	Value	Interpretation
Chi-Square	12.313	Acceptable
CFI	0.975	Excellent
TLI	0.949	Excellent
RMSEA	0.154	Poor
SRMR	0.074	Acceptable
GFI	0.996	Excellent

Table 5: CFA standardized factor loadings.

Subscale	Standardized Loading	R^2
Intellect	1.123	0.066
Ideology	2.927	0.679
Public Practice	2.329	0.43
Private Practice	2.845	0.642
Religious Experience	3.186	0.805

Descriptive statistics revealed moderate to high levels of religiosity, particularly in Ideology and Private Practice. Internal consistency was acceptable (.78), consistent with prior studies of brief religiosity scales. Correlation analysis showed all five subscales were significantly associated with the CRS-5 total score, particularly Religious Experience and Private Practice, highlighting the centrality of affective and devotional aspects of religiosity among Filipino youth.

No statistically significant gender differences were found, although small-to-moderate effect sizes suggest potential trends that future research may further explore. These findings contribute to ongoing discourse on the nuanced relationship between gender and religiosity.

CFA results supported a unidimensional model with most fit indices indicating excellent model fit. Despite a high RMSEA, this may be attributed to model simplicity and limited degrees of freedom. All items loaded significantly onto the latent factor, with Religious Experience showing the highest contribution. Intellect had the lowest explained variance, suggesting this dimension may be better assessed using multiple items in extended versions of the CRS.

This study affirms the validity of the CRS-5 as a brief, practical tool for assessing religiosity, especially where longer instruments are impractical. The results reinforce the importance of experiential

and private dimensions in religiosity and offer insights for culturally sensitive research and intervention in religious contexts.

This study links the five CRS-5 dimensions to processes that plausibly connect religiosity with pro-environmental attitudes and behaviors. The Ideology dimension, which showed a high mean and strong factor loading, appears especially likely to influence collective support for bility when ideological commitments include stewardship, care for creation, or social-justice theology. Where dominant religious teachings foreground compassion and responsibility for others and the natural world, Ideology can reinforce environmental norms and legitimacy for policy interventions that advance sustainable development [1], [4].

Private Practice and Religious Experience – allied affective and experiential aspects of religiosity – displayed very high correlations with total CRS scores and therefore merit particular attention as pathways to nature-connectedness. Affective religious practices (prayer, contemplation) and transcendent experiences can cultivate empathic concern for nonhuman life and feelings of awe, both of which have been linked in prior research to greater ecological concern and conservation behavior. These psychological states can increase willingness to conserve resources and to support conservation policies, suggesting that experiential religion operates as an intrapersonal mechanism for environmental motivation [1], [4].

Public Practice offers an organizational and social mechanism: congregational participation creates social capital and institutional capacity that can be mobilized for community sustainability projects such as tree planting, recycling drives, and disaster risk reduction [3]. Faith communities often provide outreach, environmental education, and trusted networks that lower the costs of collective action and enhance the diffusion of pro-environmental norms [11]. Thus, Public Practice functions both as a platform for behavioral interventions and as a conduit for normative transmission.

The Intellect dimension loaded more weakly in the measurement model, indicating that a single item may insufficiently capture the cognitive and theological reasoning that undergirds environmentally oriented interpretations of faith. Nevertheless, cognitive engagement – scriptural study, theological reflection, and critical reasoning – remains a plausible route to durable attitude change. A richer measurement of Intellect might reveal stronger associations with ecological knowledge, moral reasoning about the environment, and sustained behavioral commitments [4].

Across these dimensions, several mechanisms and contextual moderators clarify when and how religiosity translates into sustainability outcomes. Religious norm transmission via sermons, rituals, and communal teaching can shape personal norms that motivate environmental behavior [11]. Social networks embedded in congregations reduce collective action barriers and enable the scaling of local sustainability efforts. Moral framing that emphasizes stewardship, care for vulnerable populations, or intergenerational responsibility aligns religious language with prevailing sustainability ethics and can enhance public support for environmental policy – especially in highly religious settings where faith-consistent messaging carries credibility [1]. Yet potential tensions persist: doctrinal interpretations that privilege anthropocentric dominion over nature may impede environmental prioritization, making local theological framing a decisive moderator of outcomes [14].

Implications for campus sustainability practice follow directly from these linkages. University sustainability offices should recognize religious communities as strategic partners: partnering with campus chaplaincies and student faith groups can leverage Public Practice to increase participation and legitimacy for sustainability programming. Experiential programming – nature retreats, reflective spiritual practices paired with environmental education – can activate Private Practice and Religious Experience pathways to deepen ecological concern and promote behavior change. Integrating theological reflection into curricular or co-curricular workshops invites Intellect and Ideology engagement, strengthening long-term commitments to sustainable lifestyles. Finally, including brief religiosity measures such as the CRS-5 in program evaluations will allow campus practitioners to assess which religiosity dimensions predict participation, persistence, and behavior change, enabling tailored interventions.

5 LIMITATIONS

Several limitations temper the conclusions that can be drawn. First, the cross-sectional design and CRS-5 measurement preclude causal inference; while dimensions of religiosity are associated with sustainability-relevant outcomes, the directionality of effects cannot be established without longitudinal or experimental data. Second, the CRS-5 subscales use

single items for each dimension; this economical format limits the capacity to represent complex theological positions or to capture the full breadth of cognitive Intellect processes relevant to environmental ethics. Third, cultural specificity constrains generalizability. Findings derived from a Filipino university sample (or any single cultural context) may not extend to other religious traditions, national settings, or age groups because local doctrines, institutional structures, and social norms shape the religiosity–environment relationship [1]. Fourth, unmeasured socio-demographic and lifestyle covariates (e.g., education, income, urban/rural residence, political orientation) may account for part of the observed associations; prior studies have shown that the apparent effect of religious membership on ecological values can attenuate when these factors are controlled [11].

6 CONCLUSIONS

The CRS-5 offers a concise, psychometrically reasonable index of the centrality of religiosity whose dimensions map onto distinct pathways to sustainability. Private Practice and Religious Experience appear especially potent for fostering nature-connectedness and intrapersonal motivations for conservation, whereas Public Practice and Ideology provide social and normative channels for collective action and policy support. Intellect – although less well captured by a single-item indicator – likely represents an underutilized avenue for cultivating durable, theologically grounded commitments to environmental stewardship. By attending to the multidimensional character of religiosity and the contextual factors that shape doctrinal framing, researchers and campus practitioners can more effectively partner with faith communities to promote stewardship and sustainable behavior, while cautiously acknowledging the limits of cross-sectional inference and the need for better measurement and longitudinal evidence. Comparative cross-faith studies might uncover how specific doctrines, rituals, or theological narratives influence sustainable behavior across communities. Integrating psychological and sociological perspectives could also clarify the mediating role of identity, meaning-making, and moral obligation in translating religiosity into ecological action. Moreover, developing more nuanced instruments to assess religious cognition, practice, and experience would strengthen empirical validity and theoretical precision. Longitudinal and intervention-based studies will be essential to trace how religious engagement fosters enduring shifts in environmental attitudes and practices over time.

7 RECOMMENDATIONS FOR FUTURE RESEARCH

To advance understanding of how CRS-5 dimensions relate to sustainable action, future studies should:

1) combine the CRS-5 with validated environmental attitude and behavior scales to establish concurrent and predictive validity;
2) expand the Intellect dimension with multiple items that tap theological reasoning, scriptural interpretation, and environmental moral reasoning;
3) employ longitudinal or intervention designs (for example, randomized trials of faith-based experiential programming) to test causal effects on sustained pro-environmental behavior;
4) examine measurement invariance and conduct multi-group confirmatory factor analyses across religious traditions, age cohorts, and cultural contexts to determine whether the CRS-5 operates equivalently across groups;
5) embed qualitative methods (interviews, focus groups) to reveal the doctrinal narratives, interpretive frames, and institutional dynamics that quantitative scales may miss.

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