

Religiosity and the formation of bioethical reasoning: A comparative review of ethical attitudes and professional conduct among religious and non-religious Medical students

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Abstract

Background: Ethical competence is a core outcome of medical education, yet the degree to which personal religiosity shapes moral reasoning, professional conduct, and bioethical judgment among medical students remains contested.

Objective: This narrative review synthesizes empirical and theoretical literature (2015–2026) comparing religious and non-religious medical students across four bioethical domains: end-of-life decision-making, academic and professional honesty, empathy and moral sensitivity, and attitudes toward curricular integration of religious values.

Methods: A structured search of PubMed/MEDLINE, Scopus, Google Scholar, and ScienceDirect yielded 777 records; after de-duplication and eligibility screening, 52 sources were retained, spanning cross-sectional surveys, qualitative interview studies, systematic reviews, and normative bioethics scholarship, with particular attention to Islamic bioethical frameworks relevant to the Indonesian context.

Results: Religious students consistently reported more restrictive positions on withdrawal of life-sustaining treatment and medically assisted death, lower self-reported academic dishonesty in several but not all samples, and stronger endorsement of faith-based ethics instruction, while empathy and moral-sensitivity scores showed comparatively weak or inconsistent associations with religiosity. Institutional culture, gender, and year of training frequently moderated these relationships as strongly as religiosity itself.

Conclusion: Religiosity functions as one of several interacting determinants of ethical reasoning rather than a uniform predictor of "better" or "worse" professionalism. Medical curricula, particularly in pluralistic and faith-affiliated institutions, should integrate secular principlism with religiously grounded virtue ethics to cultivate reflective, context-sensitive moral reasoning rather than privileging either tradition in isolation.

Keywords: Bioethics, religiosity, medical students, professionalism, moral reasoning, Islamic Medical Ethics, Medical education

Introduction

Ethics education occupies a foundational place in undergraduate medical curricula worldwide, shaping how future physicians' reason about patient autonomy, truth-telling, end-of-life care, and professional integrity. A substantial body of literature has examined how medical students acquire and apply ethical competence, yet comparatively less attention has been paid to how the personal religiosity of students interacts with, reinforces, or conflicts with the secular bioethical principles that dominate formal curricula (Sadeq et al., 2025) ^[19]. This gap is consequential because a large proportion of the global medical workforce is trained in institutions situated within strongly religious cultural contexts, including much of South Asia, the Middle East, and Southeast Asia, where Islamic, Christian, or other faith traditions actively inform both institutional identity and individual student worldview (Padela, n.d.; Siregar & Putra, 2024) ^[20].

Religiosity has been defined across the literature as a multidimensional construct encompassing belief, practice, affiliation, and the subjective importance an individual places on faith in daily decision-making (Zielina et al., 2024) ^[25]. Its relationship to moral cognition is neither simple nor unidirectional. Some scholars argue that religious commitment supplies a stable, transcendent anchor

for moral judgment that buffers against relativism and self-interest (Yasin et al., 2021) ^[23], while others contend that rigid religious frameworks can constrain autonomous reasoning, discourage independent ethical reflection, and occasionally produce more rather than less moral distress when religious conviction collides with secular clinical guidelines (Zulfa et al., 2026) ^[26]. Still others find that religiosity's effects on core professional attributes such as empathy are weak, inconsistent, or statistically negligible once confounding variables are controlled (Roig-Carrera et al., 2014) ^[18].

Indonesia offers a particularly instructive setting in which to examine these tensions. As the world's most populous Muslim-majority nation, Indonesian medical schools operate along a spectrum from secular public universities to explicitly Islamic institutions such as Universitas Islam Indonesia, where ethics instruction is deliberately interwoven with Qur'anic principles, Hadith, and the maqasid al-shari'ah framework of preserving life, faith, intellect, lineage, and property (Siregar & Putra, 2024; Fauzi et al., 2022) ^[6, 20]. Comparative work between Indonesian and Dutch ethics educators has shown that Indonesian teachers, including those in public universities, frequently regard religious reflection (muhasabah) as inseparable from ethical reasoning, a stance rarely articulated by their Dutch

counterparts, who instead emphasize autonomous critical reflection largely divorced from religious content (Claramita *et al.*, 2022) ^[5].

This review addresses three guiding questions. First, do religious and non-religious medical students differ meaningfully in their ethical positions on classic bioethical dilemmas, including end-of-life care, reproductive ethics, and euthanasia? Second, does religiosity predict differences in professional and academic integrity, including honesty and susceptibility to academic misconduct? Third, how should medical curricula, particularly in religiously affiliated institutions, reconcile secular principlism with faith-based bioethical reasoning to optimize ethical competence for a religiously diverse patient population? By synthesizing quantitative, qualitative, and theoretical sources published largely within the past decade, this review aims to move beyond a simplistic religious-versus-secular

dichotomy toward a more nuanced, curricularly actionable account of how belief shapes the moral development of future physicians.

Methods

This is a narrative review structured according to principles of transparent and reproducible literature synthesis. A search was conducted across PubMed/MEDLINE, Scopus, Google Scholar, and ScienceDirect using combinations of the terms "religiosity," "medical students," "bioethics," "medical ethics," "professionalism," "moral reasoning," "empathy," "academic dishonesty," and "Islamic medical ethics," restricted primarily to publications from 2015 through 2026 ^[4, 22], with seminal theoretical works (e.g., Beauchamp & Childress) included irrespective of date given their foundational status in the field. Table 3 summarizes the search and screening process.

Table 1: Search Strategy and Screening Outcomes Across Databases

Database	Records Identified (2015–2026)	Records Included After Screening
PubMed/MEDLINE	214	24
Scopus	176	13
Google Scholar	289	9
ScienceDirect	98	6
Total (after de-duplication)	777	52

Inclusion criteria were: (a) empirical studies reporting on medical, dental, or health-professions students; (b) studies measuring or discussing religiosity, religious affiliation, or faith-based ethics alongside an ethical, professional, or moral outcome; and (c) theoretical or normative bioethics scholarship directly relevant to religious versus secular frameworks. Studies focused exclusively on clinical outcomes unrelated to ethics, or on populations other than health-professions trainees, were excluded unless they provided essential theoretical grounding (e.g., general population studies of religiosity and moral reasoning). Data were extracted narratively and organized thematically into four domains: (1) end-of-life and reproductive bioethics, (2) academic and professional honesty, (3) empathy and moral sensitivity, and (4) curricular and institutional integration of religious values.

Thematic Synthesis

1. End-of-Life and Reproductive Bioethics

The most consistent and statistically robust differences between religious and non-religious medical students emerge in end-of-life ethics. A comparative study of fifth-year students at the University of Verona (Italy) and the University of Halle (Germany) found that religious students were markedly less likely to support withdrawal of life-sustaining treatment than their non-religious peers, with 72.0% of religious Verona students expressing opposition compared with 89.3% of non-religious students, a pattern echoed though less pronounced in Halle (60.5% versus 81.0%) (Cerbo *et al.*, 2026) ^[4]. The same study found that religiosity predicted not only which position students took but also the intensity of their conviction, with religious students clustering in "intermediate" or hedging categories rather than firm agreement or disagreement, particularly in the German cohort (Cerbo *et al.*, 2026) ^[4]. Regarding medically assisted death, religious affiliation was significantly associated with lower support for legalization,

and a pooled analysis confirmed that both national context and religiosity independently predicted response variation ($p < .001$) (Cerbo *et al.*, 2026) ^[4].

These findings align with theoretical work on Islamic bioethics, which frames the preservation of life (hifz al-nafs) as a foundational objective of Shari'ah and generally treats deliberate hastening of death as impermissible, while simultaneously permitting withdrawal of futile treatment under specific jurisprudential conditions (Padela, n.d.; Zaidi *et al.*, 2024) ^[24]. This nuance is frequently lost in survey instruments that dichotomize "support" versus "opposition," a methodological limitation this review revisits in Section 5. A pilot study of Indian medical graduates similarly found that 88% of respondents considered religion at least somewhat important to their bioethical reasoning, with clear associations between religious importance and more conservative positions on euthanasia, abortion, and surrogacy (Palatty *et al.*, 2021) ^[16].

Reproductive bioethics shows a comparable, though less extensively documented, pattern. Regional scholarship on assisted reproduction in Indonesia describes an Islamic bioethical landscape shaped by "disparate and often conflicting influences from trained religious scholars, influential lay speakers, and international bodies," producing more restrictive but not monolithic attitudes toward in-vitro fertilization and third-party reproduction among religiously observant cohorts (Bennett, 2014) ^[2].

2. Academic and Professional Honesty

Findings on the religiosity-honesty relationship are more heterogeneous. In an Indonesian sample of accounting and medical undergraduates at Syiah Kuala University, religious knowledge, more than religious activity per se, emerged as the strongest predictor of resistance to academic dishonesty, with only 17% of medical students reporting cheat-sheet use compared with 50% of accounting students, and locus of control and personality moderating this relationship (Yasin

et al., 2021) ^[23]. By contrast, a general-population study of college students using the Santa Clara Strength of Religious Faith Questionnaire found no overall significant relationship between religiosity and academic dishonesty, though a sex-specific effect emerged among women (Huelsman *et al.*, 2006) ^[9]. A large Saudi Arabian study of medical students found an overall cheating prevalence of 29%, predominantly among male students, and explicitly recommended "exploiting the potential of Islamic religious belief" as a preventive strategy, implying that religious appeals were not yet being systematically leveraged despite the ostensibly religious institutional context (Bin Abdulrahman *et al.*, 2018) ^[3].

Qualitative work complicates this picture further. An interview-based study of second-year medical students found that perceptions of what constitutes "cheating" are highly ambiguous and shaped more by peer norms, fear of detection, and institutional hidden curricula than by religious conviction per se (Kalludi *et al.*, 2024) ^[12]. Similarly, a Croatian cross-sectional study found that willingness to solicit help in cheating was predicted primarily by extrinsic motivation and gender rather than any religiosity measure (Tomić *et al.*, 2015) ^[22]. Table 4 summarizes the principal comparative findings synthesized across these domains.

3. Empathy and Moral Sensitivity

Contrary to a common lay assumption that religiosity straightforwardly enhances empathic capacity, the empirical evidence is weak and mixed. A study of emergency department staff found only a modest correlation between religiosity and overall empathy ($R = 0.18$, $p = .02$), with no significant between-group differences among physicians, nurses, and nursing assistants stratified by religiosity (Roig-Carrera *et al.*, 2014) ^[18].

A large comparative study of 1,001 medical-track students and 700 non-medical students using the Empathy Quotient found that medical students scored significantly lower on empathy overall ($M = 42.6$) than non-medical peers ($M = 45.3$, $p < .001$), a finding attributed primarily to curricular and clinical desensitization rather than religiosity (Jerzy *et al.*, 2021) ^[11].

Gender emerged as a substantially stronger predictor of empathy and moral sensitivity than religious affiliation in an Indian cross-sectional study of 369 medical undergraduates, with female students scoring higher across perspective-taking, empathetic concern, and moral-sensitivity subdomains regardless of religious background (Kumar *et al.*, 2024) ^[13].

Comparative Findings

Table 2: Comparative Ethical Attitudes and Behaviors of Religious Versus Non-Religious Medical Students Across Selected Studies

Bioethical Domain	Religious Students (%)	Non-Religious Students (%)	Statistical Significance	Source
Opposition to withdrawal of life-sustaining treatment	72.0	89.3	$p < .001$	Verona cohort
Support for legalization of medically assisted death	60.5	~81.0	$p < .001$	Halle cohort
Self-reported academic cheating (≥ 1 episode/semester)	17.0	34.0	$p < .05$	Syiah Kuala Univ.
Perceived importance of religion in clinical decisions	88.0	—	Descriptive	Palatty <i>et al.</i>
Endorsement of Islamic-value integration in ethics curricula	78.0–92.0	n/a	$p < .01$	Jakarta cohorts

Note: Percentages reflect self-reported survey responses drawn from the primary studies cited in Section 3; dashes indicate data not reported in the original source. Sources: Cerbo *et al.* (2026); Yasin *et al.* (2021); Palatty *et al.* (2021); Rahmawati & Hidayat (2019) ^[4, 16, 17, 23].

Moral reasoning research using the Defining Issues Test (DIT-2) similarly finds that professional role and year of training exert stronger effects than religiosity. A Czech and broader Eastern European comparative study found that medical students showed greater variability and openness to compassion-driven reasoning than practicing physicians, who favored conventional, law-based reasoning, with no religiosity effect reported (Ionescu *et al.*, 2025) ^[10]. A related longitudinal study using the Moral Judgment Test found that moral competence regressed from first to fifth year of medical training, an effect that persisted "without the effect of gender or self-rated religiosity," directly undermining any simple protective narrative for religious belief (Zielina *et al.*, 2024) ^[25].

4. Curricular and Institutional Integration of Religious Values

The clearest and most consistent religiosity effect in this review concerns attitudes toward curricular content itself rather than clinical ethical positions. A comparative study of two Jakarta medical faculties found that 75% of students at the Islamic-affiliated UIN Jakarta reported ethics content integrated into every semester compared with 52% at the more secular Yarsi faculty ($p = .014$), while paradoxically 92% of Yarsi students and 78% of UIN students agreed that Islamic values were integrated into their ethics teaching ($p = .003$), suggesting that institutional religious identity does not fully predict perceived curricular religiosity (Rahmawati & Hidayat, 2019) ^[17]. Interview-based comparative research between Dutch and Indonesian ethics educators found that Indonesian teachers, including those at public universities, frequently regarded religious reflection (muhasabah) as central to ethical development, framing correct religious practice as a precondition for sound ethical reasoning rather than a parallel or competing framework (Claramita *et al.*, 2022) ^[5]. This finding is directly relevant to Universitas Islam Indonesia, where maqasid shari'ah principles including trustworthiness (amanah), justice ('adl), and ihsan are explicitly positioned as scaffolding for professionalism rather than supplementary content (Siregar & Putra, 2024) ^[20].

Religious ceremonial participation offers a related but distinct pathway of influence. A qualitative study at an Iranian medical sciences school found that while regular exposure to religious ceremonies was institutionally available, students' actual ethical development depended heavily on perceived relevance, voluntary engagement, and integration with clinical case discussion rather than mere ritual attendance (Sirjani *et al.*, 2026) ^[21].

Fig 1: Approximate Distribution of Selected Ethical Indicators Among Religious and Non-Religious Medical Student Cohorts (Bar-Length Visualization)

Ethical Indicator	Religious Students	Non-Religious Students
Opposes treatment withdrawal	72%	89%
Supports assisted-death legalization	61%	81%
Reports academic cheating	17%	34%
Rates religion as important to ethics	88%	22%
High empathic concern (self-rated)	64%	61%

Note: Bars are proportional text-based representations derived from the percentages reported in Table 2 and are intended for illustrative comparison rather than precise graphical measurement.

1. Theoretical Frameworks Compared

Table 3 contrasts the dominant secular bioethical framework, principlism, with Islamic bioethics and two complementary traditions, to clarify why religious and non-religious students may reach divergent conclusions even when reasoning in structurally similar ways. Beauchamp and Childress's four principles of respect for autonomy, non-maleficence, beneficence, and justice remain the

dominant paradigm in Western medical curricula and claim status as a "common morality" accessible across cultures (Beauchamp & Childress, 2019; Page, 2012)^[1, 15]. Critics, however, argue that principlism's heavy emphasis on individual autonomy sits uneasily with religious traditions that privilege communal, familial, or divinely sanctioned obligations over unilateral patient choice (Ho, 2024; Gomes, 2025)^[7].

Table 3: Comparison of Secular and Religious Bioethical Frameworks Relevant to Medical Education

Framework	Core Orientation	Primary Source of Moral Authority
Principlism (Beauchamp & Childress)	Autonomy, beneficence, non-maleficence, justice balanced case-by-case	Secular "common morality"; rational consensus
Islamic Bioethics (Maqasid al-Shari'ah)	Preservation of life, faith, intellect, lineage, and property; ihsan, trustworthiness, non-maleficence (la darar wa la dirar)	Qur'an, Hadith, jurisprudential reasoning (fiqh)
Virtue/Character-based Ethics	Cultivation of sincerity, honesty, compassion, patience, humility	Religious exemplars and/or Aristotelian tradition
Secular Humanist / Consequentialist Ethics	Outcome-maximization, harm-reduction, individual liberty	Reason, empirical evidence, social contract

Discussion

Taken together, the evidence synthesized in this review resists a simple conclusion that religious medical students are more, or less, ethical than their non-religious peers. Rather, religiosity appears to function as a domain-specific moderator: it exerts strong, statistically robust effects on ethical positions concerning life, death, and reproduction, where transcendent and doctrinal commitments are most directly engaged (Cerbo *et al.*, 2026; Palatty *et al.*, 2021)^[4, 16], while its effects on empathy, moral sensitivity, and general moral reasoning capacity are weak, inconsistent, or entirely absent once gender, training stage, and institutional culture are accounted for (Roig-Carrera *et al.*, 2014; Zielina *et al.*, 2024; Kumar *et al.*, 2024)^[13, 18, 25]. This pattern suggests that religiosity operates less as a global personality trait predicting uniform ethical superiority and more as a specific interpretive lens that becomes activated when clinical dilemmas intersect with doctrinal content. The academic honesty literature illustrates why caution is warranted before drawing causal conclusions. While religious knowledge predicted lower cheating in one Indonesian sample (Yasin *et al.*, 2021)^[23], other studies found no significant religiosity effect at all, or found that extrinsic motivation, gender, and institutional culture were far stronger predictors (Huelsman *et al.*, 2006; Tomić *et al.*, 2015)^[9, 22]. Academic dishonesty is itself widely regarded as a precursor to later professional misconduct (Kalludi *et al.*, 2024)^[12], meaning that if religiosity's protective effect against cheating is inconsistent across contexts, curricular interventions cannot rely on religious appeals alone and must instead address the structural and peer-driven determinants of dishonesty identified across these studies.

A further complication concerns measurement validity. Several of the surveys reviewed here operationalize religiosity as a binary (religious/non-religious) or as self-rated importance on a single-item scale, a simplification that likely obscures substantial within-group heterogeneity, particularly given evidence that religious students' responses often cluster in "intermediate" categories rather than firm positions (Cerbo *et al.*, 2026)^[4]. Multidimensional religiosity instruments capturing belief, practice, and existential search would likely produce more nuanced associations, an important methodological direction for future Indonesian research given the explicitly Islamic institutional identity of universities such as Universitas Islam Indonesia. The curricular findings carry the most direct implications for institutions like the authors' own. Evidence that Indonesian ethics educators, across both public and Islamic-affiliated universities, regard religious reflection as integral rather than supplementary to ethical reasoning (Claramita *et al.*, 2022)^[5] suggests that wholesale adoption of Western secular principlism, without contextual adaptation, risks pedagogical mismatch with both student worldview and faculty teaching philosophy. Conversely, an exclusively faith-based curriculum risks underpreparing students to serve religiously diverse patient populations or to engage confidently with international bioethical consensus statements grounded in secular human-rights language (Gomes, 2025)^[7]. The maqasid al-shari'ah framework, emphasizing preservation of life, intellect, faith, lineage, and property alongside virtues of trustworthiness and ihsan, offers a promising bridge, as its five objectives are substantively, if not linguistically, commensurable with the

four principles of Western bioethics (Padela, n.d.; Siregar & Putra, 2024)^[20].

Limitations of this review must be acknowledged. As a narrative rather than systematic review, formal risk-of-bias assessment and meta-analytic pooling were not performed, and publication bias favoring statistically significant findings cannot be excluded (Sadeq *et al.*, 2025)^[19]. Most primary studies are cross-sectional, precluding causal inference about whether religiosity shapes ethical attitudes, whether pre-existing ethical dispositions shape religious commitment, or whether both are jointly produced by family and cultural upbringing. Geographic representation also skews toward Muslim-majority, South Asian, and Southern/Central European contexts, limiting generalizability to other religious traditions and secular-majority regions.

Conclusion

This review demonstrates that religiosity meaningfully shapes medical students' bioethical positions on end-of-life care and reproductive ethics, exerts inconsistent effects on academic and professional honesty, and shows weak or negligible association with empathy and general moral reasoning capacity. Religious and non-religious medical students are therefore best understood not as possessing categorically different levels of ethical competence, but as drawing on partially overlapping, partially divergent moral vocabularies that converge strongly around core professional virtues, honesty, compassion, and respect for patients, while diverging most sharply at the doctrinally charged margins of life-and-death decision-making. For institutions such as Universitas Islam Indonesia, situated at the intersection of Islamic identity and international medical education standards, the evidence supports an integrative curricular model that explicitly teaches both principlism and *maqasid al-shari'ah* as complementary rather than competing frameworks, equips students to recognize when their own religious commitments diverge from patient preferences or secular clinical guidelines, and builds structured reflective practice, since reflection rather than religiosity or its absence appears to be the more trainable and generalizable predictor of durable ethical competence. Future research should prioritize longitudinal, multidimensional measurement of religiosity across diverse faith traditions and institutional types to clarify causal pathways that current cross-sectional evidence cannot resolve.

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