

Intersection of Personal Values and Professional Responsibilities in Preclinical Medical Training: Implications for Reflection, Learning, and Professional Identity Formation

Ever Mkonyi

exm521@case.edu

Case Western Reserve University

Lindsey Rush

Case Western Reserve University

Lameck Kapupa

Case Western Reserve University

Xiaomei Song

Case Western Reserve University

Kimberly Retetagos

Case Western Reserve University

Abhishek Mahesh

Case Western Reserve University

Cyrus Eghtedari

Case Western Reserve University

Kelli Qua

Case Western Reserve University

Research Article

Keywords: professional identity formation, reflective practice, undergraduate medical education, moral distress

Posted Date: September 25th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10704594/v1>

License:   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

Professional identity formation (PIF), the integration of personal values with professional responsibilities, is critical during preclinical medical training. Yet preclinical curricula persistently prioritize biomedical knowledge over values-based, reflective learning, leaving students inadequately supported when personal and professional values conflict. This study explored how personal values and professional responsibilities intersect during preclinical training and the implications of these intersections for reflection, learning, and PIF. A qualitative, reflective narrative design was employed. Reflective writing assignments from second-year medical students (Essay 1: N = 86; Essay 2: N = 88) were analyzed using thematic analysis to characterize the types, sources, and consequences of personal-professional conflicts. Response frequencies were also calculated. Two thematic domains emerged. In the ethical and clinical domains, students described conflicts related to reproductive health, patient hesitancy, cultural sensitivity, end-of-life care, and inclusivity, shaped by religious beliefs, personal experiences, and upbringing. In the structural and relational domain, students struggled to balance family obligations, relationships, academic demands, and well-being, with consequences including burnout, emotional depletion, and academic decline. Structured reflective practice served as a catalyst for ethical reasoning and identity consolidation. PIF is a morally formative process. Medical schools should explicitly scaffold personal-professional conflicts, develop reflective and ethical reasoning skills, and foster supportive learning communities.

INTRODUCTION

Becoming a physician requires a profound and sustained personal transformation to become a professional, yet medical school curricula often focus more on acquiring biomedical knowledge. At the center of this transformation is professional identity formation (PIF), the dynamic, iterative process through which medical students internalize the values, ethics, and responsibilities of the medical profession and progressively come to see themselves as physicians (1–3). PIF is not a discrete milestone but a lifelong developmental process shaped by socialization within the medical community, interactions with mentors and peers, institutional culture, and the ongoing negotiation between personal and professional selves (4, 5), one that must be understood through the lens of being, becoming, and belonging (5).

Preclinical education represents an early developmental stage in this process, during which students first encounter the values and norms of the medical profession and begin constructing an internal framework for what it means to be a physician (5, 6). These early experiences are constitutive in shaping ethical reasoning, empathy, and professional responsibility in ways that persist throughout a medical career (4, 7, 8). Despite this recognized importance, preclinical curricula have historically prioritized biomedical knowledge acquisition over values-based, reflective, and identity-oriented learning (9, 10), treating the affective and ethical dimensions of professional formation as supplementary rather than central (11). This imbalance carries significant consequences: when students encounter ethically charged scenarios or conflicts between personal beliefs and professional duties without adequate

reflective support, they are left to navigate these challenges in isolation (1, 12). Research has consistently linked this lack of intentional support to moral distress, professional disillusionment, and burnout (1, 13). A 2024 empirical study found that academic burnout significantly mediates the relationship between perceived stress and moral courage efficacy, suggesting that unaddressed value conflicts erode students' capacity to act ethically (12) while a 2025 systematic review confirmed that elevated burnout is negatively associated with empathy, ethical conduct, and professional accountability (13). These pressures are compounded when students' personal values, relational obligations, and professional responsibilities diverge. Such conflicts are not peripheral to professional formation but are among its most generative and challenging features (4, 5). These challenges are further intensified by the chronic structural demands of family obligations, academic pressures, and psychological well-being, all of which have been linked to anxiety, emotional depletion, and burnout (13, 14).

Notwithstanding the growing scholarship on PIF, four critical gaps persist: the literature remains predominantly theoretical with limited empirical grounding in preclinical student experiences (1, 7, 15); the conflicts arising at the intersection of personal values and professional responsibilities have not been fully systematically characterized as an integrated phenomenon (6, 11); the relationship between these conflicts and PIF remains insufficiently theorized (5); and the curricular conditions that support or impede students' navigation of these conflicts have not been adequately described from the student perspective (11, 16).

To address some of the challenges of PIF medical education, the Case Western Reserve University School of Medicine (CWRU SOM) Western Reserve² (WR²) Curriculum deliberately embeds PIF as a foundational priority using a PIF roadmap to guide students through structured activities to promote PIF with the support of a longitudinal faculty mentor and peer group. Students consolidate their learning from early clinical training, inquiry-based learning, and interprofessional collaboration through structured, progressive critical reflection. CWRU SOM also instituted pass/fail grading, dedicated wellness programming, and near-peer tutoring structures that recognize the inseparable nature of learning conditions and the professional identities student's form.

The present study explored the lived experiences of second-year medical students at CWRU SOM during the preclinical period, a formative developmental window that has received insufficient scholarly attention relative to its significance in shaping long-term professional identity. Specifically, this study aims to: (1) characterize the nature and scope of personal and structural conflicts that students encounter during preclinical training (2) explore the personal belief systems, values, and relational contexts that shape how students experience, interpret, and respond to these conflicts; In doing so, this work advances a growing body of literature that recognizes preclinical medical education not only as an academic undertaking but as a deeply personal and structurally demanding process that requires reflective capacity, personal resilience, and institutional support alongside clinical knowledge (2, 5, 7, 16). The findings are intended to generate actionable, evidence-based insights for medical educators and curriculum designers seeking to build learning environments that more intentionally and equitably support the formation of professional identity during the preclinical years.

METHODS

Study design

Setting and Participants

This qualitative study was conducted at the Case Western Reserve University School of Medicine (CWRU SOM) among second-year medical students from the Class of 2027. As a curricular requirement, all students ($n = 184$) complete a portfolio at the conclusion of their second year, including reflective essays on their experiences in the curriculum. The researchers used essays from the spring of 2025 as the data source. Essays were included for students who consented to the CWRU Medical Education Data Registry (IRB 20211086), which allows analysis of de-identified data.

Data Collection and Sources

Data were drawn from two structured reflective writing assignments completed by second-year medical students. Reflection Essay 1 prompted students to identify a situation where their personal views or values differed from those of a peer, patient, or colleague, addressing three domains: awareness, critical reflection, and strategy development. Reflection Essay 2 similarly prompted students to reflect on a situation where fulfilling personal and professional responsibilities simultaneously proved difficult, addressing the same three domains. For the purposes of this study, analysis focused exclusively on the awareness domain of both essays, capturing students' first-person accounts of the types, contexts, and sources of personal-professional conflicts encountered during preclinical training.

De-identified responses were provided for both prompts. **Reflection Essay 1** ($n = 86$) analysis focused on the awareness domain, in which students were asked to: identify the general issue or topic for which differences in personal views or values may impact patient care; describe the specific situations in which such differences might arise; and articulate the specific views or values that differed. **Reflection Essay 2** ($n = 88$) analysis was similarly restricted to the awareness domain, in which students were asked to: describe what made the situation difficult to navigate; explain how they prioritized competing responsibilities; and reflect on how their choices impacted themselves and others.

By focusing exclusively on the awareness domain across both essays, this study captured students' first-person accounts of the types, contexts, and sources of personal-professional conflicts encountered during preclinical training, allowing for a focused characterization of the conflicts that shape professional identity formation without extending to reflective reasoning or strategy development responses.

Data Analysis

We conducted a thematic analysis using ATLAS.ti software to systematically explore the qualitative data and identify recurring patterns of meaning (themes) (17). We used a hybrid coding strategy that combined deductive codes derived from the study objectives with inductive codes that emerged from the data.

The data analysis process followed a three-stage iterative qualitative coding framework (18) (Fig. 1). The process began with open coding, during which early ideas and emerging findings were identified, codes were developed, and initial themes were discovered. This foundational stage feeds into axial coding, where those initial codes are refined into organized categories and sub-categories, an initial code list is developed, and definitions are established for each code. Finally, the process culminates in selective coding, which delimits the coding process by anchoring themes and categories to the study's core variables. The cyclical arrows connecting the three stages suggest that this is not a strictly linear process, but rather an iterative and reflexive analytical approach in which insights from later stages can inform and refine earlier ones, ensuring that the final themes are both rigorously grounded in the data and meaningfully aligned with the study's central research focus.

ATLAS.ti software was used to enhance the coding process and intercoder consistency and reliability; it allows multiple team members to simultaneously code and review each other's work in real time, facilitating immediate feedback and discussion to resolve discrepancies. ATLAS.ti provides tools to highlight the most frequently used codes, enabling the generation of quantitative data from qualitative analysis, and documents coding decisions and changes for transparency (ATLAS.ti, 1933).

Ethical Considerations

This study was conducted in accordance with institutional protocols. Institutional Review Board (IRB) approval was deemed unnecessary because the data were analyzed exclusively from students who provided explicit consent to use their information for research purposes. All non-consenting student data were excluded. To maintain participant anonymity, any potentially identifying information was redacted before analysis. Each essay was assigned a unique alphanumeric code (e.g., P#1, P#2...) to maintain anonymity.

RESULTS

Overview

Medical students acknowledge that conflicts between personal and professional responsibilities are inevitable. Across student narratives, these conflicts emerge in two interconnected domains: **(1) ethical and clinical conflicts arising from divergent personal values and professional duties in patient care, and (2) structural and relational conflicts** arising from the competing demands of academic training and personal life. Subthemes regarding the types of conflicts and the values and feelings influencing these conflicts also emerged within each domain, as shown in **Figure 2**.

Theme 1: Ethical and Clinical Conflicts Arising from Divergent Personal Values and Professional Responsibilities

Theme Summary

This theme focuses on the ethical, personal, and professional conflicts that second-year medical students report encountering in their training or anticipate arising during the rest of their education and medical careers. Students' narratives reveal frequent experiences navigating situations where personal beliefs, professional duties, and patient autonomy intersect, creating tensions that can directly impact patient care and team dynamics.

1.1 Types of Ethical and Clinical Conflicts

Reproductive Health and Abortion Care

Abortion care emerged as a common source of moral and ethical complexity, appearing in 16% of students' responses (**See Table 1**). Students described deeply rooted yet divergent beliefs; for example, one student stated, *"I fully believe in the right to an abortion and am pro-choice"* (Transcript P#46), while in stark contrast, another student stated, *"I believe that life begins at conception...I personally view abortion as the ending of a human life"* (Transcript P#33). Students additionally reported already encountering conflicts, such as among peers, around this topic.

Personally, I believe that people who want abortions should be able to access them, while the decision whether or not to get one is deeply personal to the patient. However, a member of my [small]group is firmly against abortions and believes that they should only be accessible in very specific and rare circumstances. As a result of our differing views, we definitely got into a few disagreements... when discussing reproduction. (Transcript P#35)

Patient Hesitancy, Evidence-Based Medicine, and Cultural Sensitivity

Students frequently grappled with tensions between their commitment to evidence-based medicine and their respect for patient autonomy, particularly when patients were hesitant or distrustful of medical recommendations. One student reflected on an experience with a patient who *"had a strong preference for alternative medicine and skepticism toward conventional medical treatment. While I strongly value shared decision-making and respect for autonomy, my personal belief in evidence-based medicine conflicted with the patient's preferences"* (Transcript P#31).

Also, students anticipated ethical conflicts across several domains, with 52% of responses (See Table 1) highlighting vaccine hesitancy as a primary concern, followed by alternative medical practices that may pose safety risks, religious refusal of life-saving care, and culturally rooted health practices that may conflict with standard medical treatment. Stated one student, *"A Jehovah's Witness may refuse blood transfusions, even when such treatment is essential to save their life... This creates a disconnect between*

my desire to help and the patient's autonomy" (Transcript P#5). For cultural practices, these could also conflict with professional and legal guidelines, such as mandatory reporting of child abuse versus culturally accepted corporal punishment.

End-of-Life Care

Students grappled with profound questions about quality of life and what makes a life worth preserving, as one student wrote: *"I am of the opinion that life is not worth preserving if there is no quality of life to be had. Others (very understandably) believe that life is worth preserving no matter what"* (Transcript P#36). Conflicts arose specifically around physician-assisted suicide, hospice versus aggressive treatment, and navigating patient and family wishes in shared decision-making, particularly when personal beliefs diverged sharply from those of patients, families, or colleagues. Another student reflected that *"An area in which I anticipate that my personal views or values may impact patient care is regarding hospice and the importance of prioritizing patient comfort at the end of life, not just longevity"* (Transcript P#12).

Inclusivity in Healthcare

Inclusivity emerged as an area of conflict, particularly regarding the treatment of marginalized communities such as LGBTQ+ patients and individuals with disabilities. Students expressed concern about stigmatizing language and behaviors among colleagues and the impact these have on patient care and team dynamics. A student expressed their belief that *"I will encounter...differences with colleagues and patients regarding what is considered appropriate language, perspectives on marginalized communities, or approaches to certain healthcare decisions"* (Transcript P#42) and an experience in which this had happened as *"During another [small group] on intellectual and developmental disabilities, I witnessed another student express the belief that individuals with IDD [intellectual and development disabilities] should not be allowed to have children"* (Transcript P#42). A different student expressed similar thoughts about potential future inclusivity conflicts around gender identity in that they *"could see scenarios occurring where a colleague misgenders a patient we both share, or a parent of a transgender child insists on using the name and pronouns that the patient no longer identifies"* (Transcript P#8).

1.2 Values Influencing Ethical and Clinical Conflicts

Students reflected on the personal values that underpin their clinical conflicts, identifying **religious and spiritual beliefs, formative personal experiences, and family upbringing** as powerful forces shaping their perspectives.

Religious and Spiritual Beliefs

Faith plays a central role in shaping students' moral positions on abortion and end-of-life care, often serving as a stable anchor that justifies specific clinical stances. Multiple students cited these religious backgrounds as their values underpinning potential clinical conflicts, for example, stating *"My views have been shaped primarily by my upbringing in a faith-based household and by years of personal reflection."*

From a young age, I was taught that every life matters, and...believe that this includes the unborn" (Transcript P#33) and *"Much of my perspective stems from my religious belief in a God that urges me to not do wrong against another human being, especially anything that would cause death"* (Transcript P#34).

Personal Experiences

The majority of students' reflections (81%) highlighted that direct personal experiences, particularly witnessing family members navigate illness, end-of-life care, or addiction, profoundly shape students' clinical values and their understanding of patient suffering. For views on end-of-life-care, one student cited that *"My opinion on this topic [physician-assisted suicide] was formed by watching my grandfather die slowly of dementia... I also remember feeling relief when he had finally passed because I knew he didn't have to suffer anymore"* (Transcript P#36). The experience of watching loved ones navigate critical illness and choice of treatment seemed particularly profound on students' opinions of quality of life.

I watched a family member go through a very protracted and unpleasant death due to an aggressive course of treatment... and a second experience where comfort care was provided instead of aggressive treatment, which resulted in a much higher quality of life. (Transcript P#1).

Family Values and Upbringing

Family values and upbringing, cited by 13% of included reflections (**see Table 1**), provide a unique lens through which students approach clinical conflicts, particularly those involving patient autonomy, highlighting the deeply personal and formative influence of one's background on ethical decision-making in clinical practice. Students raised in families that valued alternative medicine, evidence-based medicine, or specific cultural health practices each brought distinct perspectives to their professional training. Regarding evidence-based medicine, one student reported that *"With both parents as healthcare providers, I developed an implicit trust in medical institutions from an early age"* (Transcript P#65); in contrast, another student noted that *"Having grown up in an [name of the ethnicity is removed] family that strongly believes in the remedial effects of natural supplements like turmeric, ginger, and fenugreek, I have witnessed both the deep-rooted cultural significance of these therapies and the skepticism toward conventional interventions"* (Transcript P#73).

Theme 2: Structural and Relational Conflicts Between Personal and Professional Responsibilities

Theme Summary

Beyond clinical and ethical conflicts, students consistently described the structural tensions inherent in medical training: situations in which fulfilling family obligations, maintaining personal relationships, managing research and academic demands, and preserving personal well-being simultaneously become organizationally and emotionally untenable. These conflicts impact not only students' personal lives but also their academic performance, team dynamics, and long-term sustainability in medicine.

2.1. Family Obligations and Academic Demands

This subtheme captures the direct collision between students' roles as family members and their roles as medical students, such as situations with conflicts arising from life events (weddings, funerals, illness, family crises), ongoing relational responsibilities (being a partner, child, sibling, or friend), and the moral distress that arises when students must choose between loved ones and professional responsibilities.

Life Event Conflicts

A challenging situation that I had difficulty navigating was my sister's wedding, which was held in the backyard of my childhood home in [name of state removed] the weekend before exams. On one hand, I was ecstatic to see my sister, who I am extremely close with, embark on this new chapter of her life. On the other hand, I was trying to navigate my first full-blown exam week in medical school. (Transcript D#5)

One of my good friends from undergrad got married... the wedding was scheduled for the weekend before my block exams and my gross anatomy elective exam. This was probably one of the most difficult calls that I've had to make, and many tears were shed during the process. (Transcript D#43)

Illness, Death, and Family Crisis Conflicts

Students faced conflicts between their responsibilities and family crises, such as loved ones' illness, death, and other hardships. Students cited situations such as when *"last year my family home in [Name of the Country is removed] was attacked, my ulcerative colitis went out of control, and my family was reeling from my mother's health scare"* (Transcript D#70) and *"My grandfather passed away of [disease removed]... his funeral was on a day where we had a required IQ session"* (Transcript D#67) as times of emotional stress and direct conflict between professional and personal responsibilities and values.

One situation in which I found it difficult to fulfill all my responsibilities was when my grandmother entered hospice care ...during exam week. I had personal responsibilities to my family surrounding the death of my grandmother, professional responsibilities in studying for exams and Step 1, and personal grief to complicate the process. (Transcript D#25)

Ongoing Relational Conflicts

Balancing relationships was reported to be difficult, such as when a student discussed that *"Prioritizing Step 1 meant that I had limited opportunities to spend time with my friends and visit my partner... I couldn't help but feel a sense of guilt for the burden I placed on him"* (Transcript D#11). Other students discussed the difficulty of wanting to continue fostering their relationships despite the responsibilities of being medical students.

I was recently on the phone with a good friend, and she said something along the lines of 'oh, I didn't want to trouble you with this, because I know you're so busy with medical school.' I immediately pushed back — I

do not believe that the demands of medical school are excuses to neglect relationships. (Transcript D#65).

2. 2 Balancing Multiple Competing Responsibilities

This subtheme, which is cited by 38% of students' responses (**see Table 1**), captures the cognitive and organizational challenge of managing multiple simultaneous legitimate obligations, including academic, extracurricular, research, clinical, and personal obligations, each with its own timeline, stakeholder expectations, and performance standards. The most frequently coded settings included **team dynamics, research collaborations, and commitment to patient care**, all of which created competing loyalties between academic obligations, family responsibilities, and professional duties. Furthermore, students articulated recognition strategies indicating that sustainable performance requires deliberate prioritization, flexibility, and the integration of personal well-being as a professional value to achieve a balance between competing priorities.

Being a medical student means not just studying the school's curriculum, but also studying separately for the standardized content in Step 1, conducting copious amounts of research... and also completing administrative tasks that sporadically appear on my Google calendar. (Transcript D#88)

[The] constant balance is demanding, but it must be upheld. If it isn't, then everything around it comes crashing down with devastating consequences... Schedules change, and demands fluctuate; I can take time from one area to support another temporarily, but not permanently. (Transcript D#50).

I settled on three key priorities: exercise, to sleep and learn well; sleep, to keep my mind in the right place for learning and collegiality at work; and learning with focus during clinic hours... I felt less stretched between different priorities when the ones at the base of my hierarchy of needs were most met. (Transcript D#84)

2.3. Stress, Burnout, and the Psychological Toll of Imbalance

Students noted the psychological, emotional, and physical consequences of sustained imbalance, including anxiety, emotional depletion, interpersonal irritability, diminished motivation, and burnout. One student echoed that, *"My struggles also spilled into my personal life and relationship with my friends in which I became more reserved and communicated less with friends and family. I found myself more short-tempered and impatient"* (Transcript D#59). A student involved in running a clinic as an extracurricular noted that *"At the time, I found myself sacrificing rest, study time, and even personal relationships simply to ensure that the clinic functioned as intended, which ultimately took a toll on my mental health and overall well-being"* (Transcript D#79).

DISCUSSION

The findings of this study illuminate the complex and multidimensional nature of conflicts that second-year medical students encounter at the intersection of personal values and professional responsibilities

during preclinical training. Across two interconnected domains ethical and clinical conflicts, and structural and relational conflicts students' reflective narratives reveal that preclinical medical education is not only an academic undertaking but a deeply personal, morally formative process that demands reflective capacity, ethical grounding, and personal resilience (2, 5).

Students' narratives consistently revealed value-laden tensions across the domains of reproductive health, end-of-life care, patient hesitancy, cultural sensitivity, and inclusivity, in which personal beliefs rooted in religious faith, family upbringing, and formative personal experiences directly intersected with professional duties to provide evidence-based, patient-centered care. These findings align with Monrouxe et al. (4), who documented that medical students' professional identity is actively negotiated through professionalism dilemmas that expose the tensions between personal moral commitments and professional obligations. Critically, students did not merely observe these conflicts; they experienced them as identity-defining moments, consistent with Sternszus et al.'s (5) reconceptualization of PIF as a process of *being, becoming, and belonging* in which authentic identity development requires the active reconciliation of personal and professional selves.

The role of personal value systems, particularly religious and spiritual beliefs, family values, and direct personal experiences with illness and loss, emerged as a powerful determinant of how students perceived and anticipated navigating clinical conflicts. This finding extends the empirical work of Farooq et al. (6), who identified personal attitudes and values as the most influential determinants of professional identity development in medical students. Importantly, students' narratives suggest that when these conflicts were explored through structured seminar discussions, peer dialogue, and written reflection, they became catalysts for ethical reasoning and identity consolidation rather than sources of unresolved moral distress (7). This finding underscores the critical importance of structured reflective practice as a pedagogical scaffold for PIF, as advocated by Cruess et al. (1). Conversely, when students lacked institutional support for navigating these conflicts, particularly around stigmatizing peer behaviors, reproductive health, and end-of-life decision-making, the risk of moral avoidance and the entrenchment of unexamined biases in clinical practice increased, consistent with findings by Band and Chokshi (19), who documented that preclinical ethics education frequently fails to prepare students for the moral complexity of real clinical encounters.

In the structural and relational domain, students described the profound and recurring challenge of simultaneously fulfilling family obligations, maintaining personal relationships, managing escalating academic and research demands, and preserving their psychological well-being. The consequences of chronic imbalance, including anxiety, emotional depletion, interpersonal withdrawal, academic decline, and burnout, are well documented in the literature (13, 14). Consistent with Neufeld-Kroszynski et al. (12), this study's findings suggest that when burnout, particularly reduced professional efficacy, accumulates in the context of unaddressed structural tensions, students' perceived capacity to act ethically and engage authentically with professional formation is substantially eroded. The moral distress arising from forced choices between personal obligations and professional demands represents a significant and underappreciated dimension of early PIF that the existing literature has not adequately

characterized as an integrated phenomenon (6, 11). More broadly, the ability to navigate structural conflicts may be supported by deliberate coping strategies, such as prioritization frameworks, intentional scheduling, and the integration of self-care. These strategies have been described as important components of self-regulation and may represent a dimension of professional identity that warrants explicit curricular attention (5, 14).

This study has several limitations. It was conducted at a single institution and included only second-year (M2) medical students, which may limit the generalizability of the findings. In addition, the findings are based on students' self-reported reflections and anticipated responses to ethical and professional conflicts rather than observed behaviors in clinical settings. Future longitudinal studies across multiple institutions are needed to examine how ethical reasoning and professional identity evolve throughout medical training.

Despite the identified limitations, these findings collectively provide empirical evidence from students' perspectives on critical components of PIF in undergraduate medical education and insight into how medical schools can help promote PIF. First, the results reinforce the need for curricula that treat values-based, reflective, and identity-oriented learning not as supplementary but as central to early medical training (11). Second, the finding that structured reflection enables students to engage productively with value-laden conflicts rather than avoid them supports the integration of longitudinal, mentored reflective practice as a core curricular component (7, 16). Third, the structural and relational conflicts documented here call on institutions to acknowledge the legitimate, competing demands of medical students' personal lives and to create supportive conditions for professional formation (13). Finally, consistent with Sternszus et al. (5), this study affirms that preclinical education must explicitly cultivate *belonging*, creating learning environments in which students feel safe to bring their whole selves, including their personal values, cultural identities, and relational obligations, into the process of becoming physicians.

In conclusion, PIF is a deeply personal, relational, and morally formative process. Conflicts arising at the intersection of personal values and professional responsibilities are critical drivers of PIF. To promote the development of PIF, medical schools can design curricula and institutional structures that explicitly scaffold these conflicts, develop students' skills in reflective practice, ethical reasoning, and self-regulation, and provide a supportive community where they feel they belong.

Declarations

Consent for publication:

Not Applicable

Declaration of Conflict-of-Interest Statement

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Author Contribution

EM contributed to the conceptualization, methodology, data curation, formal analysis, and writing the original draft, review, and editing of the manuscript. LR contributed to the analysis, drafting, and reviewing of the manuscript. LK contributed to formal analysis, data curation, and review and editing. XS contributed to methodology, investigation, and review and editing. KR contributed to the review and editing. AM contributed to the analysis, review, and editing. CE contributed to the analysis, review, and editing. KQ contributed to conceptualization, supervision, review, and editing. All authors reviewed and approved the final manuscript and agree to be accountable for all aspects of the work.

Acknowledgement

The authors thank the portfolio design team for developing the portfolio conflict reflection prompts and assessment rubrics, Kathy Dilliplane for coordinating and tracking portfolio completion, and the medical students whose thoughtful reflections on their personal and professional development made this study possible.

Data Availability:

No

Ethical Consideration: Not applicable

References

1. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. Reframing medical education to support professional identity formation. *Acad Med J Assoc Am Med Coll*. 2014;89(11):1446–51. 10.1097/ACM.0000000000000427 PubMed PMID: 25054423.
2. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A schematic representation of the professional identity formation and socialization of medical students and residents: a guide for medical educators. *Acad Med J Assoc Am Med Coll*. 2015;90(6):718–25. 10.1097/ACM.0000000000000700 PubMed PMID: 25785682.
3. Sarraf-Yazdi S, Goh S, Krishna L. Conceptualizing Professional Identity Formation in Medicine. *Acad Med J Assoc Am Med Coll*. 2024;99(3):343. 10.1097/ACM.0000000000005559 PubMed PMID: 38015999.
4. Monrouxe LV, Rees CE, Hu W. Differences in medical students' explicit discourses of professionalism: acting, representing, becoming [Internet]. 2011 [cited 2026 May 8]. Available from: <https://asmepublications.onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.2010.03878.x>

5. Sternszus R, Steinert Y, Razack S, Boudreau JD, Snell L, Cruess RL. Being, becoming, and belonging: reconceptualizing professional identity formation in medicine. *Front Med*. 2024;11. 10.3389/fmed.2024.1438082.
6. Farooq M, Hashim MJ, Alhosani S, Alalawi AM, Alalawi OM, Qandilo KA, et al. Professionalism and professional identity in medical students: a cross-sectional mixed-methods analysis of correlation and progression. *Front Med*. 2025;12. 10.3389/fmed.2025.1650073.
7. Avargil S, Saleh A, Kerem NC. Exploring aspects of medical students' professional identity through their reflective expressions. *BMC Med Educ*. 2025;25(1):1111. 10.1186/s12909-025-07611-y.
8. Findyartini A, Anggraeni D, Husin JM, Greviana N. Exploring medical students' professional identity formation through written reflections during the COVID-19 pandemic. *J Public Health Res*. 2020;9(Suppl 1):1918. 10.4081/jphr. 2020.1918 PubMed PMID: 33409249; PubMed Central PMCID: PMC7771024.
9. Brooks JV, Dickinson BL, Quesnelle KM, Bonaminio GA, Chalk-Wilayto J, Dahlman KB, et al. Professional Identity Formation of Basic Science Medical Educators: A Qualitative Study of Identity Supports and Threats. *Acad Med*. 2023;98(Supplement3):S14–23. 10.1097/ACM.0000000000005354.
10. Hafferty FW, Castellani B. The hidden curriculum: A theory of medical education. *Handbook of the Sociology of Medical Education*. Routledge; 2009.
11. Larrotta SP, Rincón EHH, Correa DN, Peñuela CLJ, Tapia AER. Effects of the Hidden Curriculum in Medical Education: Scoping Review. *JMIR Med Educ*. 2025;11(1):e68481. 10.2196/68481.
12. Neufeld-Kroszynski G, Michael K, Karnieli-Miller O. Associations between medical students' stress, academic burnout and moral courage efficacy. *BMC Psychol*. 2024;12(1):296. 10.1186/s40359-024-01787-6.
13. Bordbar S, Mousavi SM, Samadi S. The association between burnout and medical professionalism in medical trainees: a systematic review. *BMC Med Educ*. 2025;25(1):1176. 10.1186/s12909-025-07687-6 . PubMed PMID: 40830478; PubMed Central PMCID: PMC12363064.
14. Rivera-Morales N, Fernández-Lockwood CB, Ramos-Monserrate GM, Ramírez-Rivera E, Raimundí-Santos N, Méndez M et al. Medical students' coping strategies and burnout syndrome in preclinical and clinical years. *Acad Ment Health Well-Being [Internet]*. 2024 Jul 31 [cited 2026 Jul 21];1(2). Available from: <https://www.academia.edu/2997-9196/1/2/10.20935/MHealthWellB7291>
15. Adams J, Ari M, Cleaves M, Gong J. Reflective Writing as a Window on Medical Students' Professional Identity Development in a Longitudinal Integrated Clerkship. *Teach Learn Med*. 2020;32(2):117–25. 10.1080/10401334.2019.1687303 . PubMed PMID: 31729253.
16. Krishna LKR, Ravindran N, Kwok HYF, Tan XY, Soh J, Leong EYM, et al. The impact of mentoring relationships on professional identity formation in medical education: a systematic review. *BMC Med Educ*. 2025;25(1):576. 10.1186/s12909-025-07158-y.
17. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide 131. *Med Teach*. 2020;42(8):846–54. 2020.1755030 PubMed PMID: 32356468.

18. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101. 10.1191/1478088706qp063oa.

19. Band I, Chokshi K. Confronting the gap between classroom ideals and the reality of clinical culture. teaching what isn't taught—developing moral courage in the face of medicine's hidden curriculum. Voices Bioeth. 2025;11. <https://doi.org/10.52214/vib.v11i.13876>.

Tables

Table 1 *Themes and Representative Quotes*

Subtheme	Frequencies of responses	% of Responses	Exemplar Quotation
Ethical and clinical conflicts	N=64	100%	
Reproductive health/abortion care	10	16	<i>A general issue or topic for which I anticipate that differences in my personal views or values may impact patient care is abortion. This may arise on an OB/Gyn rotation in cases where an abortion procedure is performed or in any clinical scenario where a patient has had an abortion in the past. I recognize that views on this hotly debated topics are widely variable...The specific view that differs is that my personal values do not align with elective abortion. (Transcript P#61)</i>
Patient hesitancy, evidence-based medicine, and cultural sensitivity	5	8	<i>I feel like skepticism towards medicine and science are on the rise, and many patients may be skeptical about certain aspects of their care such as the importance of childhood vaccination, which I am an avid supporter of. This is a hot topic that many people disagree with ...including patients and their loved ones, who may have read conflicting information elsewhere that say vaccines may not be effective or even cause harm to those receiving them. (Transcript P#78)</i>
End-of-life care	13	20	<i>I anticipate that my personal views will differ from a patient's or their family's will be when I eventually have an end-of-life care discussion with a patient's family for a patient who is terminally ill and no longer has the capacity to make their own medical decisions. (Transcript P#1)</i>
Inclusivity in healthcare	3	5	<i>For me, better healthcare means giving patients space to feel heard by making sure I ask about pronouns at the beginning of each visit, while for some of my classmates that's not a priority. (Transcript P#23)</i>
Values influencing conflicts	N= 132	100%	
Religious and spiritual beliefs	8	6	<i>My religious beliefs have shaped my views on this topic [abortion] ... religion remains an integral part of my life and my identity. (Transcript P#61)</i>
Personal experiences	107	81	<i>My values around LGBTQ+ identity and inclusion have been shaped significantly by my own lived experience. Coming out was not initially easy, but I was eventually met with love and acceptance, which is something I do not take for granted. The comfort and warmth has influenced how I engage with others' identities; it's made me more open, compassionate, and committed to</i>

			<i>extending the same embrace I received. (Transcript P#44)</i>
Family values and upbringing	17	13	<i>My upbringing was crucial in shaping my views and values on vaccines. With both parents as healthcare providers, I developed an implicit trust in medical institutions from an early age. (Transcript P#65)</i>
Structural and relational conflicts	N= 68	100%	
Family obligations and academic demands	8	35	
Life event conflicts			<i>During my first year of medical school, one of the most difficult decisions I had to make was whether to attend my best friend's engagement celebration the weekend before exams. (Transcript D#40)</i>
Illness, death, and family crisis conflicts			<i>A situation where I had conflicting personal and professional responsibilities arose during my first week of medical school. My grandfather passed away of leukemia during that week, and his funeral was on a day where we had a required IQ session. In this case, I prioritized family obligations over my professional duties and attended the funeral. (Transcript D#67).</i>
Ongoing relational conflicts			<i>Balancing my relationship and the requirements of medical school has been one of my greatest challenges throughout the past two years...I often felt like I could not give 100% to both my responsibilities to my girlfriend and my academics [when studying for Step 1]. I ended up prioritizing my preparation for Step 1, but I also made intentional efforts to spend quality time with my girlfriend, even if it was limited. This choice was difficult and hard on me, I felt guilty for not being as present in my relationship. (Transcript D#15).</i>
Balancing multiple competing responsibilities	24	38	<i>There was a time recently where I found it difficult to manage several research projects on top of school commitments... with the coursework ramping up, I realized that I could not effectively be a good lead for that project. (Transcript D#20).</i>
Stress, burnout, and the psychological toll of imbalance	26	15	<i>As I grew accustomed to stress, I became more detached from school, and it shows in my recent test performance. There were days when I had no desire or motivation to do school. Writing my essays, memorizing the tsunami of anatomy, or merely studying outside of submitting my weekly</i>

Figures

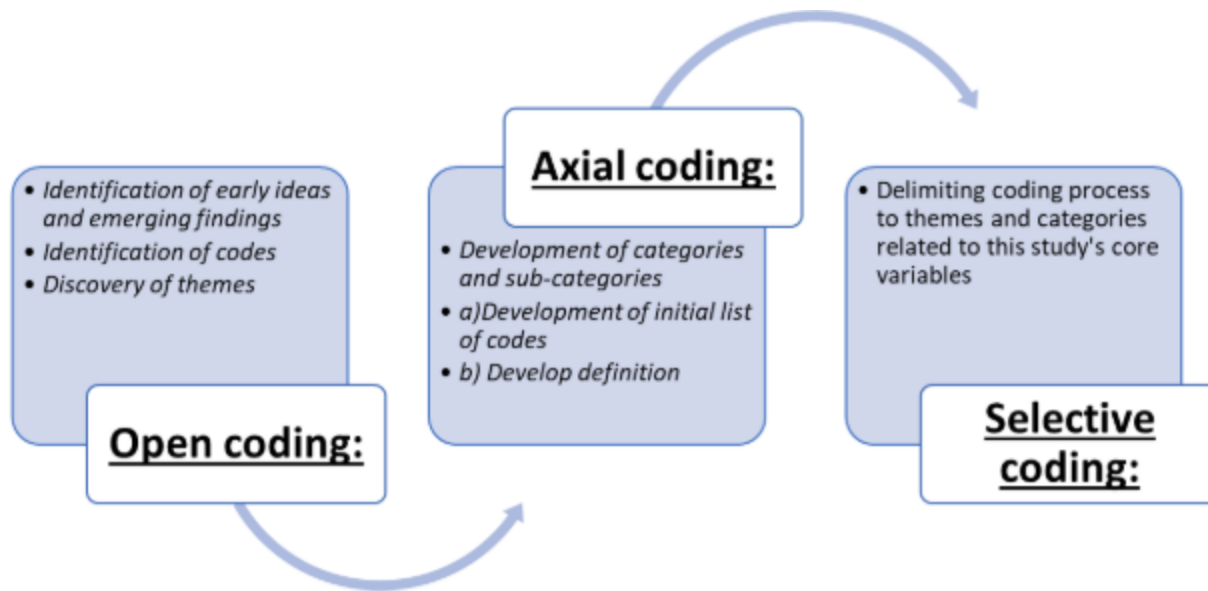


Figure 1

Data Analysis Process

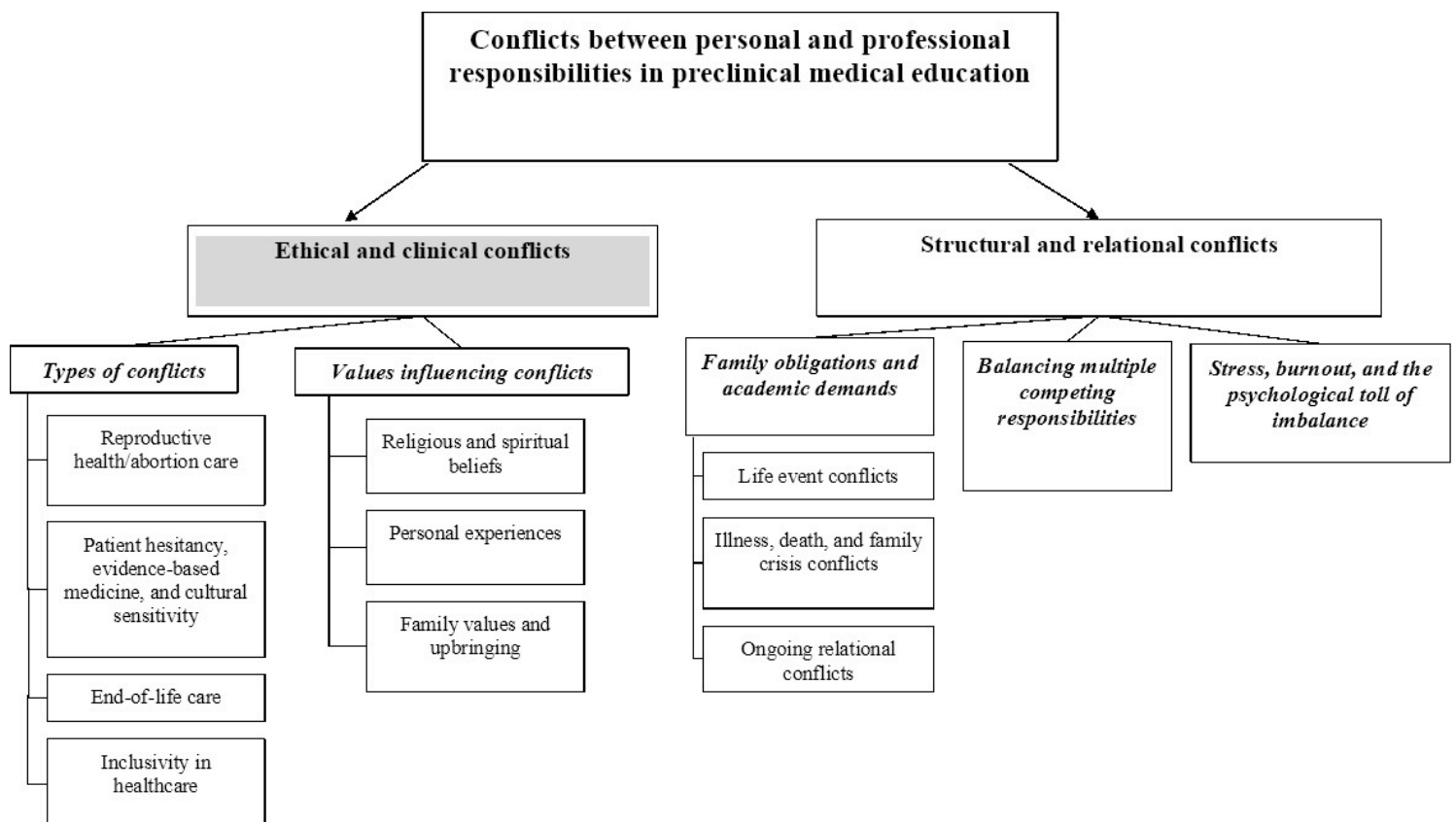


Figure 2

Schematic of the common themes and subthemes coded across preclinical medical student narrative essays