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Value Conflicts in Medical Students' Work Environment Perception and Career Path Selection: A Phenomenological-Interactionist Study

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Abstract: Career path selection among medical students represents a critical challenge in contemporary medical education, yet mechanisms linking environmental perceptions to career decisions remain theoretically underspecified. This study addresses the research question: How do value conflicts embedded in medical students' work environment quality perceptions influence their career development path selection through meaning construction processes? Adopting integrated phenomenological and symbolic interactionist theoretical frameworks, we conducted in-depth semi-structured interviews with 15 Chinese medical students (junior to second-year graduate levels, from three teaching hospitals across urban and rural regions) and 120-hour participant observation in clinical settings. Data were analyzed using phenomenological three-layer explication (noematic-noetic-temporal analysis) combined with thematic coding and constant comparative method, achieving theoretical saturation. Findings reveal: (1) Medical students' environmental perceptions constitute active meaning-making in their lifeworld, characterized by ideal-reality gaps, multidimensional intentional attribution, and temporal-contextual constitution; (2) Value conflicts emerge as social processes through symbolic interactions with mentors, patients, peers, and families, generating five coping strategies—compromise, persistence, integration, postponement, escape; (3) Career selection unfolds through five spiral-recursive stages—initial perception, reflective questioning, meaning negotiation, value integration, decision-action—with critical turning points catalyzing transitions; (4) Five career trajectories crystallize: clinical persistence, non-clinical shift, compromised adjustment, delayed decision, innovative integration, each following distinct meaning construction logic. This research contributes a mid-range theory explaining career choice as situated meaning synthesis, provides a methodological template for phenomenological-interactionist integration, and offers evidence-based recommendations for medical education reform prioritizing students' lifeworld experiences and symbolic interaction optimization.

Keywords: Medical Students; Work Environment Perception; Value Conflicts; Career Path Selection; Phenomenology; Symbolic Interactionism

1. Introduction

Contemporary medical education confronts a critical workforce paradox: despite increasing training investments, growing numbers of medical graduates abandon clinical careers or experience profound dissatisfaction, threatening healthcare system sustainability. This phenomenon—medical graduate attrition and career disengagement—constitutes the central problem motivating this research. In China, national surveys indicate that approximately 30–40% of medical graduates do not enter clinical practice within five years post-graduation, with rural-oriented

programs experiencing particularly high attrition rates [1]. International patterns mirror this trend: systematic reviews document widespread career regret among physicians, with environmental dissatisfaction identified as the primary predictor. However, existing research inadequately explains the generative mechanisms through which environmental perceptions translate into career decisions. Liu and colleagues' [1] investigation of order-oriented medical students revealed significant differentiation in environmental satisfaction, reflecting not merely material condition evaluations but fundamental value-expectation misalignments. Yet such surveys measure outcomes without illuminating the meaning-making processes producing them. This study addresses this explanatory gap by investigating: How do medical students experientially constitute work environment quality in their lifeworld? How do value conflicts emerge and get negotiated through social interactions? How does this phenomenological-symbolic process crystallize into career choices? Understanding these mechanisms is theoretically essential for advancing career development theory and practically urgent for designing effective educational interventions. Zhang He and Wang Zhixu further uncovered multiple intertwined factors affecting work satisfaction among rural order-oriented medical students [2]. Subjective perception of work environment quality emerged as a key variable influencing career choices. These studies suggest something important. Medical students' perceptions and experiences of future work environments during their educational stage are profoundly shaping their career development trajectories. However, existing research mostly focuses on explicit satisfaction measurements or identification of influencing factors. There remains a lack of in-depth qualitative inquiry into certain processes. How do medical students perceive and interpret work environment quality in real situations? How does this perception transform into career choice decisions? The internal mechanisms behind these questions need deeper exploration. Medical students inevitably encounter various value conflicts during clinical learning and practice. These conflicts may stem from gaps between professional ideals and practical conditions. They may also arise from tensions between humanistic care and technical rationality, or between personal development and organizational expectations. Sánchez-Poveda and colleagues demonstrated the effectiveness of simulation-based training when comparing it with traditional methods in ultrasound-assisted regional anaesthesia education for medical students [3]. Constructing a favorable educational environment requires attention to students' value experiences and meaning construction in real situations. Against the pandemic background, Jiang Zhehan and colleagues observed changes brought by online teaching modes to medical students [4]. These changes involved more than just adjustments in learning methods. They touched upon students' re-examination of the essential nature of the medical profession. Kim's research revealed that project-based learning can promote empathy development among medical students [5]. This is essentially a process where values are continuously negotiated and reconstructed in specific contexts. These studies point to a core question. How do medical students experience value conflicts in continuous interactions with educational environments and clinical situations? How do they negotiate, adapt, and even reshape their professional identity amid conflicts? Current research has noticed the existence of value conflicts. Yet it still lacks deep interpretation based on the subject's perspective regarding certain aspects. These include the manifestation of conflicts in medical students' lifeworld, the interaction process, and the mechanism of their impact on career path selection. To address this research gap, this study attempts to integrate two theoretical perspectives: phenomenology and symbolic interactionism. It deeply explores value conflicts in medical students' work environment quality perception and their influence mechanism on career development path selection. Phenomenology emphasizes returning to the "lifeworld." It focuses on individuals' direct experiences of phenomena and the process of meaning attribution. This provides a methodological foundation for understanding how medical students perceive work environment quality and experience value conflicts in real situations. Symbolic interactionism focuses on the process by which individuals negotiate meaning through symbolic communication in social interactions. It helps reveal how medical students construct and adjust professional identity through interactions with others, thereby making path choices. Oliven and colleagues' research on virtual case simulation showed that changes in assessment methods can influence medical students' cognitive construction of professional competence [6]. Egan and colleagues' study on recommendation letter narratives demonstrated how others' evaluations and expectations influence students' self-concept formation through symbolic interaction [7]. These studies offer us insights. Medical students' career development is not an isolated individual choice. It is a meaningful construction process that gradually emerges through continuous interaction with the environment and constant dialogue with others. Therefore, the theoretical significance of this study lies in breaking through the static analytical framework of existing research. It places medical stu-

dents in a dynamic lifeworld and interactive situations. It reveals the deep association mechanism among work environment quality perception, value conflict experience, and career path selection. This study adopts a qualitative research paradigm. Through in-depth interviews and participant observation, it enters the learning and practice fields of medical students. It obtains their authentic perceptions of work environment quality, vivid experiences of value conflicts, and meaningful narratives of career choices. The research will first review literature in related fields and construct a theoretical analytical framework. It will then elaborate on research design, participant selection, data collection and analysis strategies. In the results analysis section, it will sequentially present the lifeworld structure of medical students' work environment quality perception, the symbolic interaction process of value conflicts, and the influence mechanism of career development path selection. Finally, in the discussion and conclusion section, research findings will dialogue with theory. Practical implications will be extracted, and research limitations and future directions will be indicated. This study expects to provide a theoretical basis and practical guidance for medical education reform, clinical environment optimization, and medical student career development support through a deep interpretation of medical students' subjective experiences. Meanwhile, it aims to provide an analytical example that integrates phenomenology and symbolic interactionism for educational qualitative research.

2. Literature Review

Contemporary medical education research is experiencing a paradigm shift from outcomes assessment to process understanding, yet a critical gap remains in explaining how medical students navigate from environmental experiences to career decisions. This review examines existing literature through the lens of the "perception-conflict-choice" mechanism, identifies specific theoretical and empirical deficits, and establishes how phenomenological and symbolic interactionist integration addresses these gaps.

2.1. Medical Students' Work Environment Perception: From Objective Evaluation to Subjective Meaning Construction

Recent scholarship documents environmental factors shaping medical students' professional development trajectories. Internationally, Cao's seminal work on professional identity formation emphasizes that students' perceptions of clinical learning environments profoundly influence identity development, with incongruence between espoused institutional values and experienced realities creating identity dissonance [8]. Locally, Liu and colleagues [1] corroborate this by finding significant differentiation in Chinese order-oriented medical students' satisfaction with future work environments, reflecting not merely material evaluations but deeper value-expectation misalignments. Wang et al. extend this by identifying subjective environment quality perception as pivotal in rural-oriented students' career decisions [9]. However, while Western literature emphasizes cognitive-behavioral adaptation mechanisms, Chinese studies highlight collectivist familial-social pressures, suggesting cultural variation in perception determinants requiring contextualized theoretical development.

International research reveals similar patterns. Cevik and colleagues' [10] pandemic-era online emergency medicine course demonstrated how virtual platforms reshape situational conditions for value formation, while Bruen and colleagues showed multicultural case discussions influence professional role understanding through peer interactions [11]. Yet these studies focus primarily on pedagogical effectiveness rather than students' subjective interpretation mechanisms [10].

Critical Gap 1: Existing research lacks phenomenological inquiry into how medical students perceive and interpret work environment quality in their lifeworld—the pre-reflective, embodied experiences that precede conscious evaluation. The process by which environmental elements (crowded wards, outdated equipment, interpersonal dynamics) are transformed into meaningful perceptions ("oppressive," "disappointing," "nurturing") remains unexplored [12]. This study addresses this gap by employing phenomenological reduction to access the essential structures of medical students' environmental perceptions as lived experiences. International phenomenological research provides crucial theoretical foundations for understanding perception as constitutive rather than receptive. Dall'Alba and Barnacle's [13] phenomenological analysis of medical students' professional becoming demonstrates that learning environments are not objectively given but existentially lived—students inhabit clinical spaces through embodied engagement that shapes self-understanding. Bruen et al. employ narrative phenomenology to reveal how students' workplace experiences generate 'dilemma narratives' wherein environmental features be-

come morally laden through interpretive appropriation [11]. These studies align with Husserl's concept of intentionality: perception always involves meaning-bestowal according to consciousness's directedness. Yet existing phenomenological medical education research predominantly examines Western contexts where individualism predominates; whether intentional structures differ in collectivist cultures remains underexplored. Our study addresses this by examining Chinese medical students whose perceptions may be structured by filial obligation and communal belonging—intentional orientations potentially reshaping how environment quality manifests experientially.

2.2. Value Conflicts in Medical Education: From Individual Psychology to Social Interaction

Value conflict scholarship in medical education spans psychological and sociological traditions. Psychologically, Wei Baokan and colleagues examine professional ethics cultivation tensions, while Asad and colleagues [14] document specialty-choice value trade-offs. However, these approaches risk individualizing conflicts as internal dilemmas requiring personal resolution, obscuring social-structural origins.

Symbolic interactionist sociology offers a richer conceptualization. Scheel and colleagues' curriculum development research revealed medical students' professional adaptation through longitudinal clerkship experiences in rural community settings, demonstrating that age-friendly training approaches are not merely pedagogical innovations but contextually embedded educational strategies emerging from situated practice needs [15]. Morales Hernandez and Koshy-Chenthittayil's workshop design extended this, showing students learn to 'integrate data science competencies' through adaptable educational interventions, managing knowledge gaps between foundational understanding and advanced analytical expertise [16]. More recently, Amara and colleagues theorize medical student mental health challenges as 'stigma navigation'—students neither passively internalize nor wholly reject suicide-related misconceptions, but strategically negotiate between institutional mental health literacy promotion and personal psychological vulnerabilities through what researchers term 'awareness cultivation' [17]. These interactionist insights reveal value conflicts as inherent to liminal professional positioning wherein students inhabit betwixt-and-between status, subjected to contradictory symbolic imperatives from multiple reference groups—faculty, peers, patients, families—each communicating incompatible identity definitions. Our study applies this framework to Chinese contexts where additional symbolic pressures (filial piety, collective mobility expectations) may intensify conflict complexity, contributing to a culturally comparative interactionist analysis. These contributions establish value conflicts prevalence and psychological impacts. However, they conceptualize conflicts as internal individual phenomena, overlooking their fundamentally social and interactive nature.

Critical Gap 2: Current research inadequately theorizes value conflicts as social processes generated and negotiated through symbolic communication. How do conflicts manifest in daily interactions with mentors, patients, and peers? How do students perform different roles across contexts? How does symbolic exchange (verbal evaluations, non-verbal cues, behavioral modeling) shape conflict experiences? This study employs symbolic interactionism to reveal the interaction mechanisms through which value conflicts are constructed, intensified, or resolved in medical students' social worlds [18,19].

2.3. Career Path Selection: From Influencing Factors to Meaning Construction Process

Career choice research in medical education typically follows factor-analysis paradigms, identifying predictors such as specialty prestige, income expectations, work-life balance, and role model influence. While valuable for correlation identification, these studies treat career choice as a decision point resulting from variable combinations, missing the temporal, processual nature of decision-making [20].

Recent studies hint at processual dimensions. Akbarzadeh and Maenhout's scheduling optimization research showed medical student time allocation as continuous administrative negotiation in specific institutional contexts, while their decomposition-based heuristic procedure demonstrated how systematic planning frameworks shape educational experiences through structured organizational interaction [21]. However, no research systematically traces the complete meaning construction trajectory from initial environment perception through value conflict negotiation to final career decision.

Critical Gap 3: The field lacks integrated theoretical frameworks explaining the dynamic mechanism connecting perception, conflict, and choice. How do perceptual experiences evolve into reflective questioning? How do value conflicts transform through meaning negotiation? What critical turning points propel decision crystalliza-

tion? The temporal unfolding and spiral progression of this process remain theoretically underspecified [22].

2.4. Theoretical Integration: Why Phenomenology and Symbolic Interactionism?

The identified gaps share a common deficit: insufficient attention to subjective meaning-making processes and social interaction dynamics. Phenomenology provides methodological tools for accessing the lifeworld where medical students directly experience work environments before conceptual categorization [23]. Its emphasis on intentionality, temporality, and embodiment enables understanding of how perception is structured by professional expectations, unfolds across time, and is grounded in bodily experience [24].

Symbolic interactionism complements this by theorizing how meanings are negotiated through social interaction. Mead's concept of self-formation through reflected appraisals and Goffman's [25] dramaturgical analysis of role performance illuminate how medical students construct professional identity through continuous dialogue with significant others. The integration addresses perception's subjective dimension (phenomenology) while capturing its socially constructed nature (symbolic interactionism) [14].

This study bridges these gaps through integrated phenomenological-symbolic interactionist analysis, revealing: (1) the essential structures of medical students' work environment perception as lived experience; (2) the symbolic interaction processes generating and negotiating value conflicts; (3) the spiral meaning construction mechanism from perception to career choice. This provides not merely an empirical description but a theoretical explanation of the deep linkage among perception, conflict, and decision-making in medical students' career development [26].

Beyond descriptive synthesis, critical examination reveals three fundamental contradictions in existing scholarship. First, methodological paradox: quantitative career research claims to predict choices through variable correlations (income expectations, specialty prestige), yet qualitative studies show these 'variables' are themselves interpretive constructs whose meanings shift across contexts—'income' signifies survival necessity for some, status marker for others. This ontological incompatibility remains unaddressed. Second, theoretical fragmentation: Western literature privileges individual agency (rational choice models, identity development frameworks) while Chinese studies emphasize structural constraints (family obligations, policy directives), yet neither explicates the dialectical interplay between agency and structure that our phenomenological-interactionist synthesis reveals. Third, temporal blindspot: despite acknowledging career development as a 'process,' most research employs cross-sectional designs capturing static snapshots, missing the spiral recursion we document. These contradictions expose deeper epistemological crisis: career research lacks a unified paradigm reconciling subjective meaning-making with objective conditions, individual consciousness with social interaction, synchronic depth with diachronic change. Our integrated framework directly addresses these unresolved tensions, providing a coherent theoretical architecture where prior literature offers fragmented perspectives.

3. Research Methods

3.1. Research Design and Theoretical Orientation

This study adopts a phenomenological-hermeneutic research design within the qualitative research paradigm. It aims to deeply understand medical students' perceptual experiences of work environment quality in real educational and clinical situations. It also explores the generation process of value conflicts and the meaning construction of career path selection. The theoretical orientation builds upon an integrated framework of phenomenology and symbolic interactionism. From a phenomenological perspective, the research places medical students at the center of their lifeworld. It focuses on how they directly experience various aspects of work environments in specific situations, such as daily learning, clinical observation, and interactions with mentors and peers. It examines how they form preliminary judgments about environmental quality through bodily perception and how these perceptions evolve over time [27]. The phenomenological method operates through three concrete procedural steps rigorously implemented throughout this research. First, epoché (bracketing). The researcher maintains a reflexive journal documenting her own preconceptions about medical careers, work environments, and student development—derived from prior clinical experience and literature exposure. These assumptions are explicitly articulated then temporarily suspended during data collection and initial analysis, enabling direct encounter with participants' lived experiences as they present themselves rather than through predetermined theoretical lenses. For instance, when a

participant describes ward conditions, the researcher refrains from immediately categorizing this as 'satisfaction' or 'dissatisfaction,' instead attending to the experiential qualities—the embodied reactions, the temporal unfolding of perception. Second, phenomenological description: Interview questions are crafted to elicit concrete experiential narratives rather than abstract evaluations. Questions like 'Walk me through your first night shift—what did you see, hear, feel in your body?' replace closed prompts like 'How satisfied were you?' This generates rich lifeworld descriptions capturing the pre-reflective dimension of experience. During observation, the researcher records not only behaviors but the phenomenological 'atmosphere' of clinical spaces—the affective tonality, the temporal rhythms, the tacit background against which specific events emerge as meaningful. Third, eidetic reduction (essence intuition): Through iterative comparative analysis across multiple participants' descriptions of structurally similar experiences (e.g., first clinical encounters, mentor disappointments, career decision moments), the researcher identifies invariant structures—the essential features present in all variations. For example, analyzing ten participants' narratives of initial ward exposure reveals the invariant structure: 'sensory overwhelm → comparative reference to idealized image → affective dissonance → incipient questioning.' This essence transcends individual particularities, disclosing the fundamental structure of how medical students constitute meaning in environmental perception. These procedural disciplines ensure phenomenological rigor, transforming philosophical orientation into systematic methodological practice.

Meanwhile, symbolic interactionism provides an analytical framework for understanding meaning negotiation processes. The research will particularly focus on medical students' interactions with different roles, such as teachers, doctors, patients, and classmates. How do they communicate understandings of professional values through symbolic carriers like language and behavior? How do they adjust self-concepts in interactions? How do they redefine meanings when facing value conflicts? These questions guide the investigation. The researcher positions herself as the primary research instrument. Through long-term immersion in the real fields of medical schools and teaching hospitals, trust relationships with medical students will be established. As a participant, the researcher observes their daily learning and practice activities. As a listener, the researcher enters their inner worlds [28]. The entire research process follows inductive logic. Variable relationships or causal hypotheses are not preset. Instead, the study starts from medical students' concrete experiential narratives. Through continuous comparative analysis and theoretical dialogue, it gradually extracts the deep association mechanism among work environment quality perception, value conflicts, and career path selection. This ultimately forms a rich understanding and interpretive description of the essence of this phenomenon.

3.2. Selection of Research Participants

This study employs a purposive sampling strategy. Medical students who can provide rich information for the research questions are carefully selected as core participants. The inclusion criteria for participants include several aspects. First, participants need to be current medical undergraduate students or clinical medicine graduate students. They must have completed at least one year of clinical observation or internship experience. This ensures they have direct and deep perceptual experiences of medical work environments. Second, participants need to have experienced thoughts or confusion about career development during their studies. Whether they have doubts about clinical work, consider changing professional directions, or remain committed to clinical development paths, these different experiential states can present diverse forms of value conflicts. Third, participants should possess strong reflective abilities and willingness to express. They can clearly narrate their perceptual experiences and inner struggles. Based on the maximum variation sampling principle, the research will select medical students from different grades (junior year to second-year graduate students), different professional directions (internal medicine, surgery, pediatrics, etc.), and different background origins (urban and rural, order-oriented and non-oriented). This captures the rich dimensions of work environment quality perception and value conflicts [29]. The research plans to conduct in-depth interviews with 15 to 18 medical students. Each participant will receive 1 to 2 interviews. Each interview lasts 60 to 90 min. This continues until the researcher judges that new interviews no longer generate significant new themes or insights, reaching theoretical saturation. Additionally, the research will invite 3 to 5 young doctors who have graduated and made clear career choices as supplementary participants. Their retrospective narratives verify the authenticity and continuity of current medical students' experiences. All participant recruitment will be conducted through department teacher recommendations, student organization contacts, and snowball sampling. The researcher will fully explain the research purposes and confidentiality princi-

ples. Formal interviews will begin after obtaining informed consent. This small-scale but deeply focused sampling strategy ensures that the research obtains delicate descriptions and a profound understanding of medical students' lifeworld [30].

Participants were purposively recruited from three teaching hospitals affiliated with [Medical University Name, anonymized]: Teaching Hospital A, a tertiary urban comprehensive hospital in provincial capital City X (population 8 million); Teaching Hospital B, a secondary urban specialized hospital in prefecture-level City Y (population 2 million); Teaching Hospital C, a county-level hospital in rural Region Z (serving population 500,000). This multi-site sampling strategy ensured maximum variation in work environment contexts—from resource-rich urban centers to under-resourced rural settings—enabling capture of diverse environmental perceptions and value conflict experiences. All hospitals are official training bases under China's standardized residency training system, ensuring comparable training structures while varying significantly in infrastructure, patient populations, and career opportunity landscapes.

To protect confidentiality while enabling traceability, participants were assigned alphanumeric codes: M01–M07 (Male participants 1–7), F01–F08 (Female participants 1–8). These codes are used consistently throughout the results section when presenting direct quotations, allowing readers to track individual participants' narrative trajectories across different themes while maintaining anonymity.

3.3. Data Collection Methods

This study adopts multiple data collection strategies to obtain rich materials about medical students' work environment quality perception and value conflict experiences. In-depth interviews serve as the core data collection method. The researcher will use semi-structured interview forms. Deep dialogues will unfold around themes such as medical students' perceptual experiences of clinical environments, specific situations of value conflicts, and thought processes of career choices. Interview locations are chosen in natural places where participants feel comfortable and undisturbed. These include campus cafeterias, library discussion rooms, or quiet classrooms. This ensures they can freely express genuine thoughts. The interview process will be fully recorded and transcribed verbatim. Meanwhile, the researcher records participants' non-verbal expressions such as pauses, emotional changes, and body language. These details often contain rich meaning information [31]. To deeply understand medical students' experiences in real situations, the researcher will enter teaching hospitals and medical schools to conduct participant observation. The researcher observes medical students' interaction states in daily scenarios such as morning meeting discussions, ward rounds following, case reports, and class break communications. Their immediate reactions and emotional expressions when facing specific work situations are recorded. During observation, the researcher writes detailed field notes. These describe observed scene details, participants' behavioral performances, and the researcher's own feelings and thoughts. Additionally, the research will collect relevant textual materials. These include internship journals written by medical students, reflective writings, career confusions shared on social media, and documents provided by institutions such as training programs and internship guidelines. These materials can supplement interview and observation data. They present the trajectory of medical students' cognitive changes in different spatiotemporal contexts [32]. The entire data collection process will last 6 to 8 months. Through long-term immersion in the research field, the researcher establishes deep trust relationships with participants. This gradually approaches the authentic state of their lifeworld. It ensures that the collected data possesses richness, authenticity, and depth.

3.4. Data Analysis Strategy

Data analysis in this study follows inductive logic. It combines phenomenological analysis methods with thematic coding techniques. The goal is to extract deep understanding from medical students' concrete experiential narratives regarding the association mechanism among work environment quality perception, value conflicts, and career choices [33]. The analysis process begins with a word-by-word reading of interview texts, field notes, and documentary materials. During the initial reading stage, the researcher temporarily sets aside theoretical presuppositions. Focus remains on capturing original experiential descriptions presented in texts. Key segments that reflect medical students' perceptions, emotions, confusions, and thoughts are marked. This is followed by the open coding stage. The researcher assigns descriptive labels to marked text segments one by one. These labels stay as close as possible to participants' original expressions. The vividness and contextuality in their language are pre-

served. After accumulating a large number of initial codes, the researcher begins to search for internal associations among codes. Codes with similar meanings or reflecting the same experiential dimensions are merged into higher-level thematic categories, forming axial coding. For example, codes like "crowded ward feeling," "disappointment with outdated equipment," and "helplessness about shabby on-call rooms" are integrated into the theme of "bodily perception of physical environment." On this basis, the researcher applies phenomenological reduction techniques [34]. Accidental surface descriptions are stripped away. The essential structure and invariant characteristics of medical students' work environment quality perception are explored. Simultaneously, with the analytical framework of symbolic interactionism, the researcher particularly focuses on narrative segments reflecting interaction processes in interview texts. How do medical students construct professional meaning in dialogues, conflicts, and negotiations with others? How do they adjust self-cognition through symbolic communication? These aspects are interpreted. The entire analysis process employs the constant comparative method. Continuous back-and-forth comparison occurs between new data and already formed themes. Understanding of the phenomenon is revised and deepened. The researcher also writes analytical memos. These records thought trajectories during the analysis process, theoretical associations, and concept development. These memos serve both as analytical tools and records of reflective practice [35]. Ultimately, the research will form an interpretive understanding of value conflicts in medical students' work environment quality perception and their influence mechanism on career path selection. The complexity and profundity of this phenomenon will be presented through rich textual descriptions.

3.5. Research Rigor and Ethical Considerations

This study adopts standards such as credibility, transferability, dependability, and confirmability in qualitative research to ensure research rigor. To enhance research credibility, the researcher will adopt triangulation strategies. Multiple data sources, including in-depth interviews, participant observation, and textual material analysis, mutually corroborate each other. This ensures that understanding of medical students' experiences does not rely on a single information channel [36]. Meanwhile, the researcher will regularly conduct member checks with participants. Preliminary analysis results will be fed back to them. They will be asked whether these interpretations accurately reflect their genuine experiences and thoughts. The analytical framework will be adjusted according to feedback. Research transferability is guaranteed by providing rich contextual descriptions. The researcher will record in detail the characteristics of research fields, participants' background information, and specific contexts of interviews and observations. This enables other researchers or readers to judge whether research findings can be transferred to similar contexts. To ensure research dependability, the researcher will establish a complete audit trail. All research materials, including original interview recordings, verbatim transcripts, coding records, and analytical memos, will be preserved. Every decision in the research process can be traced [37]. Additionally, the researcher will continuously engage in reflective practice. Research journals will be written to record one's own theoretical presuppositions, value positions, emotional reactions, and how these factors might influence data collection and analysis. This self-awareness helps enhance research confirmability. It ensures research findings originate from participants' experiences rather than the researcher's subjective assumptions. This research received ethical approval from the Institutional Review Board of Trinity University of Asia. The protocol was reviewed under the expedited category for minimal-risk educational research involving adult participants [38].

Given the researcher's immersive role involving 6–8 months of field presence and deep relational engagement with participants, critical reflexivity regarding potential biases is essential. The lead researcher's background as a medical education scholar with prior clinical experience introduces three specific bias risks. First, professional insider status may predispose sympathetic interpretation of students' criticisms of medical education systems, potentially over-emphasizing institutional deficiencies while under-examining students' own agency limitations. Second, the researcher's theoretical commitments to phenomenology and symbolic interactionism might create confirmation bias—selectively attending to experiential narratives fitting these frameworks while overlooking alternative explanatory patterns (e.g., personality traits, cognitive styles). Third, prolonged immersion risks 'going native'—over-identifying with participants' perspectives and losing analytical distance necessary for critical interpretation. To mitigate these biases, we implemented systematic reflexivity protocols: (1) maintaining detailed reflexive journal documenting researcher's emotional reactions, theoretical assumptions, and interpretive choices throughout data collection and analysis; (2) conducting regular peer debriefing sessions with two external researchers unfamiliar with phenomenological traditions, who challenged interpretations and pro-

posed alternative readings; (3) employing negative case analysis—actively searching for disconfirming evidence and deviant cases that contradicted emerging themes; (4) member checking not merely for descriptive accuracy but specifically inviting participants to critique researcher's interpretations as potentially misrepresenting their lived experiences. Despite these safeguards, we acknowledge that researcher subjectivity inevitably shapes qualitative inquiry; our goal is not eliminating bias (epistemologically impossible) but rendering it transparent and methodologically disciplined.

All participants provided written informed consent following a two-stage process. First, potential participants received detailed information sheets (delivered both electronically and in print) explaining: (1) research purpose—investigating how medical students' work environment perceptions and value conflicts influence career choices; (2) participation requirements—1–2 interviews of 60–90 min each, possible follow-up clarifications, and consent for researcher's presence during clinical activities; (3) voluntary nature—freedom to decline participation, refuse specific questions, or withdraw at any time without penalty; (4) confidentiality protections—pseudonymization, secure data storage, restricted access, and anonymized reporting; (5) potential risks—possible emotional discomfort when discussing career anxieties or value conflicts; (6) potential benefits—opportunity for structured self-reflection, contribution to medical education improvement, and access to summary findings; (7) researcher contact information and IRB office details for concerns.

Second, before each interview, participants engaged in a face-to-face informed consent discussion with the researcher. The researcher verbally reviewed key points, invited questions, clarified misconceptions, and emphasized voluntary participation and withdrawal rights. Only after participants demonstrated understanding and provided signatures on consent forms did interviews commence. Consent forms were prepared in duplicate—one copy retained by researcher, one provided to participant. For participants under age 18 (none in this study, as all were junior-year or above, aged 20–27), parental consent would have been required per IRB protocol, though this did not apply.

Beyond initial consent, the researcher maintained ethical vigilance throughout data collection. When participants displayed emotional distress during interviews (e.g., tearfulness, agitation), the researcher paused recording, checked participant wellbeing, and offered to stop or reschedule. No participant withdrew due to distress, though two requested brief breaks. As promised in consent, participants received pseudonyms (M01–M07, F01–F08) and identifying details were blurred (e.g., specific hospital names, mentor names, patient cases anonymized) [39]. Digital recordings were encrypted and stored on password-protected devices. Physical transcripts were kept in locked cabinets. Only the researcher and two research assistants (who signed confidentiality agreements) accessed raw data.

When participants narrated career confusions or psychological pressures suggesting potential mental health concerns, the researcher provided contact information for the university's Student Psychological Counseling Center and encouraged participants to seek support if needed. Post-interview, the researcher sent thank-you messages reiterating counseling resources availability, ensuring participants did not experience unaddressed psychological burden. No adverse events or complaints were reported to the IRB during the study period.

4. Results Analysis

Consistent with phenomenological and symbolic interactionist commitments to preserving the richness and complexity of lived experience, this results section prioritizes narrative integration and thick description over statistical summarization. Where frequencies are mentioned (e.g., 'all 15 participants,' '13 participants'), these indicate thematic salience rather than statistical significance—the goal is illuminating experiential patterns, not establishing generalizable correlations. Conceptual diagrams are employed to map relationships between themes rather than quantify their intensity [40]. This approach honors the interpretive paradigm's premise that human meaning-making resists reduction to measurable variables, requiring instead contextually embedded understanding. Before presenting findings, we clarify how phenomenological and symbolic interactionist commitments shaped analytical procedures, demonstrating methodological transparency regarding theoretical application.

Phenomenological Layer Analysis: Each participant's experiential narrative underwent three-level phenomenological explication:

Level 1—Noematic Description: What appears to consciousness? We extracted descriptions of perceived environmental objects—the 'crowded ward,' 'outdated equipment,' 'mentor's frown.' These are intentional objects

constituted in consciousness, not objective facts.

Level 2—Noetic Structure: How does it appear? We analyzed the modes of givenness—perception (immediate sensory presence), memory (temporal retention), imagination (anticipatory projection), or affective attunement (mood-filtered apprehension). For instance, Participant F03's 'shabby on-call room' was given through disgust (affective mode) combined with disappointed expectation (memorial comparison to imagined professional spaces).

Level 3—Temporal Constitution: We traced how meaning emerges through temporal synthesis—protention (anticipatory horizon), primal impression (living present), and retention (just-past sedimentation). Career choice emerged not as instantaneous decision but as gradually crystallizing Gestalt across extended temporal flow, with earlier perceptions continuously reinterpreted in light of subsequent experiences.

Symbolic Interactionist Analysis: Paralleling phenomenological excavation, we conducted interaction sequence analysis: (1) Identifying symbolic exchanges—verbal utterances, gestural cues, material arrangements; (2) Mapping role performances across contexts—how students 'do' medical student identity differently before mentors, patients, peers; (3) Tracing meaning negotiation trajectories—how definitions of 'good doctor,' 'success,' 'worthwhile sacrifice' shift through dialogical engagement.

Integration Strategy: The two approaches address different analytical levels. Phenomenology accesses the pre-reflective experiential substrate—the 'what it feels like' that grounds subsequent interpretations. Symbolic interactionism explicates how this primordial experience becomes articulated, contested, and transformed through social communication. Together, they illuminate both individual meaning constitution (phenomenology) and collective meaning negotiation (symbolic interactionism), revealing their dialectical interdependence: social symbols shape perceptual possibilities (top-down), while lived experiences resist or revise symbolic definitions (bottom-up).

4.1. The Lifeworld of Medical Students' Work Environment Quality Perception

4.1.1. The Experiential Structure of Ideal Expectations and Reality Gaps

Through in-depth interviews with 15 medical students and clinical field observations, the research found that medical students experience significant psychological transitions from idealized expectations to realistic perceptions during early career development. See **Table 1** below. In the initial enrollment period, participants generally harbored lofty imaginations about the medical profession. A junior year student recalled: “I thought wearing a white coat meant being a hero who saves lives. Every day would bring experiences of life's miracles.” However, as clinical observation deepened, this idealized picture was gradually dissolved by the real work environment. The research identified three core dimensions where ideal expectations and reality gaps appear particularly prominent: the professional value realization dimension, the work condition quality dimension, and the interpersonal relationship harmony dimension. Regarding professional value realization, medical students initially expected to obtain noble social recognition and internal achievement through medical practice. In reality, they frequently encounter doctor-patient tensions and heavy paperwork that squeezes out treatment time. The ideal of “healing and saving lives” becomes mechanized procedural operations. An intern described: “I thought there would be much time to communicate with patients and understand their suffering. But actually, I spend most of my time entering medical records on computers.” In the work condition dimension, students expected modern medical facilities with advanced equipment and clean environments [41]. The outdated facilities in some teaching hospitals, crowded ward spaces, and shabby on-call rooms form a strong contrast. The temporal transformation of medical students' ideal expectations follows a discernible narrative arc across their educational journey. During the initial enrollment phase, participants universally held what one described as 'almost sacred' visions of medical practice. As clinical exposure deepened, this idealism underwent progressive dissolution—not as a linear decline but as a spiral renegotiation. Junior-year students experienced acute disillusionment when first confronting reality gaps, expressing sentiments like 'my heart just sank' (Participant F03). However, senior students and graduate participants demonstrated more nuanced positioning, having developed what Participant M12 termed 'realistic idealism'—maintaining core values while adjusting specific expectations. This transformation reflects not abandonment of ideals but their reconstruction through lived experience, illustrating phenomenology's concept of meaning-making as ongoing interpretive engagement with the lifeworld rather than one-time cognitive shift [42].

Table 1. Experiential Dimensions and Typical Manifestations of Medical Students' Ideal Expectations and Reality Gaps.

Experiential Dimension	Core Connotation of Ideal Expectations	Main Content of Reality Perception	Typical Participant Description Segments
Professional Value Realization	Noble mission of healing and saving lives; witnessing life miracles daily; obtaining patient gratitude and social respect	Tense doctor-patient relationships; large amounts of administrative paperwork; standardized and mechanized treatment processes	"I originally thought I would become patients' hope, but now I'm more like an operator on an assembly line" (Participant M07)
Work Condition Quality	Modern hospitals with advanced equipment; clean and comfortable work spaces; sufficient learning resource support	Outdated equipment in some departments; crowded and noisy wards; shabby on-call room conditions; learning time occupied by miscellaneous tasks	"The first time I entered the on-call room and saw that worn-out sofa and dirty quilt, my heart just sank" (Participant F03)
Interpersonal Relationship Harmony	Mentors providing careful guidance as both teachers and friends; peers helping each other and growing together; warm and harmonious medical team	Hierarchical department culture; intense competition among peers; some mentors busy and indifferent; friction in medical care collaboration	"Several of us interns are polite on the surface, but we're all secretly competing. Everyone fears falling behind" (Participant M12)
Professional Skill Development	Systematic and complete clinical training; sufficient practical operation opportunities; gradually assuming treatment responsibilities	Mostly repetitive basic work; limited hands-on opportunities; fragmented learning content; anxiety about mismatch between responsibility and capability	"I've been interning for three months, but can still only watch senior doctors operate. My own hands-on opportunities are extremely few" (Participant F09)
Work-Life Balance	Work is hard but regular; ability to balance personal life and career development; physical and mental health guaranteed	Overtime work normalized; rest time difficult to guarantee; continuous physical and mental exhaustion; personal life severely squeezed	"After continuous shifts, I'm completely numb. I have no energy to think about the future" (Participant M15)

4.1.2. Meaning Attribution of Multidimensional Environment Quality

The research found that medical students' perception of work environment quality is not a passive acceptance of objective facts. It is a process of actively constructing meaning through continuous interaction with the environment. See **Table 2** below. Through in-depth analysis of interview texts, the research identified that medical students' meaning attribution to environment quality presents multidimensional characteristics. These mainly include physical space dimension, technical equipment dimension, institutional norm dimension, interpersonal atmosphere dimension, and cultural symbol dimension. In the physical space dimension, medical students not only focus on objective conditions of wards and offices [43]. They care more about the "sense of being valued" and "sense of belonging" conveyed by these spaces. A second-year graduate student narrated: "Our department's teaching room is spacious and bright. Every time I go there to study, I feel I'm being trained as a real doctor, not cheap labor." This indicates that physical space is endowed with symbolic meaning of identity recognition. Meaning attribution in the technical equipment dimension is more associated with professional development expectations [44]. Twelve participants explicitly expressed cognition that advanced equipment represents "learning opportunities" and "career prospects." Outdated equipment is interpreted as a signal of "being marginalized". The institutional norm dimension presents a complex meaning construction process. Strict scheduling systems are interpreted both as "guarantees for standardized training" and as "oppression of personal time deprivation." Meaning attribution in the interpersonal atmosphere dimension is the richest. A mentor's affirmation, a peer's collaboration, a nurse's smile - all can be endowed by medical students with profound meanings of "professional value recognition" or "team belonging." The cultural symbol dimension is reflected in interpretations of department honor walls, academic atmospheres, and medical ethics traditions. These symbolic elements are endowed with important meaning for shaping professional identity. See **Figure 1** below [45]. It is worth noting that medical students from different backgrounds show significant differences in meaning attribution to the same environmental elements. Order-oriented medical students from rural areas tend to associate basic infrastructure conditions with "practical preparation for grassroots work." Non-oriented students more often link it with "career competitiveness". This diversity in meaning attribution reveals the highly subjective nature and contextual dependence of environment quality perception. The same physical environment may be constructed into completely different meaning landscapes in different individuals' lifeworlds.

Table 2. Types of Multidimensional Meaning Attribution in Medical Students' Work Environment Quality Perception.

Environment Dimension	Core Focus Elements	Main Types of Meaning Attribution	Typical Meaning Construction Narratives	Mention Frequency (n = 15)
Physical Space Dimension	Ward conditions, office spaces, rest spaces, learning environments	Identity recognition symbols; sources of sense of belonging; manifestation of being valued degree; carriers of work dignity	"The clean and tidy locker room makes me feel the hospital treats us as formal employees, not temporary workers" (Participant F05)	15 mentions
Technical Equipment Dimension	Diagnostic equipment, information systems, teaching equipment, laboratory instruments	Indicators of learning opportunities; predictions of career prospects; platforms for professional capability development; markers of modernization degree	"Seeing the department introduce the latest laparoscopic system, I feel I can learn real skills here" (Participant M11)	13 mentions
Institutional Norm Dimension	Scheduling systems, assessment standards, leave policies, training arrangements	Duality of normative guarantee and constraint; materialization of power relations; embodiment of professionalization requirements; boundaries of personal autonomy	"The 24-hour shift system makes me feel controlled by the system, but I also understand this is the necessary path to becoming a real doctor" (Participant F08)	14 mentions
Interpersonal Atmosphere Dimension	Teacher-student relationships, peer interactions, medical care collaboration, doctor-patient communication	Sources of professional value recognition; emotional support networks; creators of competitive pressure; fields of professional socialization	"When the director asked my opinion during rounds, at that moment I really felt seen as a doctor" (Participant M04)	15 mentions
Cultural Symbol Dimension	Department traditions, academic atmospheres, honor displays, medical ethics stories	Concrete presentations of professional ideals; channels for value concept transmission; spiritual foundations of professional identity; meaning carriers of historical inheritance	"Looking at the photos and stories of excellent doctors on the wall, I reflect on what kind of doctor I want to become" (Participant F13)	11 mentions

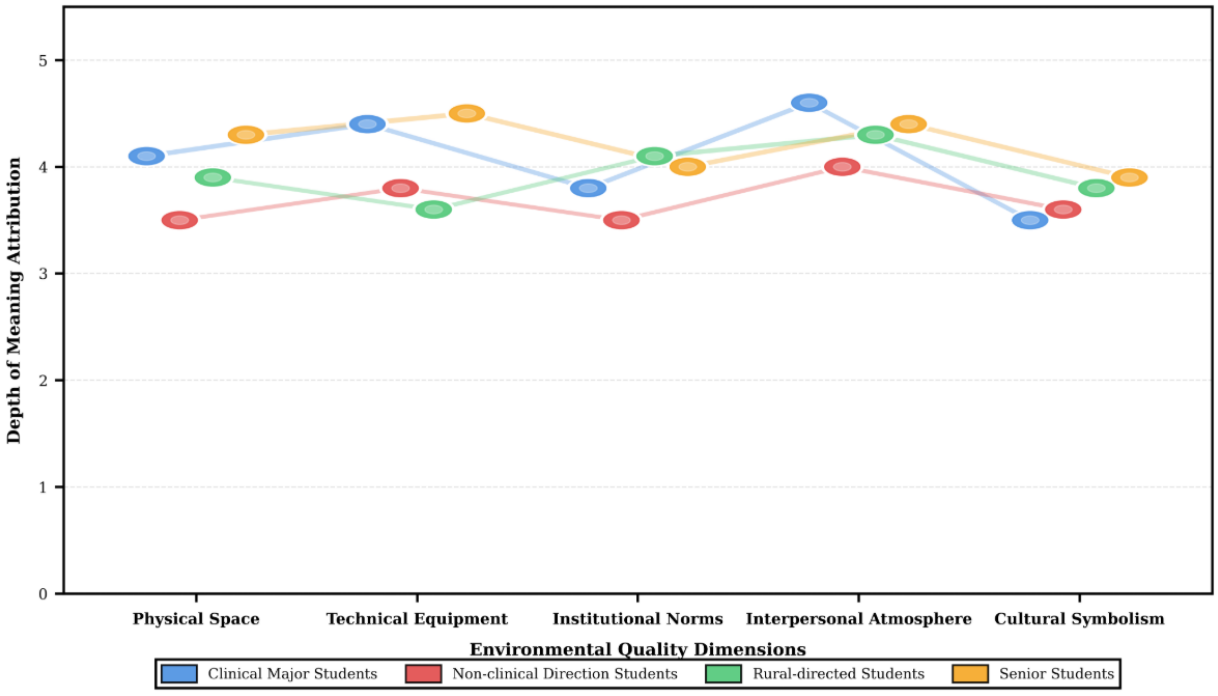

Figure 1. Descriptive Comparison of Meaning Construction Depth Across Environmental Quality Dimensions by Student Groups.

4.1.3. Temporality and Contextuality of Environment Perception

Medical students' perception of work environment quality possesses significant temporal and contextual characteristics. These characteristics reveal that perception is not a static cognitive result. It is a dynamic process continuously generated and reconstructed in temporal flow and situational transitions. From the temporality dimension, the research identified three key temporal nodes in medical students' environment perception: initial contact period, adaptation adjustment period, and deep experience period. The initial contact period usually occurs during the early stage of clinical observation in the junior year. At this time, medical students' perception of environment is most acute. Subtle environmental differences may trigger strong emotional reactions [46]. A participant recalled: "The first time I walked into the ward wearing a white coat, that disinfectant smell, the ticking of instruments, patients' painful groans - all of these made my heart race. It was a complex feeling of both excitement and fear." This initial perception often carries strong freshness and impact. After entering the adaptation adjustment period, medical students gradually become accustomed to the routine state of the environment. The acuity of perception somewhat declines. However, evaluation standards for environmental quality begin to form. The deep experience period presents a more mature perception pattern. Medical students can distinguish between surface features and deep structures of the environment. Their judgments about environmental quality become more rational and comprehensive. From the contextuality dimension, medical students' environment perception shows significant differences across different clinical situations [47]. In routine ward round situations, 13 participants expressed relatively calm perceptual states. Focus concentrated on the work process and interpersonal interaction. In emergency rescue situations, environmental perception becomes highly focused. The cramped physical space, equipment accessibility, and team collaboration efficiency become core elements of perception. Environment perception exhibited striking contextual variability, revealing its situationally embedded nature. In routine ward rounds, participants described entering a state of 'habituated attention'—present yet not acutely perceptive. Participant M07 explained: 'After weeks of morning rounds, I stopped noticing the crowded conditions. It just became a normal background.' However, emergency situations radically altered perceptual modes. During a cardiac arrest observation, Participant F09 recounted: 'Suddenly every detail became vivid—the cramped resuscitation room, the outdated defibrillator, the frantic atmosphere. Time seemed to slow down.' This perceptual intensification under crisis conditions demonstrates what phenomenology terms 'breakdown moments' when taken-for-granted environmental features become consciously available. Conversely, doctor-patient conflict situations triggered what participants called 'defensive perception,' where previously comfortable spaces transformed into 'hostile territories' (Participant M15). These contextual variations underscore that environmental quality is not objectively fixed but emerges through situated engagement, continuously reconstituted as students move between different clinical worlds. The research captured the phenomenological characteristics of typical situations. Participant F09 described her first resuscitation: "The patient's heart stopped, I completely froze, my hands trembled severely, sounds alternated between distant and near, and time seemed to stop." As she watched her mentor perform compressions, textbook images flashed through her mind, followed by the thought, "what if it's only me?" Participant M04 recalled a dialogue discussing treatment withdrawal; when his mentor said "not treating is also a form of treatment," his "chest tightened," and his belief in healing and saving lives "suddenly wavered." These moments, where bodily perception, temporal distortion, and emotional impact interweave, became critical junctures for reconstructing professional meaning.

4.2. Symbolic Interaction Process and Meaning Negotiation of Value Conflicts

4.2.1. Types and Manifestations of Value Conflicts

Through in-depth interviews with 15 medical students and clinical field observations, the research found that value conflicts constitute the most tension-filled experiential dimension in medical students' career development process. These conflicts are not simple binary oppositions. They are dynamic processes continuously generated, manifested, and evolved in complex social interactions. The research summarized five core types of value conflicts: conflicts between professional ideals and practical interests, conflicts between humanistic care and technical rationality, conflicts between personal development and organizational requirements, conflicts between medical ethics and institutional norms, and conflicts between academic pursuits and clinical practice [48]. Conflicts between professional ideals and practical interests are the most universally experienced value tension among medical students. All 15 participants expressed similar troubles. A senior year student admitted: "I initially chose medicine to heal and

save lives. But now I find that if I choose grassroots hospitals, both income and career development space are very limited. I'm beginning to doubt my original intention." This conflict becomes particularly sharp when facing key decisions, such as specialty selection and employment direction [49]. Conflicts between humanistic care and technical rationality are reflected in medical students' confusion about "good doctor" standards. Twelve participants mentioned feeling the tense relationship between emotional investment and rational judgment in clinical practice. An intern described: "The mentor always emphasizes maintaining professional distance. But when I see patients' painful expressions, I find it hard to remain completely calm." Conflicts between personal development and organizational requirements mainly manifest in mismatches among training objectives, work arrangements, personal interests, and career planning [50]. Thirteen participants experienced situations where they had to sacrifice personal learning plans due to organizational regulations such as department rotation arrangements and shift systems. Conflicts between medical ethics and institutional norms occur with relatively lower frequency. However, once they occur, they often bring profound moral distress. Typical scenarios include simplified implementation of informed consent and profit-driven excessive examinations. These five conflict types do not exist as discrete categories but form an interconnected web of tensions within medical students' lifeworld (see **Figure 2**). The professional ideals-practical interests conflict permeated all 15 participants' narratives with particular intensity. Participant M04 articulated this tension: 'Every career discussion with family becomes a battlefield between what I believe I should do and what I'm told I must do for survival.' This conflict frequently intensified others—when choosing specialties, the humanistic care-technical rationality tension merged with personal development-organizational requirements conflict, as participants struggled between patient-centered values and competitive advancement strategies. The medical ethics-institutional norms conflict, though less frequently mentioned, carried profound moral weight. Participant F13 described witnessing 'rushed informed consent procedures where patient understanding was clearly sacrificed to administrative efficiency,' triggering what symbolic interactionism terms 'role strain'—inability to reconcile performed professional roles with internalized ethical standards. Academic pursuit-clinical practice conflicts particularly troubled research-oriented students who experienced temporal scarcity as an existential crisis: 'Clinical rotations consume every hour; my research dreams evaporate daily' (Participant M11). This interwoven nature reveals value conflicts not as isolated incidents but as systemic features of medical socialization, continuously regenerated through institutional structures and interpersonal interactions.

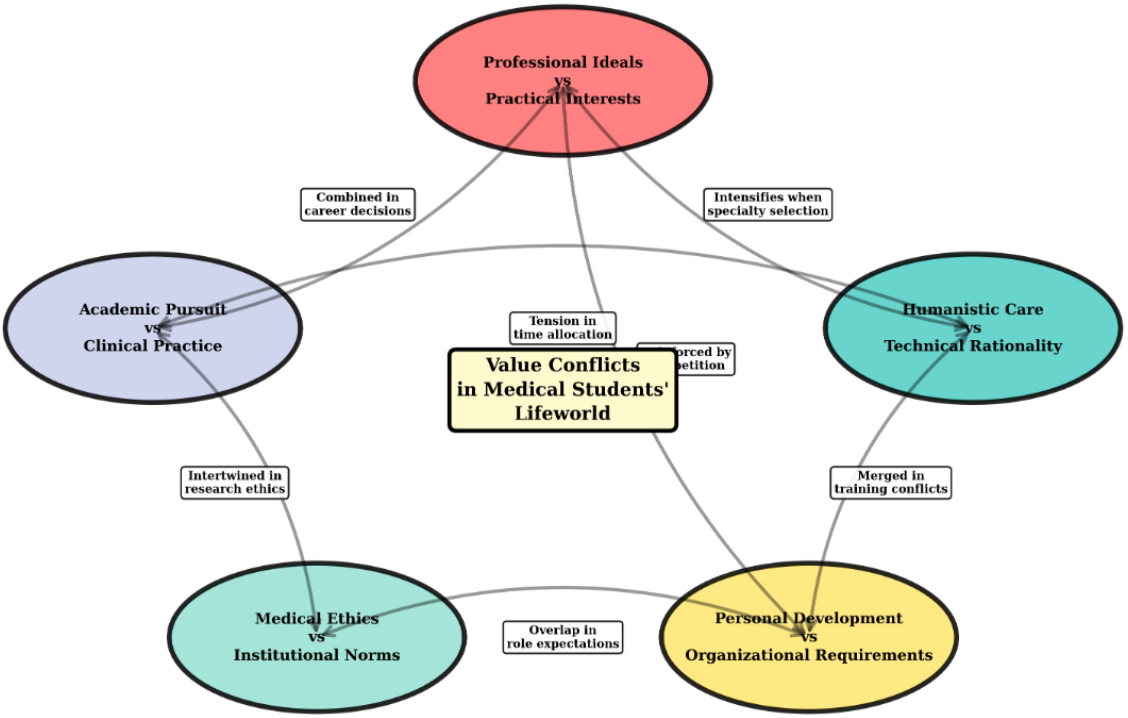

Figure 2. Interconnected Web of Value Conflict Types.

4.2.2. Symbolic Interaction and Role Performance in Value Conflicts

Based on the analytical framework of symbolic interactionism, the research found that medical students' value conflicts are not isolated internal experiences. They are social processes that are presented, reinforced, or alleviated through symbolic communication in continuous interactions with others. Medical students' interactions with different objects, such as mentors, patients, peers, and family members in clinical fields, constitute key scenarios for value conflict generation and negotiation. The research identified four core types of interaction objects and their corresponding symbolic interaction patterns. In interactions with mentors, 13 participants mentioned that mentors' verbal evaluations, non-verbal cues (such as frowning and nodding), and behavioral demonstrations constitute the most important symbol system. An intern described: "During rounds, the director said, 'Your thinking is too idealistic.' That look made me feel very naive. I began to doubt my understanding of medicine." This symbolic interaction not only transmits professional knowledge. It also implicitly defines and disciplines professional values. Medical students are expected to perform roles such as "obedient students" and "compliant subordinates" in this process. Interactions with patients present another type of symbolic characteristics [51]. Patients' verbal symbols, such as gratitude, complaints, and doubts, as well as "bodily symbols" like condition improvement or deterioration, all influence medical students' understanding of medical values. Eleven participants expressed role confusion experienced in patient interactions: "I don't know whether to perform as 'authoritative doctor' or 'warm friend.' Patient expectations always leave me at a loss." Interactions with peers are filled with the duality of competition and cooperation. Discussions among classmates about career choices and development paths constitute an important field for meaning negotiation. They define standards of "success" by sharing experiences, exchanging information, and comparing with each other. Interactions with family often intensify value conflicts. Parents' explicit expressions about career prospects and income expectations form strong contrasts with medical students' professional ideals. See **Figure 3** below. The research found that during these interaction processes, medical students continuously adjust their role performance strategies. They show obedience before mentors but internally retain doubts. They display professionalism before patients but privately feel powerless. They present confidence before peers but fall into confusion when alone. They compromise before family but struggle internally. This switching and performance of multiple roles is both a strategy for coping with value conflicts and a factor that deepens the complexity of conflicts.

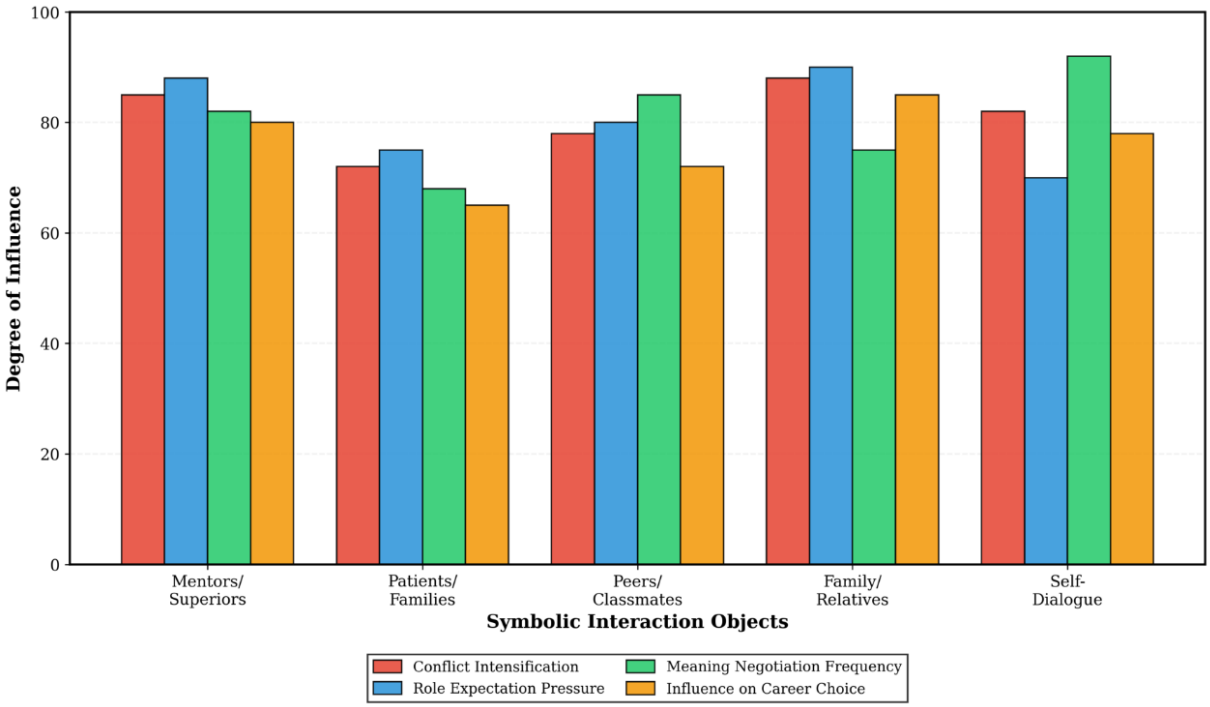

Figure 3. Multidimensional Influence Degree of Different Symbolic Interaction Objects on Value Conflicts.

4.3. Influence Mechanism of Career Development Path Selection

4.3.1. The Meaning Construction Process from Perception to Choice

The research reveals that the journey from medical students' work environment quality perception to career development path selection is not a simple linear causal relationship. It is a complex meaning construction process. This process experiences multiple interrelated stages. Based on in-depth analysis of 15 participants' career decision-making processes, the research identified five key stages: initial perception stage, reflective questioning stage, meaning negotiation stage, value integration stage, and decision-action stage. The initial perception stage occurs when medical students first enter clinical environments. At this time, various environmental elements impact their senses in intuitive and perceptual ways. Fourteen participants stated that perception in this stage is often fragmented and emotional. Systematic meaning understanding has not yet formed. One participant recalled: "When I just started internship, I only felt tired, busy, and chaotic. I never thought about what this meant for my career choice." As clinical experience deepens, medical students enter the reflective questioning stage [52]. They begin to compare perceived environmental characteristics with their own professional expectations. They produce questions like "Is this what I want?" This stage often accompanies the manifestation of value conflicts. Twelve participants experienced intense inner struggles during this stage. The meaning negotiation stage is the core of the entire process. Medical students continuously adjust their understanding of environmental quality and professional values through interactions with others, information collection, and self-dialogue. All 15 participants experienced this process filled with contradictions and repetitions. One participant described: "I talked with mentors, classmates, and family. After each conversation, my thoughts changed. That period was really painful." The value integration stage marks that medical students begin to form relatively stable professional meaning frameworks. They either compromise and accept reality, persist in ideals, or find integration paths. Thirteen participants had completed or were completing this integration during interviews [53]. Finally, in the decision-action stage, medical students transform internalized meaning frameworks into concrete career choice actions. Examples include determining specialty directions, selecting employment units, and preparing for graduate entrance exams. This meaning construction process unfolds not as a linear progression but as a spiral recursion, echoing phenomenology's notion of temporal constitution (see **Figure 4**). Participants frequently circled back—Participant F09 described reaching decision-action stage regarding specialty choice, then returning to reflective questioning after observing a mentor's burnout: 'That moment shattered my settled decision; I had to renegotiate everything.' Such recursions were not failures but deepening spirals, each iteration adding interpretive layers. The negotiation stage proved most protracted and emotionally demanding. All 15 participants spent months oscillating between conflicting perspectives, engaging in what Participant M15 termed 'exhausting internal debates alongside endless external consultations.' This extended negotiation reflects symbolic interactionism's emphasis on meaning as socially achieved through dialogue rather than individually discovered. Notably, participants from different backgrounds traversed these stages at different paces—rural-oriented students often moved faster through negotiation, their career parameters more constrained yet paradoxically clearer, while urban non-oriented students lingered longer in what Participant F08 called 'the anxiety of infinite possibilities.' This variability underscores that meaning construction, though structurally similar, remains existentially unique to each lifeworld [54].

4.3.2. Narratives and Decision Logic of Critical Turning Points

In the meaning construction process of medical students' career development path selection, several critical turning points exist. These turning points become decisive moments that propel or change career decisions. The research found that critical turning points do not appear randomly. They are triggered by specific events under specific situations and follow unique decision logic. Through in-depth analysis of 15 participants' career decision narratives, the research identified five core types of turning points: emotional impact turning points, value awakening turning points, realistic pressure turning points, role model inspiration turning points, and accidental opportunity turning points. Emotional impact turning points are often triggered by intense emotional experiences [55]. Eleven participants mentioned key emotional events that changed their professional cognition. One participant recalled: "A patient held my hand and said, 'Thank you for saving me.' At that moment, I suddenly felt that all the hardship was worthwhile. I became determined to be a clinical doctor." Conversely, some participants changed their choices due to negative emotional experiences. Value awakening turning points occur at moments when med-

ical students suddenly realize their authentic value orientations. Eight participants experienced this "epiphany" type of turning point. Realistic pressure turning points are most common. Thirteen participants stated that realistic factors such as family economic pressure, employment situations, and policy changes erupted collectively at certain time points. This forced them to re-examine career choices. One participant admitted: "My father became sick and needed money for treatment. That day, I suddenly realized ideals are beautiful, but reality is more crueler. I must find a job that can make money." Role model inspiration turning points are reflected in how mentors, senior students, or other doctors' words and actions produce decisive influences on medical students. Seven participants' career choices were directly inspired by role models. Accidental opportunity turning points originate from unexpected chances or information. Five participants opened new career visions through attending certain lectures or contacting certain projects. The research found that the decision logic behind these turning points presents obvious differences. Emotional impact types follow "emotion-priority" logic. Value awakening types follow "self-realization" logic. Realistic pressure types follow "survival-priority" logic. Role model inspiration types follow "social learning" logic. Accidental opportunity types follow "adaptation-adjustment" logic.

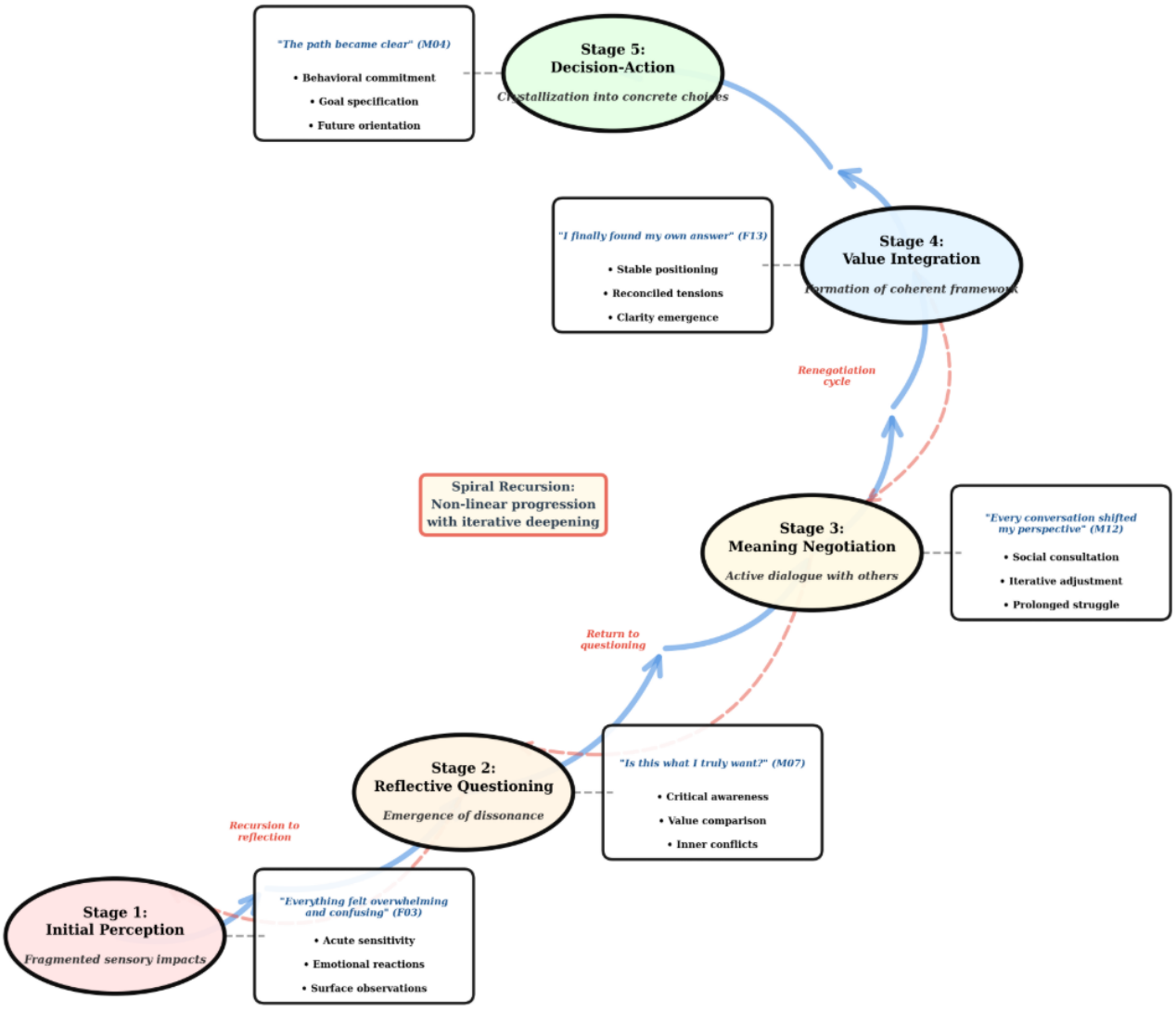

Figure 4. Spiral Process of Meaning Construction from Perception to Career Choice.

Participant F05's narrative: "A terminal cancer patient held my hand during his final hours and whispered, 'You'll be a great doctor.' At that moment, every complaint about poor conditions evaporated. I understood viscer-

ally why I chose this path. That hand-holding became my anchor whenever doubts resurface."

Decision logic: Emotion-priority—immediate affective experience overrides rational calculation, creating enduring motivational imprint.

Participant M11's narrative: "During an ethics seminar, the professor asked us to define our medical 'calling.' I suddenly realized I'd been pursuing others' definitions—family expectations, social status markers. That question awakened me to my authentic commitment: serving marginalized communities. Everything shifted."

Decision logic: Self-realization—sudden clarity about intrinsic values catalyzes realignment of career trajectory with discovered authentic self.

Participant F13's narrative: "My father's illness depleted family savings overnight. The romantic notion of 'following my passion regardless of income' became a privilege I couldn't afford. I had to prioritize specialties with immediate earning potential. Reality imposed non-negotiable constraints."

Decision logic: Survival-priority—material necessities establish boundaries within which value negotiation occurs, constraining idealistic aspirations.

Participant M04's narrative: "Observing Dr. Zhang balance rural clinical excellence with research publications showed me integration was possible, not merely theoretical. Her example became my blueprint—if she achieved it, perhaps I could too."

Decision logic: Social learning—concrete exemplars transform abstract possibilities into believable pathways, reducing perceived risk of unconventional choices.

Participant F09's narrative: "I accidentally attended a telemedicine symposium—wasn't even my intended event. But the presentations opened entirely new career visions I'd never imagined. That random attendance redirected my entire trajectory."

Decision logic: Adaptation-adjustment—openness to contingency creates serendipitous encounters that expand possibility horizons beyond planned trajectories.

These turning points share a common feature—they rupture taken-for-granted assumptions, creating what phenomenology terms 'phenomenological shocks' that interrupt routine perception and compel re-examination. However, their decision logics differ fundamentally, revealing career choice as multi-determined rather than following a universal calculus. Emotional types privilege felt experience over analysis; value awakening types prioritize authenticity over pragmatism; realistic pressure types subordinate ideals to survival; role model types rely on social proof over individual exploration; accidental types embrace contingency over planning. This plurality challenges deterministic career development models, affirming that medical students' choices emerge through complex interplay of affect, cognition, social influence, material constraints, and chance—a phenomenological reality irreducible to predictive variables.

5. Discussion

5.1. Theoretical Synthesis: Complementarity of Phenomenological and Symbolic Interactionist Analyses

Phenomenology illuminates how medical students actively constitute environmental meanings through intentional consciousness rather than passively receiving objective facts. This study starts from a phenomenological perspective. It reveals the essential structure of medical students' work environment quality perception and its deep influence mechanism on career development path selection. These findings form an inspiring dialogue with core phenomenological theories. First, the research confirms the concrete presentation of Husserl's "lifeworld" concept in the medical education field. Medical students' perception of work environment quality is not a mechanical reflection of objective conditions [13]. It is a phenomenon experienced and endowed with meaning in their lifeworld. The crowded wards, outdated equipment, and indifferent mentors—these environmental elements only acquire meanings such as "oppressive," "disappointing," and "being ignored" in medical students' lifeworld. It is these meaningful perceptions rather than physical facts themselves that constitute the real foundation for career choices. Second, the research deepens understanding of the intentionality concept. Medical students' perception of environment always points toward certain professional expectations and value pursuits. This intentional structure causes the same environment to present completely different appearances in different individuals' eyes. Those persisting in ideals see "stages for serving the people" in shabby grassroots hospitals. Compromisers view them as "cages of

career development." This difference stems from different intentional orientations. Third, the research reveals the key role of body phenomenology in environment perception. Medical students do not cognize work environments with abstract rationality [56]. They perceive environmental quality through embodied experiences such as physical exhaustion, tension, and discomfort. This bodily perception often influences professional attitudes earlier and more directly than rational judgment. Additionally, the research confirms the central position of time consciousness in meaning construction. Medical students' environment perception possesses an obvious temporality dimension. The shock at initial contact, the numbness during adaptation, and the insight after deep experience—this temporal unfolding process reveals that perception is not formed instantaneously. It gradually deepens and crystallizes in continuous experiential flow.

5.2. Symbolic Interactionist Analysis: Revealing Social Negotiation

Symbolic interactionism addresses what phenomenology brackets: the social processes through which individually experienced meanings become collectively negotiated. This study starts from a symbolic interactionist perspective. It profoundly reveals the social construction nature of medical students' value conflicts and their influence mechanism on career path selection. The research found that medical students' value conflicts are not isolated internal psychological phenomena [57]. They are social processes generated, manifested, and negotiated through symbolic communication in continuous interactions with significant others such as mentors, patients, peers, and family members. This finding echoes Mead's core argument about "self" formation in social interaction. Medical students' professional identity is gradually constructed through others' mirror feedback. Interview texts show that a mentor's remark, "your thinking is too idealistic," conveys more than professional judgment. It is a symbolic definition of what constitutes a "mature doctor." These verbal symbols and non-verbal cues jointly shape the boundaries of medical students' understanding of professional values. Particularly noteworthy are the multiple role performance strategies that medical students display in different interaction situations [25]. This reflects the separation between "front stage performance" and "backstage reality" discussed by Goffman. They show obedience before mentors yet internally retain doubts. They display professionalism before patients yet privately feel powerless. This role switching is both an adaptive strategy for coping with symbolic environments and a factor that deepens the complexity of value conflicts. The research also found that peer groups continuously conduct collective negotiation of "success standards" through daily conversations about career choices. This symbolic interaction forms powerful peer pressure. It pushes individual values toward conformity with group norms. Additionally, family members symbolically transmit social expectations to medical students through explicit income expectation expressions and career advice.

5.3. Dialectical Integration: Overcoming Single-Paradigm Limitations

The two perspectives achieve synthesis by addressing mutual limitations. Phenomenology alone risks solipsism—treating meaning as purely individual consciousness activity without recognizing social-structural shaping. Our data show that rural versus urban students' divergent environmental perceptions cannot be explained by individual consciousness alone; their different symbolic positioning within class structures pre-structures experiential possibilities. Conversely, symbolic interactionism alone risks determinism—reducing subjects to role-performers without experiential depth. Our phenomenological vignettes reveal that institutional symbols don't mechanically determine experience; they encounter resistance from lived bodily reality, creating tensions motivating symbolic contestation. This dialectical framework positions career choice as simultaneously deeply personal (phenomenologically constituted) and irreducibly social (symbolically negotiated), transcending reductionist alternatives.

5.4. Dialogue with Existing Theories

This study engages in a tension-filled dialogue with classical theories. Cruess and Monrouxe emphasize "incongruence experiences" in identity formation, yet they fail to reveal how such incongruence is experienced and negotiated in concrete interactions. Our findings indicate that medical students do not simply perceive value gaps; rather, they experience the real-time collapse and reconstruction of meaning through a mentor's glance or a patient's complaint. Becker's *Boys in White* demonstrates medical students' cultural adaptation but rarely touches upon individuals' struggles and resistance during adaptation. This study supplements this dimension: participant M07's narrative of "surface compliance with internal reservation" reveals that socialization is not unidirectional

indoctrination but rather tension-laden meaning negotiation. Goffman's role performance theory focuses on "front stage" impression management, while this study delves into the "backstage"—participant F13's solitary confusion of "doubting whether I am suitable to be a doctor" precisely represents the authentic self that front stage performance cannot bear. These dialogues deepen professional formation theory's understanding of individual agency and situational complexity.

6. Conclusion: Toward a Process Theory of Career Choice as Situated Meaning Construction

This study advances understanding of medical students' career development by revealing career choice not as a discrete decision-point determined by attribute variables, but as an emergent outcome of situated, temporally extended, socially embedded meaning construction processes. Through integrated phenomenological and symbolic interactionist analysis of 15 medical students' lived experiences, we establish three interconnected theoretical propositions that constitute this study's core contribution.

6.1. Core Theoretical Propositions

Proposition 1. *Work Environment Perception as Intentional Constitution.*

Medical students' perceptions of work environment quality are not passive reflections of objective conditions but active meaning-constitutions structured by professional intentionality, temporal consciousness, and embodied affectivity. The 'same' physical environment—crowded wards, outdated equipment, hierarchical cultures—appears radically differently depending on students' biographical projects (rural service commitment versus urban career competition), temporal positioning (initial encounter versus habituated familiarity), and affective attunements (hopeful anticipation versus disillusioned resignation). This phenomenological finding challenges environmental determinism prevalent in career research, demonstrating that improving 'objective' conditions alone cannot guarantee satisfaction or retention without attending to students' meaning-making frameworks. Career interventions must therefore address not merely environmental features but the interpretive lenses through which features become meaningful.

Proposition 2. *Value Conflicts as Symbolic Interaction Phenomena.*

Value conflicts emerge neither from internal personality traits nor external structural contradictions alone, but through symbolic interaction sequences where incompatible definitions of professional identity, success, and worthy sacrifice are communicated, contested, and provisionally negotiated. Our analysis reveals that conflicts intensify when symbolic messages from different interaction partners (mentors valorizing sacrifice, families demanding security, peers modeling alternative paths) cannot be synthesized within students' lifeworld coherence. Critically, conflicts persist not because 'correct' resolutions exist but because medical socialization involves inherently contradictory symbolic imperatives—be compassionate yet professionally distant, pursue excellence yet accept systemic mediocrity, serve society yet secure personal welfare. This symbolic interactionist insight reframes career support: rather than eliminating conflicts (impossible given structural contradictions), education should equip students with negotiation capacities—reflexivity, dialogical skills, tolerance for ambiguity—enabling them to navigate ongoing tensions without existential paralysis.

Proposition 3. *Career Choice as Spiral Meaning Synthesis.*

The trajectory from environmental perception to career decision follows neither linear causality nor random drift but spiral recursion—a temporally extended process wherein initial perceptions provoke reflective questioning, which necessitates social negotiation, which enables value integration, which crystallizes into action commitments, yet may loop back to earlier stages when new experiences disrupt provisional syntheses. Career 'choice' is thus a misnomer; more accurately, it is meaning crystallization—the gradual emergence of a coherent biographical narrative integrating past experiences, present circumstances, and future possibilities into a livable life project. Critical turning points accelerate but don't determine this process; they provide phenomenological 'shocks' rupturing taken-for-granted assumptions, forcing renewed interrogation. This processual understanding challenges both rational choice models (assuming calculated optimization) and socialization models (assuming passive internalization), revealing career development as creative meaning-making wherein students are neither sovereign choosers nor cultural dopes but active interpreters navigating between constraint and possibility.

6.2. Theoretical Contributions and Advancements

This research makes four specific theoretical-methodological contributions to career development scholarship and medical education research:

First, we demonstrate methodological synergy between phenomenology and symbolic interactionism, two traditions rarely integrated despite complementary strengths. By using phenomenology to access pre-reflective experiential structures and symbolic interactionism to analyze social meaning negotiation, we overcome limitations of single-paradigm approaches—phenomenology's potential solipsism and symbolic interactionism's neglect of subjective depth. The three-layer phenomenological analysis (noematic-noetic-temporal) combined with interaction sequence analysis generates a richer understanding than either paradigm alone achieves. This integration provides a replicable template for future qualitative research addressing both individual consciousness and social interaction.

Second, we contribute mid-range substantive theory specific to medical students' career development yet potentially transferable to other professional socialization contexts. The identified mechanisms—intentional environmental constitution, symbolic conflict negotiation, spiral meaning synthesis—are not merely descriptive findings but theoretical constructs explaining how and why career trajectories unfold as they do. These constructs bridge micro-phenomenological processes and macro-institutional structures, showing how lived experiences mediate structural influences. Future research can test propositions' applicability across different medical education systems, cultural contexts, or professional fields.

Third, we challenge dominant quantitative paradigms in career research that reduce complex meaning-making to variable correlations. Our thick descriptions reveal that quantitative measures (satisfaction scales, career intention surveys) inevitably miss the interpretive processes constituting measured phenomena. For instance, two students rating environment 'dissatisfied' may mean entirely different things—one experiencing principled moral outrage, another pragmatic disappointment—leading to divergent career paths. Qualitative depth thus isn't supplementary decoration but epistemological necessity for understanding human agency. This study exemplifies how interpretive approaches generate insights that quantitative methods cannot capture.

Fourth, we advance phenomenological analysis in educational research beyond generic 'lived experience' invocations. By specifying concrete analytical procedures (epoché discipline, three-layer explication, temporal synthesis tracing) and demonstrating application through detailed vignettes, we show how phenomenology translates from philosophical orientation into systematic research method. This methodological clarity addresses longstanding criticism that phenomenological studies lack rigor, providing operational guidance for researchers seeking to employ phenomenology credibly.

6.3. Practical Implications: Reimagining Medical Education Support

While detailed recommendations appear in Section 5.4, we synthesize core practice implications emerging from theoretical insights:

Medical education must transition from outcome-focused training (producing clinicians meeting competency standards) to process-attentive formation (supporting students' ongoing meaning-making throughout career development). Concretely, this requires:

Lifeworld-Centered Pedagogy: Rather than imposing predefined professional values, create spaces where students articulate, examine, and reconstruct their experiential interpretations. Reflective practices (journaling, peer dialogue, narrative portfolios) should facilitate phenomenological awareness—helping students recognize how their perceptions are constituted, what intentional orientations shape interpretations, which bodily-affective responses signal meaning misalignments. Such reflexivity enables students to consciously participate in their own professional becoming rather than passively undergoing socialization.

Symbolic Environment Optimization: Recognize that mentors, institutional policies, and peer cultures function as symbolic resources shaping students' meaning-making possibilities. Training faculty not merely as knowledge transmitters but symbolic interaction facilitators—modeling reflexive value negotiation, acknowledging professional contradictions openly, legitimizing diverse career paths rather than a singular 'ideal physician' narrative. Institutional communications should avoid simplistic idealism (creating unrealistic expectations) or cynical pragmatism (foreclosing idealistic commitments), instead fostering realistic complexity—honest representation of

medicine's genuine challenges alongside authentic rewards.

Longitudinal Developmental Support: Career services should not concentrate on final-year placement but provide continuous accompaniment across educational trajectory, recognizing that meaning construction occurs gradually. Early-stage students need support processing initial disillusionment without premature abandonment; mid-stage students require negotiation skills for navigating value conflicts; late-stage students benefit from integration assistance synthesizing accumulated experiences into coherent career narratives. Different stages demand different interventions tailored to spiral process phases.

Embracing Trajectory Diversity: Abandoning deficit framing that treats non-clinical paths or delayed decisions as 'failures,' institutions should recognize the five identified trajectories (persistence, shift, compromise, delay, innovation) as equally legitimate meaning-synthesis outcomes reflecting students' authentic biographical resolutions. Supporting diverse paths is not abandoning standards but respecting students as autonomous meaning-makers whose life projects extend beyond institutional training agendas.

While these recommendations are theoretically grounded, we critically acknowledge significant operationalization barriers in translating phenomenological insights into concrete policy and curriculum design. Institutional resistance to paradigm shifts from competency-based to meaning-centered education poses structural challenges—existing accreditation frameworks prioritize measurable outcomes over process-attentive formation. Resource constraints limit feasibility: lifeworld-centered pedagogy requiring intensive faculty training and reduced student-faculty ratios conflicts with efficiency pressures in mass medical education. Power dynamics complicate symbolic environment optimization—hierarchical medical cultures may resist reflexive mentoring models that challenge traditional authority. Furthermore, our findings' cultural specificity raises transferability concerns: meaning-construction mechanisms identified in Chinese collectivist contexts may require substantial adaptation for individualist settings. Successful implementation demands not merely adopting recommendations wholesale but engaging in context-sensitive translation—piloting interventions within specific institutional ecologies, iteratively refining based on local symbolic cultures, and critically evaluating whether phenomenological depth sacrifices pragmatic scalability. These operationalization complexities underscore that bridging theory-practice gaps requires ongoing negotiation between philosophical ideals and institutional realities.

6.4. Research Limitations and Future Directions

6.4.1. Research Limitations

Methodological Limitations: This study's qualitative depth was achieved through intensive analysis of 15 participants, which necessarily limits empirical generalizability. Findings illuminate meaning-construction mechanisms but cannot establish prevalence distributions across broader populations. The single-institution Chinese context introduces cultural-contextual specificity—symbolic meanings of 'career success,' 'filial duty,' and 'professional service' carry culturally particular connotations that may not transfer to Western individualist contexts or collectivist cultures with different medical systems. Phenomenological analysis prioritized synchronic depth (rich description of present experiences) over diachronic breadth (longitudinal tracking across years), potentially missing long-term trajectory evolution.

Conceptual Limitations: While integrating phenomenology and symbolic interactionism addressed some theoretical gaps, our framework underemphasizes structural-institutional power dimensions. Critical theorists might argue we insufficiently analyze how neoliberal medical commodification, health system privatization, or class reproduction mechanisms constrain meaning-making possibilities. Future research integrating our micro-processual analysis with macro-structural critique could illuminate how political economy shapes phenomenological horizons—for instance, how medical student debt forecloses certain meaning-construction pathways by material necessity.

Sampling Limitations: Participants were recruited from students who completed at least one-year clinical exposure; we lack data from dropouts or those who never reached clinical stages, potentially missing the most disillusioned cases. Maximum variation sampling captured diverse backgrounds, yet certain marginalized identities (LGBTQ+ students, ethnic minorities, and disability experiences) were underrepresented, limiting intersectional analysis of how multiple marginalized positionings shape career meaning-making.

6.4.2. Future Research Directions

Longitudinal Phenomenological Study: Track cohorts across entire medical education trajectory plus early career years, documenting how meaning-constructions evolve, which provisional syntheses prove durable, when and why spirals reverse direction. Such research could identify developmental critical periods and optimal intervention timing.

Cross-Cultural Comparative Analysis: Replicate study across diverse cultural-institutional contexts (e.g., U.S. market-based system, European social medicine model, developing nation contexts with physician migration pressures). Comparative findings would distinguish universal meaning-construction structures from culturally specific symbolic content, advancing theory's explanatory scope.

Intervention Research: Develop and assess pedagogical innovations informed by our findings—e.g., phenomenologically-informed reflection seminars, facilitated peer value-negotiation dialogues, mentor training in symbolic interaction awareness. Quasi-experimental designs could evaluate whether theory-guided interventions enhance students' negotiation capacities, reduce existential distress, or diversify career trajectory patterns.

Integration with Neuroscience: Emerging embodied cognition research suggests meaning-making has identifiable neural correlates. Future interdisciplinary studies could investigate whether phenomenologically-described processes (affective dissonance, intentional shifts, temporal synthesis) correspond to measurable brain states, potentially bridging interpretive and neurobiological approaches.

Institutional Ethnography: While our study focused on individual meaning-making, complementary institutional ethnography could examine how administrative texts, curriculum structures, and organizational routines pre-structure students' experiential possibilities—revealing power relations operating 'behind' phenomenological horizons.

This study's single-institution focus within the Chinese medical education system constitutes a significant limitation. We acknowledge the absence of cross-institutional verification across different Chinese medical universities (e.g., elite versus regional institutions, research-intensive versus practice-oriented programs) and complete lack of cross-national comparative analysis. International medical education systems vary substantially in structure (e.g., undergraduate-entry versus graduate-entry models), cultural contexts (individualist versus collectivist professional values), and healthcare system organization (public versus private, urban-rural resource distribution patterns). Without comparative data, we cannot determine which findings reflect universal meaning-construction mechanisms versus culturally or institutionally specific phenomena. For instance, the prominence of filial obligation in Chinese participants' career conflicts may not manifest similarly in Western contexts, while work-life balance tensions might be more salient in other systems. Future research must incorporate multi-site sampling across diverse institutional types within China and establish international collaborative studies comparing meaning-construction processes across medical education systems in different cultural-economic contexts, enabling differentiation between invariant phenomenological structures and context-dependent symbolic meanings.

6.5. Closing Reflection

Medical students' career development is neither predetermined by aptitudes nor freely chosen from neutral options, but meaningfully constructed through engaged interpretation of lived experiences within socially structured yet individually appropriated symbolic environments. This study's central insight—career as situated meaning-making—reframes educational responsibility: not molding students into predefined professional templates but accompanying them as they author their own professional becoming, equipping them with interpretive resources for this lifelong hermeneutic task. In an era where medical workforce shortages and burnout epidemics suggest systemic crisis, attending to students' meaning-making processes is not humanistic luxury but pragmatic necessity. Only when medical work becomes experientially meaningful—when professional identity coherently integrates personal values, social purposes, and lived realities—can sustainable, fulfilling careers emerge. This research offers theoretical and methodological foundations for such meaning-centered medical education, inviting continued inquiry into the phenomenological-symbolic depths of professional formation.

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Institutional Review Board Statement

This research received ethical approval from the Institutional Review Board of Trinity University of Asia. The protocol was reviewed under the expedited category for minimal-risk educational research involving adult participants.

Informed Consent Statement

First, all participants provided written informed consent following a two-stage process. Second, before each interview, participants engaged in a face-to-face informed consent discussion with the researcher. Beyond initial consent, the researcher maintained ethical vigilance throughout data collection.

Data Availability Statement

The data used in this study are available from the corresponding author upon reasonable request.

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Conflicts of Interest

The author declares no conflicts of interest.

References

1. Liu, H.; Wang, XY.; Yan, YY.; et al. Survey on satisfaction of medical students in compulsory rural service directed medical student free training program under multiple perspectives. *Soft Sci. Health* **2024**, *38*, 86–90. (in Chinese)
2. Zhang, H.; Wang, ZX. Study on influence factors and countermeasures of job satisfaction in rural order-oriented medical students. *Soft Sci. Health* **2020**, *34*, 86–90. (in Chinese)
3. Sánchez-Poveda, D.; Vicente-Mampel, J.; Curto, B.; et al. Comparative Efficacy of Simulation-Based and Traditional Training in Ultrasound-Assisted Regional Anaesthesia for Medical Students. A Randomized controlled trial. *JMIR Med. Educ.* **2025**, *7*, 77702. [CrossRef]
4. Jiang, Z.; Wu, H.; Cheng, H.; et al. Twelve tips for teaching medical students online under COVID-19. *Med. Educ. Online* **2021**, *26*, 1854066. [CrossRef]
5. Kim, KJ. Response to medical students' perspective: Project-based learning approach to increase medical student empathy. *Med. Educ. Online* **2021**, *26*, 1877100. [CrossRef]
6. Oliven, A.; Nave, R.; Baruch, A. Long experience with a web-based, interactive, conversational virtual patient case simulation for medical students' evaluation: Comparison with oral examination. *Med. Educ. Online* **2021**, *26*, 1946896. [CrossRef]
7. Egan, CR.; Dashe, J.; Hussein, AI.; et al. Are narrative letters of recommendation for medical students interpreted as intended by orthopaedic surgery residency programs? *Clin. Orthop. Relat. Res.* **2021**, *479*, 1679–1687. [CrossRef]
8. Cao, XF. Research on ideological and political work strategies in medical colleges under new media environment. *J. Hubei Open Vocat. Coll.* **2020**, *33*, 93–94. (in Chinese)
9. Wang, XH.; Han, W.; Zhang, GD.; et al. Opportunities and challenges of ideological and political education for medical students under new media environment. *Educ. Mod.* **2018**, *5*, 134–135+146. (in Chinese)
10. Cevik, AA.; Cakal, ED.; Kwan, J. From the pandemic's front lines: A social responsibility initiative to develop an international free online emergency medicine course for medical students. *Afr. J. Emerg. Med.* **2021**, *11*, 1–2. [CrossRef]
11. Bruen, C.; Illing, J.; Daly, R.; et al. Medical student experiences of case-based learning (CBL) at a multicultural medical school. *BMC Med. Educ.* **2025**, *25*, 152. [CrossRef]
12. Coleman, MT.; Brantley, PR.; Wiseman, PM.; et al. Brief, effective experience to increase first-year medical students' nutrition awareness. *Med. Educ. Online* **2021**, *26*, 1896160. [CrossRef]
13. Dall'Alba, G.; Barnacle, R. An ontological turn for higher education. *Stud. High. Educ.* **2007**, *32*, 679–691. [CrossRef]

14. Asad, M.; Khan, UI.; Arshad, A. Perception of medical students about family medicine in Karachi, Pakistan: Medical students' perception about family medicine. *J. Fam. Med. Prim. Care* **2025**, *14*, 643–647. [CrossRef]
15. Scheel, A.; Wang, M.; Bennett, K.; et al. Development of an Age Friendly Curriculum for Longitudinal Medical Student Clerkships in Rural Community Settings. *Innov. Aging* **2025**, *9*, igaf122.4099. [CrossRef]
16. Morales Hernandez, M.; Koshy-Chenthittayil, S. Introducing Data Science to Medical Students: A Workshop Adaptable to Undergraduates. *Scatterplot* **2025**, *2*, 2587507. [CrossRef]
17. Amara, A.; Somii, BE.; El Kefi, H.; et al. Literacy and stigma of suicide among medical students in Tunisia. *Cogent Psychol.* **2025**, *12*, 2536109. [CrossRef]
18. Bansal, S.; Bhambhwani, V. Evaluation of a simulation-based ophthalmology education workshop for medical students: A pilot project. *BMC Med. Educ.* **2025**, *25*, 153. [CrossRef]
19. Liu, F.; Lv, X.; Yang, S.; et al. A comparative analysis of research interest in medical students: An international and Chinese perspective over the past decade using CiteSpace. *Cogent Educ.* **2025**, *12*, 2510021. [CrossRef]
20. Du, Q. Research on ideological and political education for medical students under new media environment. *Media Forum* **2019**, *2*, 17–18. (in Chinese)
21. Akbarzadeh, B.; Maenhout, B. A decomposition-based heuristic procedure for the medical student scheduling problem. *Eur. J. Oper. Res.* **2021**, *288*, 63–79. [CrossRef]
22. Khojasteh, L.; Kafipour, R.; Pakdel, F.; et al. Empowering medical students with AI writing co-pilots: Design and validation of AI self-assessment toolkit. *BMC Med. Educ.* **2025**, *25*, 159. [CrossRef]
23. Peng, J.; Zhang, H.; Tu, X.; et al. Effectiveness of AI-assisted medical education for Chinese undergraduate medical students: A meta-analysis. *BMC Med. Educ.* **2025**, *25*, 1207. [CrossRef]
24. Mokhwelepa, LW.; Olivia Sumbane, G. Behind the white coat: The effects of substance use and alcohol among South African medical students. *Crit. Public Health* **2025**, *35*, 2497355. [CrossRef]
25. Goffman, E. *Encounters: Two Studies in the Sociology of Interaction*. Bobbs-Merrill: Indianapolis, IN, USA, 1961.
26. Sabry, W.; Fathy, A.; Emaduddin, M.; et al. Prevalence of depressive symptoms among medical students at Badr University in Cairo, Egypt. *Middle East Curr. Psychiatry* **2025**, *32*, 72. [CrossRef]
27. Sisay, E.; Mihret, G. Investigating key factors influencing substance abuse among undergraduate medical students at Saint Paul's hospital millennium medical college, Addis Ababa, Ethiopia: A qualitative approach. *BMC Psychiatry* **2025**, *25*, 756. [CrossRef]
28. Ray, C.; Jha, S.; Watt, M.; et al. The feasibility of an innovative online mind-body wellness program for medical students. *Can. Med. Educ. J.* **2025**, *16*, 76–82. [CrossRef]
29. Owusu-Ayim, M.; Majumdar, S.; Reid, L. Is clay modelling an appropriate teaching tool for laryngeal anatomy? A pilot study of 16 medical students. *Scott. Med. J.* **2025**, *70*, 56–63. [CrossRef]
30. Finesilver, ER.; Fox, WR.; Brown, CA.; et al. Extra time examination conditions and question format: Effects on the performance of UK medical students in a national cross-sectional study. *Med. Teach.* **2025**, 1–8. [CrossRef]
31. Shikino, K.; Ozaki, N.; Araki, N.; et al. Impact of community-based clinical clerkship on medical students' generalism-related competences: A mixed-methods study. *J. Gen. Fam. Med.* **2025**, *26*, 603–611. [CrossRef]
32. Pan, H.; Jiang, Y.; Huang, Y.; et al. A study on the mechanism affecting the innovation and entrepreneurship ability of medical students based on constructivist theory: Mediating role of innovation and entrepreneurship willingness. *Front. Med.* **2025**, *12*, 1630168. [CrossRef]
33. Zarzecka-Francica, E.; Gala, A.; Gębczyński, K.; et al. Educational challenges – the impact of COVID-19 pandemic on dental students' stressors in one-year observation period. *Crit. Public Health* **2025**, *35*, 2593443. [CrossRef]
34. Spooner, M.; Reinhardt, C.; Strawbridge, J.; et al. How cultural factors affect medical students' interactions with clinical practice feedback: A qualitative study of ethnically diverse students at three transcontinental campuses. *Med. Educ. Online* **2025**, *30*, 2567075. [CrossRef]
35. Ali, MB.; Al Zamel, AM.; Elniema, OH.; et al. Infection control competency in surgical settings among clinical medical students in Sudan: A cross sectional study. *BMC Med. Educ.* **2025**, *25*, 1573. [CrossRef]
36. Watanabe, T.; Sakai, M.; Yoshimura, K.; et al. Effectiveness of on-demand acceptance and commitment training for burnout and well-being in Japanese medical students: Protocol for a nationwide randomised controlled trial (BEACON Study). *BMJ Open* **2025**, *15*, e106542. [CrossRef]
37. Bockus, C.; Truong, G.; Bartholomew, KS.; et al. Declining medical student attendance: A single institution thematic analysis of reasons students do not attend a preclinical public health course. *Med. Educ. Online* **2025**, *30*, 2587387. [CrossRef]
38. Zona, EE.; O'Shea, AW.; Fine, KS.; et al. Developing effective and passionate plastic surgery researchers: A

structured pathway for medical students. *Plast. Reconstr. Surg. Glob. Open* **2025**, *13*, e7275. [CrossRef]
39. Li, W.; Jiang, X.; Zhang, M.; et al. The influence mechanism of extracurricular activity participation on the perceived improvement of comprehensive literacy among medical students: The mediating role of self-efficacy. *Cureus* **2025**, *17*, e96742. [CrossRef]
40. Farhan, MA.; Makkiyah, FA.; Hadiwiardjo, YH.; et al. Exploring the correlation between academic achievement and self-regulated learning on critical thinking in undergraduate medical students. *BMC Med. Educ.* **2025**, *25*, 1587. [CrossRef]
41. Xie, L.; Zhou, H.; Zheng, Q.; et al. Investigation on psychological pressure status and related influencing factors of medical students in universities. *Psychol. Mag.* **2025**, *20*, 115–117. [CrossRef] (in Chinese)
42. Salama, MNF.; Abdelkhalek, AM.; El Nayal, MA.; et al. Emotional distress among medical students before and after the first exposure to a full cadaver dissection: A quantitative study using DASS-21. *Med. Educ. Online* **2025**, *30*, 2601707. [CrossRef]
43. Khalil, KA.; Ahmed, WMM.; Ahmed, ABM.; et al. Academic procrastination among Sudanese medical students through the lens of gender: A cross-sectional study. *BMC Med. Educ.* **2025**, *25*, 1607. [CrossRef]
44. Abdelshafi, A.; Osama, B.; Abdelhamid, ZG.; et al. Irritable bowel syndrome and associated mental health problems among Middle East and North African medical students: A multicentric cross-sectional study. *BMC Public Health* **2025**, *25*, 3968. [CrossRef]
45. Ballal, Y.; Hu, P.; Eze, C.; et al. Beyond the stethoscope: A systematic review of mental health disparities among medical students of color during medical training. *J. Racial Ethn. Health Disparities* **2025**, in press. [CrossRef]
46. Alqarni, HZM.; Alqarni, EM.; Alghanim, MF.; et al. Sleep Disorders and Associated Factors Among Medical Students in Saudi Arabia: A Systematic Review and Meta-Analysis. *Cureus* **2025**, *17*, e100414. [CrossRef]
47. Mansour, T.; Zalat, MM.; El Tarhouny, SA.; et al. Exploring the characteristics of parachute medical teachers and their effects on medical students' attitudes and performance. *Med. Sci. Educ.* **2025**, in press. [CrossRef]
48. Lin, M.; Yu, H.; Liu, M.; et al. The dynamic association between depression, psychological flexibility, and meaning in life among medical students: A cross-lagged analysis. *BMC Psychol.* **2025**, *13*, 1267. [CrossRef]
49. Sirajudeen, N.; Bhatt, N.; Patel, A.; et al. Medical students' perception of AI's role in radiology before and after an AI-focused educational panel: A paired pre-post design. *BMC Med. Educ.* **2025**, *25*, 1735. [CrossRef]
50. Kim, C.; Kwon, JE.; Ju, G. Mental health of medical students who took a leave of absence during the 2024 medical crisis in South Korea. *BMC Public Health* **2025**, *25*, 4016. [CrossRef]
51. Ahmady, S.; SeyedAlinaghi, S.; Yarmohammadi, S.; et al. Integration of learning technologies in medical students' curriculum: A systematic review. *Health Educ.* **2025**, *125*, 672–719. [CrossRef]
52. Arvilla-Salas, L.; Vazquez-Reyes, S.; De Santiago, AS.; et al. Dietary Intake Patterns, Substance Use and Their Association with Anxiety and Depression Symptoms in Medical Students in Mexico: A Cross-Sectional Study. *Nutrients* **2025**, *18*, 104. [CrossRef]
53. Otaner, F.; Ahmed, A.; Patel, Z.; et al. Perceptions and the impact of early mentorship of medical students in neurosurgery: A qualitative study. *J. Surg. Educ.* **2026**, *83*, 103778. [CrossRef]
54. McNamara, T.; Ringel, R.; Scheuer, LS.; et al. Short and sweet: Reducing extrinsic cognitive load when authoring self-study materials for medical students. *Med. Sci. Educ.* **2025**, in press. [CrossRef]
55. Chao, K.; Veazey, K. Influence of preclinical medical scribe experiences on specialty outcomes in fourth-year medical students. *Med. Sci. Educ.* **2025**, in press. [CrossRef]
56. Monrouxe, LV. Identity, identification and medical education: Why should we care? *Med. Educ.* **2010**, *44*, 40–49. [CrossRef]
57. Monrouxe, LV.; Rees, CE. "It's just a clash of cultures": Emotional talk within medical students' narratives of professionalism dilemmas. *Adv. in Health Sci. Educ.* **2012**, *17*, 671–701. [CrossRef]

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