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"I began to wonder whether I am becoming emotionally numb". Sociocultural background, hidden curriculum, and moral self-reflection in the development of medical professional identity: A qualitative study

«Empecé a preguntarme si me estoy volviendo emocionalmente insensible». Antecedentes socioculturales, currículo oculto y autorreflexión moral en el desarrollo de la identidad profesional médica: un estudio cualitativo

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Abstract:

The focus of our study is personal, emotional, and moral development of medical students in the context of their medical school experience, and the impact of hidden curriculum on the formation of their professional identity. We conducted interviews with 26 fourth-year students and analysed them by methods of content and discourse analysis. Several factors impacting the adaptation to the medical environment and the adoption of professional identity emerged as significant: their sociocultural background, the institutional culture of medical school, and the practice of moral self-reflection. The adaptation to medical environments and the appropriation of professional roles come more easily to students from medical families, yet present significant challenges to students from non-medical families who are more likely to be impacted by both positive and negative aspects of the hidden curriculum. Students who expressed moral self-reflection were capable of critically assessing the impact of the medical environment on their personal and professional development. We suggest that the provision of safe space for students to reflect on their subjective experiences might be both an educational and therapeutic intervention supporting development of moral and professional integrity, while faculty mentorship might partially compensate for the lack of privilege of medical family background.

Keywords: medical students, medical education, professional identity, hidden curriculum, moral self-reflection, institutional culture, sociocultural background.

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Resumen:

El enfoque de nuestro estudio es el desarrollo personal, emocional y moral de los estudiantes de Medicina en el contexto de su experiencia en la Facultad de Medicina y el impacto del currículo oculto en la formación de su identidad profesional. Realizamos entrevistas con 26 estudiantes de cuarto año y las analizamos mediante métodos de análisis de contenido y discurso. Se detectaron varios factores significativos que influyen en la adaptación al entorno médico y en la adopción de la identidad profesional: sus antecedentes socioculturales, la cultura institucional de la Facultad de Medicina y la práctica de la autorreflexión moral. La adaptación a los entornos médicos y la apropiación de roles profesionales resulta más fácil para los estudiantes de familias médicas, pero presenta desafíos significativos para los estudiantes de familias no médicas, quienes son más propensos a verse afectados por aspectos tanto positivos como negativos del currículo oculto. Los estudiantes que expresaron una autorreflexión moral fueron capaces de evaluar de manera crítica el impacto del entorno médico sobre su desarrollo personal y profesional. Sugerimos que dotar a los estudiantes de un espacio seguro donde puedan reflexionar sobre sus experiencias subjetivas podría ser una intervención tanto educativa como terapéutica que apoye el desarrollo de la integridad moral y profesional, mientras que la mentoría del profesorado podría compensar de manera parcial la falta del privilegio de contar con un entorno familiar médico.

Palabras clave: estudiantes de medicina, educación médica, currículo oculto, autorreflexión moral, cultura institucional, antecedentes socioculturales.

1. Introduction

The educational neuropsychologist Peter Gray defines education as a form of cultural transmission, "a set of processes by which each new generation of humans acquires and builds upon the skills, knowledge, rituals, beliefs, and values of the previous generation" (Gray, 2015, p. 112). Medical curricula tend to focus on the transmission of the necessary knowledge and skills, while the transmission of values, beliefs, rituals, and practices, is often absorbed unwittingly by immersion in the social environment and institutional culture of medical schools and teaching hospitals. Yet these factors are of paramount significance to the personal, emotional, and moral development of young people, while also exerting significant influence on the appropriation of their professional identity and internalisation of characteristics and practices defining the social role of medical doctors. This process aligns with Pierre Bourdieu's concept of *habitus*, which describes the deeply ingrained habits, dispositions, and ways of being that individuals acquire through socialisation within specific contexts (Bourdieu, 1977).

One of the key requirements for the medical profession is moral and professional integrity (World Medical Association, 2022). According to Edgar and Pattison (2011), integrity is "a competence or capacity for reflection and discernment in the midst of the conflicting demands between professional and personal values, roles, and ethical systems" (p. 95), which can be cultivated to achieve subtle competence in dealing with the complexities, ambiguities, and tensions of professional life (Edgar & Pattison, 2011). Many consider the ability for critical reflection as an essential characteristic for professional competence of a medical doctor, and a core element of professional identity (Epstein & Hundert, 2002; Mann et al., 2009; Van Oeffelt et al., 2018).

Richard Cruess (2014) defines professional identity as the gradual internalisation of the characteristics, values, and norms of the medical profession. The process of adopting a social role and the identification with this role is shaped by sociocultural factors (Al-Rumayyan et al., 2017; Polyakova et al., 2020), and the social environment of medical schools plays a significant role in presenting cultural patterns and values that define the profession. These factors have been described as *hidden curriculum*, i.e., unwritten rules, norms, values, attitudes, patterns of social interactions, which exert significant influence over the personal development and

professional development of students, both in positive and negative ways (Martimianakis et al., 2015; Hafferty & O'Donnell, 2015). There has been increasing focus on hidden curriculum of medical schools ever since Hafferty and Franks (1994) presented an argument that the outcomes of medical training are as influenced by the social environment and institutional culture as by formal teaching, and that these factors must be taken into consideration in order to nurture desirable characteristics of medical graduates.

Medical education tends to be divided into two phases: pre-clinical courses of natural sciences, providing the scientific foundation essential for medical practice, with usually only very limited contact with patients, and subsequent clinical training that combines lectures and bedside teaching by clinicians. Therefore, the teachers in medical schools are researchers and clinicians, with very little or without any formal advanced training in paedagogy. According to Spencer (2003), clinicians may struggle with estimating the complexity of teaching, face unclear objectives and expectations, experience time constraints that limit student engagement, and often lack adequate supervision and feedback. Moreover, the demands of clinical work and research which are perceived as primary objectives, leave very little time, but also very little recognition and reward for teaching, with very little resources and only limited opportunities for reflecting on the learning process of students.

The transition from pre-clinical to clinical training is commonly perceived by students as a significant and challenging milestone, often accompanied by stress and uncertainty (Ottrey et al. 2024). This shift involves moving from classroom-based theoretical learning to direct patient care, where students must apply their knowledge in real-world settings, and it is at this stage students gradually assume the professional role of medical doctors. Research highlights the psychological and emotional strain associated with this transition, emphasizing the need for supportive learning environments (Xu, 2014; Radcliffe & Lester, 2003; Moss & McManus, 1992). As demonstrated by Ottrey et al. (2024) in their qualitative longitudinal study of medical students before and after clinical training, significant number of students reported feeling unprepared for various aspects of clinical practice, including practical skills and tasks, interpersonal communication, medical knowledge, and professional conduct.

Our research aims to contribute to the field of the emotional and moral development of students, in context of the interpersonal and sociocultural aspects of their medical school experience. Our focus was on the subjective experience and introspective aspect of reflection, rather than the outwardly manifest patterns of appropriation of professional identity, and signs of individual identification with the medical role. This perspective aligns with Maurice Merleau-Ponty's (2002) argument that our perception is fundamentally embodied, suggesting that our subjective experiences are deeply intertwined with our physical and social environments. This notion is particularly pertinent in medical education, where the hidden curriculum, as well as students' sociocultural background, influence their subjective experiences and form their professional identities (Gomes & Rego, 2013).

In our study, we were interested in medical students' self-understanding, reflection of their motives and actions, their perception of personal transformation in the course of their studies, and in particular, the spontaneous expression of moral self-reflection (the introspective and critical assessment of their conduct and its justification from the moral perspective) (Cambridge Dictionary, 2024; David, 2017; Xie, 2020). By examining these aspects together, we gain a comprehensive understanding of the multifaceted influences on medical students' development, aiding in the creation of supportive educational environments that foster personal and professional growth (Mezirow, 1997).

2. Methods

Our qualitative research consisted of individual semi-structured interviews with fourth-year medical students of the six-year curriculum at the Third Faculty of Medicine, Charles University, Prague, Czech Republic, conducted between February and May 2023.

We have chosen fourth-year medical students as the target group of our study because they have recently experienced the transition from pre-clinical to clinical training, and represent a suitable cohort for studying the formation and development of their emerging professional identity, yet still have more than two years of clinical training ahead where this role will be rehearsed and refined.

All 208 medical students in the fourth year received an email with the invitation to online interviews about their understanding of the moral dimension of the medical school, healthcare, and wider society. As an expression of gratitude for their time they were given a book, with no other compensation received.

The interview questions were developed based on a scoping review of relevant literature on the development of professional and personal identity among medical students. This theoretical foundation informed the design of the questionnaire, ensuring that key aspects of students' experiences were explored systematically. The questions aimed to illuminate three core areas: (1) students' motivations and expectations related to medical school and their chosen profession; (2) observations and reflections on interpersonal interactions, the social environment, and the institutional culture of the medical school; and (3) reflections on personal transformation throughout their medical studies, as well as aspirations for their future careers. A detailed list of the specific interview questions can be found in Appendix 1.

The study was conducted using online interviews, which were audio-visually recorded. The duration of interviews ranged from 46 to 71 minutes. Prior to the interviews, participants were provided with informed consent forms, outlining the study's purpose, procedures, and confidentiality measures.

After the interviews, the recordings were transcribed verbatim. To ensure participant confidentiality, all identifying information was removed from the transcripts during the anonymisation process.

The transcribed data were subjected to analysis using both content and discourse analysis techniques, with a constant comparison approach.

Content analysis involved identifying recurring themes, patterns, and motives within the data. Both authors independently coded the transcripts using codes that represented significant themes, patterns, and motives emerging from the data, describing student's expressions. After this initial coding, the authors compared their identified codes. This comparative process involved detailed discussions to reconcile any discrepancies and to refine the codes. Through this collaborative effort, the authors developed a comprehensive coding framework that accurately represented the data, in which each code was assigned a clear definition specifying its scope and meaning to ensure consistency. The final set of codes was then used to systematically analyse the entire dataset, ensuring that all relevant data were captured and appropriately categorised. The table of codes is attached as Appendix 2.

Discourse analysis focused on examining the ways in which participants constructed and communicated their experiences and views, with a particular focus on whether they were aware of the influence of the hidden curriculum on themselves and whether moral self-reflection spontaneously emerged in their responses.

The research team consists of two authors of this text, both graduates of the medical school (2016 and 2004, respectively), who therefore also draw on their personal experience in designing the research. Tereza Pinkasová is additionally qualified as a psychotherapist and enrolled in PhD programme in medical ethics, while Lydie Fialová holds a doctorate in social anthropology. Tereza Pinkasová has been involved in medical ethics teaching, but was not and will not be directly involved in examination of any of the participating students.

The research was approved by the Ethics Committee of Third Faculty of Medicine, Charles University.

3. Results

Of all invited (208, by email) fourth year medical students, 26 (12.5%) expressed their interest to be interviewed. Of these, 17 were female and 9 male, with the age range 22 (7), 23 (15), 24 (3) and 28 (1). 22 students were Czech (CZ) and 4 Slovak (SK) nationals. Among the interviewees, eight students (30.7%) had one (5) or both (3) parents with medical degree; additional eleven (42.3%) had one (3) or both (8) parents with university education, while seven students (26.9%) came from families where neither of the parents attended university, having completed secondary education (6) or vocational training (1). The characteristics of the students are summarised in Table 1.

Table 1. The characteristics of the students.

	Gender	Age	Nationality	Family	
A	F	23	CZ	NMF	both parents university educated
B	F	22	CZ	MF	both parents doctors and both grandparents on mother side doctors
C	F	22	CZ	NMF	both parents university educated
D	F	22	SK	MF	mother doctor
E	F	23	CZ	NMF	father university educated, sister studying medicine
F	M	22	CZ	MF	both parents doctors
G	F	22	CZ	NMF	both parents vocational training
H	M	23	CZ	NMF	both parents university educated, grandmother doctor
I	M	23	CZ	NMF	both parents university educated, grandmother doctor
J	F	24	CZ	MF	mother doctor, grandfather doctor
K	F	23	CZ	NMF	both parents secondary education, aunt doctor

L	M	23	CZ	NMF	both parents university educated
M	F	24	CZ	MF	both parents doctors
N	M	28	CZ	NMF	both parents secondary education
O	F	23	CZ	MF	mother doctor
P	F	23	CZ	NMF	mother university educated (nurse)
Q	F	23	CZ	NMF	both parents secondary education, aunt doctor
R	F	23	CZ	MF	mother doctor
S	F	23	CZ	NMF	both parents university educated
T	F	23	CZ	NMF	both parents secondary education
U	M	24	CZ	MF	father and great grandfather doctors, mother university educated, brother studying medicine
V	M	23	CZ	NMF	both parents university educated
W	M	22	SK	NMF	both parents secondary education
X	F	23	SK	NMF	both parents university educated
Y	F	22	CZ	NMF	both parents secondary education
Z	M	23	SK	NMF	father university educated

The representativeness of this sample with regard to the sociocultural and socioeconomic background of students was impossible to establish since the medical school does not collect these data. There are very few studies on the demographics of medical schools, the available data from Sweden in 1990 (Polyakova et al., 2020) and in 2014 (Simmenroth-Nayda & Görlich, 2015) both identify 20% of medical students coming from medical families, and data from the USA in 2018 identify 22% (Fokas & Coukos, 2023).

For the purposes of this article we focus our analysis on the (1) sociocultural background and its impact on the self-understandings of medical students, including hopes for their future professional life, (2) the interpersonal interactions and institutional culture they notice and reflect upon in medical school and teaching hospitals, and (3) reflections of personal transformation and moments of moral self-reflection. The students were not explicitly asked about formation of their professional identity nor the impact of hidden curriculum, but the themes, patterns, influences, and signs of identification with professional role, or the lack thereof, emerged in their reflections and were subsequently analysed.

3.1. Sociocultural background

Among the most significant factors that impact the experience of medical students and their expectations of medical practice, including its ethical dimension, was the family background of students, especially whether they come or don't come from a medical family (which they often mentioned spontaneously as a way of explanation of their experience). Almost a third of the interviewed students come from families where one (5) or both (3) parents are medical doctors. The medical (MF, 8) vs. non-medical (NMF, 18) family background of students correlated with their expressed expectations of the demands of medical study, their understanding of the realities of clinical work in hospital environment, but also with the support (emotional, financial, practical) and understanding that they receive from their families. All MF students have spontaneously expressed the highest possible level of support and understanding from their parents. "I have 100% support" (U), and "They understand that I don't have much time. They understand that sometimes I feel down and overwhelmed, they understand how much time I need to master the learning, and they are able to help me when I don't feel well" (B). Among the 18 NMF students, only a minority mentions that their parents are supportive (6) and understanding (2), while others explicitly say that they lack parental support (3) and understanding (5), or that their parents' attitude is more of admiration rather than support (3):

> They put me on the pedestal, because they consider medical school as very hard, and think I am doing really well, so they are rather uncritically excited... but when it comes to how much we have to learn and what it actually takes, they don't really understand that at all. (T)

This puts the NMF students in the position of disadvantage which can be further exacerbated by the needs of their families that they have to provide for.

> Sometimes it comes to a light confrontation, my mother needs a lot of help and it was really hard to draw the boundaries, that I really need to focus on my studies now and don't have much time left to help out. It was a really hard internal conflict. On one hand I really wanted to devote myself fully to my studies, but on the other hand I knew that my mother expects all this help from me. (K)

The differences between MF and NMF students extends also to the expectations they had from medicine and the demands it will make on them, with the former being more realistic: "I expected the studies to be hard, that I will have to learn discipline in working and be more organised and plan ahead. And get used to the stress, as there is a lot of stress in the medical environment" (U). Another student articulates that her mother prepared her for the reality of the medical world: "She was very clear that it is a hard and actually rather unpleasant environment" (R). These students notice both advantages and disadvantages of these insights: "I consider it an

advantage because I can always ask my parents and through them I also have understanding of the clinical context. On the other hand, I also get to see the darker sides of healthcare, that it can be rather harsh" (O). And similarly,

> It is an advantage because I am not naive about medicine and the way it works in the hospitals. That I don't think it is just this beautiful profession where you help others. That is an advantage because I can see that many of my classmates had this idea initially and then they are completely crushed by the reality of clinical practice, and they start doubting whether they actually want to do it or not. So being familiar with that environment helped me a lot. (J)

The NMF students express a variety expectations about the medical school and its challenges, and some reflect on the naivité of their initial expectations: "I thought that we will learn all the magic how to make people feel better, that they will introduce us to all these secrets of life... so I did not expect it to be just about hard data and hard science" (E), while others express the feeling of being paralysed by the reality of clinical practice: "I feel like I am getting used to hopelessness" (A).

Faced with the realities and demands of clinical practice, many students wonder whether this is the right path for them, and whether they would be able to integrate it into their life. 11 students (42%) seem to fully identify with the role of the doctors, they feel part of the medical school and hospital environment, and plan for their future medical career. 6 of these come from MF, 3 from university educated families (UF), and 2 with non-university background (NUF). Of these, 6 students identify with the role to a certain degree, but also reflect critically on the environment and think creatively about the ways in which it can be changed: "I would certainly like to contribute to the change of the system" (M). Another 9 students (35%) express ambivalence about becoming doctors. Among these, 2 are from MF, 5 from UF, and 2 from NUF: "Perhaps I want to have a different life than this. Have a family, interests, something beyond medicine. So it is a constant struggle" (L). 3 UF students (11.5%) express distance and doubts over their future: "I wonder whether it is worth the effort to give so much of your energy to something that is mentally, psychologically so demanding" (I). Finally, 3 students (11.5%) are considering leaving for another profession: 2 of them come from NUF, 1 from UF also enrolled in another university degree; and neither of these students mentions support and understanding of their parents in the course of their studies.

3.2. Hidden curriculum

The students reflected on the atmosphere, social interactions with classmates, teachers and clinicians. All MF students perceived the atmosphere of medical school positively or expressed understanding about the impossibility of perfection in medicine. On the other hand, the NMF students responded more strongly and with emotions to the situations they encounter which do not feel right or fair. In some instances, this difference in their family background establishes a certain hierarchy: "It is easy to feel inferior" (G). Yet it also brings a sense of community with others who equally struggle: "Shared hardship brings people closer" (E). About 62% commented on the atmosphere of faculty and on the level of support and understanding among students: "It seems to me that the student community is quite open, everyone is trying to help each other. There is an atmosphere of shared community, since we can see we are all on the same boat" (H). Other students comment on the necessity of such a community: "It is so good that we have each other. I think it won't be possible to manage without the others, being on your own would make the study of medicine impossible" (B).

However, there were others who expressed disappointment from the lack of conviviality which made the adaptation to the medical environment much harder:

> I was looking forward to being at the university, finding new friends, but somehow it does not work for me here. The negative aspect of medical school is actually the classmates who exert so much pressure. I do not feel like I am suitable for the study of medicine and then it is easy to

> feel like an outcast, when everyone seems to be doing well and I struggle, they are all so high achieving and smart and I don't know what to do about that. (I)

About half of the students also mention that being active and engaged in the faculty life brings certain advantages, such as being noticed by teachers and offered participation on research projects, being glorified as *an ideal student*, or in some instances offered additional chances to pass an exam: "There are students who have certain advantages, and it seems to me... unjust, unethical even towards the others" (A). 23% of the students consider this pressure on being active and engaged as negative, while some interiorise this imperative to accommodate to the culture and expectation of the medical school: "You have to achieve academically, but you also have to achieve socially" (G). These students, all of which came from NMF, do not feel this pressure as motivating, rather, it becomes a source of frustration. Their additional obligations and responsibilities make it harder to participate.

> I experience this pressure among the classmates that the more you do the better it makes you. So it is often admired that you take the night shift and from there you go to classes, and then back to the hospital... It creates this rather unhealthy environment that already at this stage you don't get to sleep and give yourself entirely to this calling... It gets normalised, and even during the exam period the library is open 24/7 which gives the impression we have to study the whole night. I think it is really important to draw the boundaries within yourself. (X)

46% of the students commented on their teachers, recounting positive experiences with those who are enthusiastic for their specialty area, who are supportive and communicate with them with respect, which motivates them to do well. However, many also shared negative experiences where the teachers humiliated and criticised them, or exposed them to unnecessary pressure: "On our first lab session we were doing some calculations and we did not get it right and the teacher said, 'You have just killed the patient'" (L). The students also note how this negative experience impacts on their ambitions, confidence, and self-expression: "It was an oral exam and they treated me like a piece of shit. It killed all my workaholism, my ambitions. It was a decisive experience" (V). Some interpret the teacher's assessment as a judgement that they belong among the less talented students: "So I got to learn my place" (I)

54% of students also commented on interpersonal relationships in the hospitals, the atmosphere, hierarchies, and attitudes towards the patients. Sometimes these encounters are source of inspiration:

> Although it was a very busy emergency ward where there is very little time for patients, the doctor still kept to this humane side, he did not act superior to them, he was still able to find time to explain the treatment and was interested in the patient's perspective, and when the patients know what is going on he can even feel better in the hospital. (W)

In other instances they witnessed practices they disapproved of:

> We went to see the patient who was quite disoriented and did not want the medical students to be there, but the doctor insisted we should listen to her lungs... We thought it unnecessary, the doctor brought us into this situation in which we did not want to be, and it seemed rather arrogant and entitled, superior. (C)

Some students do not feel well in the hospital environment and can not imagine working in this setting: "Attending the clinical training I can't actually imagine being a doctor. It is so busy, and I feel that once I enter the system I will get lost in it, it will crush me" (Q). For others, the negative experience are attributed to be a characteristic of a particular specialty which they decide to avoid: "You can feel the difference among medical specialties, for example surgery, the doctors have a certain kinds of expression, behaviour, and even values and attitudes towards the patients, and there I know I certainly don't want to be part of it, for these reasons" (W).

All MF students spontaneously identified their parents as motivations for studying medicine, and they also referred to them as their role models from whom they learn appropriate ways of responding to clinical and ethical challenges.

> My mother is a radiologist who often has to breach the diagnosis to patients with breast cancer, and so she told me about how to share these difficult news and she simply said, you have to do it slowly... Even when you know that the prognosis is not good you have to give it in small drops, tell them that further assessment is needed and prepare them for that... I am not sure whether it is good or not but it gives me an insight into how it actually works in clinical practice. (F)

For some of the NMF students the motivation for studying medicine was an encounter with doctors that were taking care of them or their family members:

> I was five when I became seriously ill and had to be hospitalised regularly. I met this really inspiring doctor who has been taking care of me, she was very kind and wise and tolerant and always had plenty of time for her patients, and I always wished, and still wish, to be like her. (T)

Others had deep personal reasons: "I was 16 when my father died of cancer, and that was this moment that I realised I want to do this work" (P). All NMF closely observe teachers and clinicians in the medical school, and 10 out of 16 explicitly stated they search for role models among them: "It does not have to be a professor, it can be an ordinary medical doctor who knows what they are doing. That really motivates me when they are knowledgeable in their area, and I want to be like them in order to really help the patients" (Z). In contrast to MF students who treat the medical doctors they meet in clinical attachments on almost equal terms and are more inclined to be critical towards them: "You always have to check whatever they say, you have to look critically on it, and be careful about people you consider your role models" (F). The NMF tend to perceive doctors from an inferior and submissive position and be generous in their admiration: "He was a consultant, so wise, tolerant, humble, and so knowledgeable, so educated" (T).

3.3. Expressions of moral self-reflection

While most students were reflective on the personal transformation in the course of their studies, 4 students spontaneously expressed moral self-reflection. They considered situations that challenged them and expressed awareness of the danger that they might not act in accordance with their values, while recognising the necessity of constant self-reflection to prevent this from happening: "I became rather cynical somehow. Some problems might be quite serious for people and I felt like I am lightening it up. I began to wonder whether I am becoming emotionally numb, and became quite concerned about being like that... So I decided not to be like that" (U). One student wonders about the impact of the institutional environment on her conduct:

> I try to be conscious about these influences. It seems to me that every year you spend in medical school, medicine eats out a little of your empathy. But it is difficult, because unless you consider this personally important, it is very easy to be taken away by the system, and patients disappear for you into their diagnoses and codes for the insurance companies. (X)

All these students expressed a strong support and understanding of their families (3 of them coming from MF, 1 from UF). Additional 4 students have expressed signs of moral self-reflection, and the awareness of the sense of danger of becoming someone they don't want to be as a result of the situations they face (3 of them from UF, 1 from NUF). These situations often involved students feeling empathy towards the patient, and experiencing feelings of pity, shame, or awkwardness when witnessing a doctor treating a patient poorly. "I really hope I won't give up on my moral convictions. I don't want to be dismissive or superior" (C). They expressed the need to face up to their mistakes and inappropriate behaviour, and correct these. One of these students also commented on the *expansion* of his empathy by reflecting on the situation of patients he encountered:

> It helped me to gain real understanding of the alcoholics and drug addicts, because I thought, if I were in their life situation, perhaps I would end up the same, and perhaps even much worse. So it gave me this understanding. Often they are judged and condemned by society, but once you hear their stories, it actually deepens your understanding of another person. (Z)

Nevertheless, they also reflect on the need for a balance between empathy and emotional distance. As one student expressed,

> it's about being able to communicate with strangers, to empathize while maintaining a certain perspective, perhaps even some distance. Although I might not want to create distance entirely, keeping a sense of perspective is important to realize that not everyone is like me and that I can, and must, approach each person differently; and that's okay. (S)

4. Discussion

This research provides insights into personal, emotional, and moral development of medical students. We have identified three interrelated variables that contribute to the formation of personal integrity and professional identity in the course of medical studies: sociocultural background, the hidden curriculum, and the capacity for critical moral self-reflection. The main limitation of our research is the self-selected nature of participation in our study, therefore, the research findings may not fully represent the wider student population. Future research may consider implementing random selection methods to mitigate these limitations.

While pursuing careers in fields such as science or teaching is often influenced by broader sociocultural factors such as community values, educational experiences, and societal norms (Bourdieu, 1977; Gore et al., 2015; Mansour, 2013), we found a medical family background to be a significant influence on medical students' adaptation to the medical environment and the development of their professional identity. While fields such as teacher education place significant emphasis on the sociocultural backgrounds of students, both at the institutional level and in academic research (Gay, 2018), medical faculties tend to overlook this aspect, and research in this area remains comparatively underdeveloped.

Our research shows that, in comparison to other students, those from MF had the best possible support system and secure grounding, which also allowed them more time and space for thinking and reflection. They had realistic expectations about life in medicine, the adaptation to hospital environment and appropriation of professional medical roles come more easily to them, and they benefit from their parents' guidance throughout their medical education. According to Choi et al. (2018), students from medical families (MF) benefit from familiarity with the medical environment, which can lead to better-informed decisions about practice locations and facilitate connections with established practitioners.

In the case of NMF, these students did not have the advantage of being familiar with the medical environment to the degree that their expectations of medical school and clinical practice would be realistic, which seems to cause higher stress levels and make the adaptation to this environment more challenging. Moreover, they are at a disadvantage in the level of support and understanding they receive from their families, and often also in terms of demands on their time and additional responsibilities. These factors also impact their social participation and enculturation into the medical world, and the ways in which they identify with their future professional role. Research indicates that NMF students often lack an understanding of how medical specialties are structured, and what prestige they convey to their practitioners. This unfamiliarity can lead to greater uncertainty during medical school, particularly when compared to peers who strategically plan their specialty choices early on. The competitive nature of certain specialties, such as surgery, discourages some students who are unwilling to engage in the struggle to gain access to surgical training opportunities (Olsson et al., 2019). According to Choi (2018), medical students from NMF are more likely to pursue primary care and other less prestigious specialties.

Our findings imply that medical schools, in addition to its focus on the transmission of knowledge and skills, have a profound responsibility to provide a respectful and nourishing environment which is supportive of students from all backgrounds, especially those whose lack of family support and professional cultural background which sets them in disadvantage in a wide range of ways. This is especially true for the first generation of medical/university students who bring diversity into the medical profession, as emphasised by other studies (Choi et al., 2018; Ryder et al., 2022; Romero et al., 2020).

Our research highlights the impacts of the hidden curriculum, especially the institutional culture of social hierarchies and competitiveness, and the importance of clinicians and teachers as inspiration and role models. NMF students tend to be more exposed to and impacted by the negative aspects of the hidden curriculum, from which the MF students are sheltered by their privilege. Long-lasting faculty mentorship might partially compensate for the lack of medical family-transmitted *insider* position, while also providing opportunities for reflection on the personal experiences in the medical environment and their ethical dimension, as a prerequisite of development of moral integrity and professional identity. These mentors, who ideally would be available to students for the time of their entire studies, might emerge from tutorships or perhaps long-term internships in GP practices. While the cost of dyad mentoring can be significant, the investment may be justified if mentorship can help reduce student burnout (Winkel et al., 2017). However, medical faculties currently still pay insufficient attention to the sociocultural contexts of their students. Investigating the influence of these backgrounds through research would be highly valuable, particularly to better understand how such factors shape students' professional identity. Additionally, it is worth considering not only the sociocultural background of students but also of faculty members, as this dynamic may influence teaching practices and mentoring relationships.

Medical schools and hospitals should also devise mechanisms for identifying both positive and negative aspects of the hidden curricula, create spaces for ongoing collective critical reflection of institutional practices, and deliberately work on these issues for the benefit of students, as well as patients.

While numerous studies (Farkas et al., 2019) acknowledge the positive impact of reflective practices in general, there is a lack of research specifically on moral self-reflection. We explored the role of moral self-reflection in the formation of professional identity with regards to ethical values and attitudes, and our finding suggest that the ability for moral self-reflection is essential in preventing perpetuation of negative and unethical practices and patterns of behaviour to which students are potentially exposed in the medical school and in the hospital, and represent additional protective factor for negative influence of the hidden curriculum. The capacity for moral self-reflection and its transformative potential for medical students should be taken into consideration by medical schools in devising educational and therapeutic interventions.

Reflective practice focused on one's own (un)ethical conduct can be integrated into existing ethics and clinical courses at medical faculties, and new elective courses centred on moral self-reflection, including collective reflection, should be incorporated into the curriculum (Pinkasová, 2022). These courses may focus on reflective writing assignments and group discussions that encourage students to explore and articulate their experiences from the medical environment and the ethical dilemmas that arise.

Students and staff might also be encouraged to participate in reflective or psychotherapeutic groups. Students may benefit from participation in Balint and psychotherapeutic groups, which create a safe environment for self-reflection (Richards et al., 2020), as well as in individual consulting or psychotherapeutic services provided by the faculty.

Medical educators may be encouraged to participate in peer-reflection groups, which, according to Boerboom et al. (2011), seems to enhance reflection quality in clinical teachers more than usual self-assessment reflection. Since sharing personal reflections can be challenging for both students and teachers, it is worth considering facilitation strategies, such as incorporating ice-breakers or art-based approaches (Meltzer, 2020). However, as Gomes

and Rego (2013) emphasise, the long-term development of the entire school environment, relationships, and institutional culture is paramount when aiming to achieve meaningful and sustainable change.

In conclusion, our research encourages medical schools to recognise the nuanced needs of students, particularly those without medical family background, reflect on institutional practices that have detrimental effects and work towards preventing and mitigating these, while cultivating those that contribute to positive experiences and personal growth of both students and staff. Creating interventions that address the sociocultural challenges and emphasise the need for moral self-reflection can contribute to a more inclusive and supportive educational environment, preparing students to better and time-variably navigate complexities of the medical worlds, while enhancing and refining ethical sensibility and critical reflectiveness of the medical profession.

Authors' contributions

Tereza Pinkasová: Conceptualization; Data curation; Formal analysis; Investigation; Project administration; Writing (original draft); Writing (review and editing).

Lydie Fialová: Methodology; Formal analysis; Writing (review and editing).

Artificial intelligence (AI) policy

The authors do not claim to have made use of artificial intelligence (AI) in the preparation of their articles

References

Al-Rumayyan, A., Van Mook, W. N. K. A., Magzoub, M. E., Al-Eraky, M. M., Ferwana, M., Khan, M. A., & Dolmans, D. (2017). Medical professionalism frameworks across non-Western cultures: A narrative overview. *Medical Teacher*, *39*(sup1), S8-S14. https://doi.org/10.1080/0142159X.2016.1254740

Boerboom, T. B., Jaarsma, D., Dolmans, D. H., Scherpbier, A. J., Mastenbroek, N. J., & Van Beukelen, P. (2011). Peer group reflection helps clinical teachers to critically reflect on their teaching. *Medical Teacher*, *33*(11), e615-e623. https://doi.org/10.3109/0142159X.2011.610840

Bourdieu, P. (1977). *Outline of a theory of practice* (R. Nice, Trans.). Cambridge University Press.

Cambridge Dictionary. (n. d.). *Self-reflection*. Retrieved February 5, 2024, from https://dictionary.cambridge.org/dictionary/english/self-reflection

Choi, K. J., Tak, H. J., Bach, C., Trias, C., Warsi, H., Abraham, J., & Yoon, J. D. (2018). Characteristics of medical students with physician relatives: A national study. *MedEdPublish (2016)*, *7*, 30. https://doi.org/10.15694/mep.2018.0000030.1

Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2014). Reframing medical education to support professional identity formation. *Academic Medicine: Journal of the Association of American Medical Colleges*, *89*(11), 1446-1451. https://doi.org/10.1097/ACM.0000000000000427

David, A. (2017). Self-reflection in illness and health: Literal and metaphorical? *Palgrave Communications*, *3*, 17091.

Edgar, A., & Pattison, S. (2011). Integrity and the moral complexity of professional practice. *Nursing Philosophy*, *12*(2), 94-106. https://doi.org/10.1111/j.1466-769X.2010.00481.x

Epstein, R. M., & Hundert, E. M. (2002). Defining and assessing professional competence. *JAMA*, *287*(2), 226-235. https://doi.org/10.1001/jama.287.2.226

Farkas, A. H., Allenbaugh, J., Bonifacino, E., Turner, R., & Corbelli, J. A. (2019). Mentorship of US medical students: A systematic review. *Journal of General Internal Medicine*, *34*(11), 2602-2609. https://doi.org/10.1007/s11606-019-05256-4

Fokas, J. A., & Coukos, R. (2023). Examining the hidden curriculum of medical school from a first-generation student perspective. *Neurology*, *101*(4), 187-190. https://doi.org/10.1212/WNL.0000000000207174

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice.* Teachers College Press.

Gomes, A. P., & Rego, S. (2013). Pierre Bourdieu and medical education. *Revista Brasileira de Educação Médica*, *37*(2), 260-265.

Gore, J., Holmes, K., Smith, M., & Fray, L. (2015). *Investigating the factors that influence the choice of teaching as a first career. A report commissioned by the Queensland College of Teachers*. Queensland College of Teachers. https://cdn.qct.edu.au/pdf/Research/WhyPeopleChooseTeachingLiteratureReview.pdf

Gray, P. (2015). *Free to learn: Why unleashing the instinct to play will make our children happier, more self-reliant, and better students for life.* Basic Books.

Hafferty, F. W., & Franks, R. (1994). The hidden curriculum, ethics teaching, and the structure of medical education. *Academic Medicine: Journal of the Association of American Medical Colleges*, *69*(11), 861-871. https://doi.org/10.1097/00001888-199411000-00001

Hafferty, F. W., & O'Donnell, J. F. (Eds.). (2015). *The hidden curriculum in health professional education* (1st ed.). Dartmouth College Press.

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education: Theory and Practice*, *14*(4), 595-621. https://doi.org/10.1007/s10459-007-9090-2

Mansour, N. (2013). Modelling the sociocultural contexts of science education: The teachers' perspective. *Research in Science Education*, *43*(3), 347-369. https://doi.org/10.1007/s11165-011-9269-7

Martimianakis, M. A., Michalec, B., Lam, J., Cartmill, C., Taylor, J. S., & Hafferty, F. W. (2015). Humanism, the hidden curriculum, and educational reform: A scoping review and thematic analysis. *Academic Medicine: Journal of the Association of American Medical Colleges*, *90*(11 Suppl), S5-S13. https://doi.org/10.1097/ACM.0000000000000894

Meltzer, C. (2020). The reflexive practitioner: Using arts-based methods and research for professional development. In L. McKay, G. Barton, S. Garvis, & V. Sappa (Eds.), *Arts-based research, resilience and well-being across the lifespan* (pp. 201-220). Palgrave Macmillan.

Merleau-Ponty, M. (2002). *Phenomenology of perception.* Routledge.

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, *1997*(74), 5-12. https://doi.org/10.1002/ace.7401

Moss, F., & McManus, I. C. (1992). The anxieties of new clinical students. *Medical Education*, *26*(1), 17-20. https://doi.org/10.1111/j.1365-2923.1992.tb00116.x

Olsson, C., Kalén, S., & Ponzer, S. (2019). Sociological analysis of the medical field: Using Bourdieu to understand the processes preceding medical doctors' specialty choice and the influence of perceived status and other forms of symbolic capital on their choices. *Advances in Health Sciences Education: Theory and Practice*, *24*(3), 443-457. https://doi.org/10.1007/s10459-018-09872-3

Ottrey, E., Rees, C. E., Kemp, C., Lyons, K. M., Brock, T. P., Leech, M., Monrouxe, L. V., & Palermo, C. (2024). Exploring preparedness transitions in medicine and pharmacy: A qualitative longitudinal study to inform multiprofessional learning opportunities. *Advances in Health Sciences Education.* https://doi.org/10.1007/s10459-024-10372-w

Pinkasová, T. (2022). Supporting moral development in medical students through an elective course focused on moral self-reflection. *Theology and Philosophy of Education*, *1*(1), 18-23. https://www.tape.academy/index.php/tape/article/view/7

Polyakova, M., Persson, P., Hofmann, K., & Jena, A. B. (2020). Does medicine run in the family? Evidence from three generations of physicians in Sweden: Retrospective observational study. *BMJ*, *371*, m4453. https://doi.org/10.1136/bmj.m4453

Radcliffe, C., & Lester, H. (2003). Perceived stress during undergraduate medical training: A qualitative study. *Medical Education*, *37*(1), 32-38. https://doi.org/10.1046/j.1365-2923.2003.01405.x

Richards, H., Polnay, A., Wilkinson, P., Read, E., & Young, H. (2020). Balint-style reflective practice groups in a year 4 undergraduate general practice attachment: Experience of the first two years. *Scottish Medical Journal*, *65*(2), 52-59. https://doi.org/10.1177/0036933020918056

Romero, R., Miotto, K., Casillas, A., & Sanford, J. (2020). Understanding the experiences of first-generation medical students: Implications for a diverse physician workforce. *Academic Psychiatry*, *44*(4), 467-470. https://doi.org/10.1007/s40596-020-01235-8

Ryder, C. Y., Irani, S., Andreski, P., & Grob, K. (2022). Evaluating the effects and contributing factors to the "hidden curriculum" in medical school. *Journal of Clinical and Translational Science*, *6*(s1), 96. https://doi.org/10.1017/cts.2022.283

Simmenroth-Nayda, A., & Görlich, Y. (2015). Medical school admission test: advantages for students whose parents are medical doctors? *BMC Medical Education*, *15*, 81. https://doi.org/10.1186/s12909-015-0354-x

Spencer, J. (2003). Learning and teaching in the clinical environment. *BMJ*, *326*(7389), 591-4. https://doi.org/10.1136/bmj.326.7389.591

Van Oeffelt, T. P. A., Ruijters, M. C. P., Van Hees, A. A. J. C., & Simons, R.-J. (2018). Professional identity, a neglected core concept of professional development. In K. Black, R. Warhurst, & S. Corlett (Eds.), *Identity as a foundation for human resource development* (pp. 237-251). Routledge. https://doi.org/10.4324/9781315671482-16

Winkel, A. F., Yingling, S., Jones, A. A., & Nicholson, J. (2017). Reflection as a learning tool in graduate medical education: A systematic review. *Journal of Graduate Medical Education*, *9*(4), 430-439. https://doi.org/10.4300/JGME-D-16-00500.1

World Medical Association. (2022). WMA international code of medical ethics. https://www.wma.net/policies-post/wma-international-code-of-medical-ethics/

Xie, M. (2020). *Moral self-reflection and leaders' virtuous behaviors* [Doctoral Dissertation, Rutgers University]. RUcore: Rutgers University Community Repository. https://doi.org/10.7282/t3-50dq-j614

Xu, M. (2014). Medical students' motivations for studying medicine: Changes and relationship with altruistic attitudes, expectations, and experiences of learning at university [Doctoral Dissertation, University of Adelaide]. University of Adelaide Digital Library. https://digital.library.adelaide.edu.au/dspace/handle/2440/91873

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APPENDIX 1. Semi-structured interview: areas of enquiry/questions/prompts

1. Motivations and expectations of students related to medical school

Can you remember who or what inspired you to study medicine?

Were you first in your family to study medicine?

Were you the first in your family to study university?

Is your family supporting you in your studies?

What were your expectations from the medical school in terms of personal and professional development?

Have these expectations been fulfilled? In what way?

Is there anything that surprised you? In what way?

2. Observations and reflection of interpersonal interactions, social environment and institutional culture of the medical school

How do you perceive the social environment of the medical school (in terms of interpersonal interactions, systems, explicit and implicit rules)

Does it suit you?

Did you have to adjust in any way?

Do you perceive there is an image of the *ideal student*?

If so, what kind of ideal? Do you endeavour to achieve this ideal? Do your classmates endeavour to achieve this ideal?

Are there any rules or processes in the medical school that you don't agree with?

Have you encountered anything unusual or unpleasant in the course of your studies?

Have you ever had to act against your convictions/believes/values?

How do you perceive the clinical attachments in the hospitals?

How do you perceive the actions/behaviours/ways of the medical doctors?

Has any situation occurred in which you were surprised by someone's action/behaviour?

Has any situation occurred in which you wish to have acted differently but could not?

Would you have had a different attitude/approach if you were not wearing a white coat?

Has any situation occurred in which you were moved/touched personally/emotionally?

Have you taken part on clinical attachments abroad?

If so, was there anything that inspired you?

3. Reflection of personal transformation in the course of medical studies

Have you learned anything from your classmates? teachers? clinicians? patients?

Have you learned anything that you did not assume to learn?

Do you consider yourself transformed by medical studies?

If so, how?

What kind of medical doctor/person would you not like to be?

What kind of medical doctor/person would you like to be?

APPENDIX 2. Content analysis - Codes

Content analysis - Codes	
Certain people have advantages	A, B, G, I, J, K, M, O, R, T, V, W, X
Sexism	A, B, D, G, J, O, R, V, W, Z
Conflict ideals and reality	B, T, U
Inadequate study organisation	B, D, E, J, M, P, R, U
Faculty and group environment	
- Lucky to be in a good group	A, B, D, E, P, N, Q, R
- Didn't fit in the group	I
- Didn't resonate with peers	J
- Atmosphere of community, mutual support	H, W, X
- Motivating environment	N, U
- Welcoming environment	F, V, Y
Teachers	
- Friendly teachers	R, H, M
- Teachers who do not want to teach	C, D, H, M
- Teachers who stress out students	R
- "If you don't know this, you will kill a patient"	C, L
- Abuse of power	A, H
- Lack of attention during lab sessions	O
- Yells at us for being stupid	K, T
Doctors in the hospital	
- Rude, disrespectful, arrogant doctors	S, Q, R, V
- Younger doctors contribute to good atmosphere	C
- Laziness and indifference	F, L
- Paternalistic attitude	M, U

Pressure to be active	
- Suited for extroverted students	D
- Pressure to perform and participate	Q, S, R
- Not allowed to be sick	E
- Active peers make others feel inferior	G, K
Approach to patients	
- Impersonal approach	J, K
- Avoid causing discomfort	X
- Importance of communication	M, P, G, Y
Other	
- Nudity	K, O, Z