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In the "Shadow of Shame": A Phenomenological Exploration of the Nature of Shame Experiences in Medical Students

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Abstract

Purpose
Shame occurs when an individual blames a globally flawed self for a negative outcome. Much of the focus on shame in medical education has been directed toward graduate medical education with less recognition paid to shame occurring in medical school. In particular, while research has explored the triggers of medical students' shame, little is known about what shame feels like, what it makes an individual want to do, and what perceived effects it causes. Thus, this study asks: After shame has been triggered in medical students, how is it experienced?

Method
The authors selected hermeneutic phenomenology to provide a rich description of the structures and meaning of medical students' lived experiences of shame. Sixteen medical students from a private medical school in the United States were recruited for the study. Data were collected using one-on-one semistructured interviews and analyzed in accordance with Ajjawi and Higgs' 6 steps of hermeneutic analysis.

Results
Data analysis yielded component parts of participants' shame experiences, including affective feelings, physical manifestations, cognitive processes, action tendencies, and effects. Analysis of the relationships among these component parts yielded specific phenomenological structures, including patterns of shame (e.g., chronic shame, flashbacks), self-evaluative processes (e.g., battling voices, skewed frames of reference), and perceived effects of shame (e.g., isolation, psychological distress). An overarching theme of shame as a destabilizing emotion emerged across the dataset.

Conclusions
Shame is a complex emotion in medical students that, through its destabilizing effects, can lead to withdrawal, isolation, psychological distress, altered professional identity formation, and identity dissonance. The authors highlight the possibility that shame may be occurring as a response to educational trauma, present a metaphor of dominoes to conceptualize the destabilizing nature of shame, and outline the implications for individuals and institutions in medical education.

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Shame, which occurs when an individual attributes a negative outcome to a globally flawed self, can be an "extremely painful and ugly feeling."[1] Emerging research suggests that this painful and ugly feeling plays a significant role in medical education and that its potential effects—including emotional distress, diminished physical wellness, social withdrawal, and impaired empathy[2]—may undermine the goal of creating engaged, emphatic, and resilient physicians. Further, studies from psychology have shown associations between shame and burnout, depression, suicidality, and impaired empathy,[3–6] all of which contribute to the crisis of impaired wellness in medical trainees.[7–10] However, the degree to which "medicine's shame problem"[11] has been investigated is drastically lower than other forms of distress (e.g., burnout and depression).[12,13] The nascent body of research on shame in medical education, which has primarily focused on shame experienced in graduate medical education, has revealed high rates of being shamed or witnessing shaming treatment during residency[14–16] as well as associations between shame and depression, burnout, isolation, poor job performance, and impaired empathy in resident physicians.[2,16] The role of shame in undergraduate medical education remains largely unknown and unexplored.

Recognizing that the contexts in which medical students learn are unique—and acknowledging the potential for development of shame susceptibility before residency training—we turned our attention to how shame is experienced in medical school. Our initial exploration into the origins of medical students' shame experiences revealed events that triggered shame (e.g., peer or supervisor mistreatment) and factors that fueled and/or exacerbated shame (e.g., comparisons to others, psychologically unsafe environments).[17] However, these data did not tell us about the experience of shame itself, including how it feels, what it compels medical students to do (or not do), and what perceived effects it causes. This lack of understanding of shame has implications for medical students who may suffer its effects, educators who may trigger its occurrence, advisory deans who may fail to recognize its impact, and/or patients who may ultimately experience its downstream outcomes.[2] Missed opportunities for resilience development and provision of adequate emotional support to students may also result.

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Furthermore, the very nature of shame may obscure our ability to recognize its presence and mitigate its potentially damaging effects. Unlike well-defined constructs such as burnout and depression—which can be detected using quantitative instruments[18,19]—shame is more difficult to identify.[13] As an "exclusively internal phenomenon"[1] that is intimately linked to self-perception and stigmatized in society, shame is difficult—though not impossible—to observe, openly express, and identify. This may be particularly true in medical school, where hierarchical structures, mistreatment, expectations of perfectionism, and underrepresentation simultaneously increase the risk of damaging shame reactions and diminish the likelihood that they are openly shared.[11,17] Thus, the urgency to understand the role of shame in medical education is juxtaposed by the inherent challenge of bringing this emotion to light, diminishing our ability to recognize and support those experiencing its effects.

To address this gap, we sought to develop a clearer understanding of the nature of shame reactions in medical students—including how they feel, what actions they prompt, and what effects they cause. Using hermeneutic phenomenology, we asked: After shame has been triggered in medical students, how is it experienced?

Method

This study is part of a larger program of research through which we seek to address multiple research questions. In a previous publication, we sought to answer the question "How does shame originate in medical students?"[17]; in the current study, we sought to characterize the nature of shame itself.

Hermeneutic phenomenology

Developed within the interpretivist epistemology, hermeneutic phenomenology seeks to provide a "nonreductionist" understanding of individuals' experiences with a phenomenon as they interact within their environments.[20] It does so by attending to both the *parts*, or specific structures, of a phenomenon and the *whole*, or "broad brushstrokes"[21] that convey the phenomenon's meaning within lived experiences.[21] This meaning is conveyed through a rich phenomenological description of the relationships among the parts and the whole that can "reawaken our basic experience of the phenomenon it describes."[21] The product of hermeneutic phenomenology is *deeper understanding* of the phenomenon rather than causal explanation, theory, or breadth of understanding. Thus, the descriptions, meanings, and insights yielded by this methodology are not intended to be generalizable to all medical students.

We selected hermeneutic phenomenology as our study methodology because shame is a deeply held, personal, and contextually influenced phenomenon whose presence and impact often exist outside conscious awareness.[22] Furthermore, like our research participants, we have personally experienced shame and acknowledge that we are inextricably linked to these experiences; we cannot dissociate from them during research data collection and analysis. Hermeneutic phenomenology—which acknowledges that "humans are incapable of total objectivity because they are situated in a reality constructed by subjective experiences"[23]—does not demand such dissociation and is thus an ideal methodology to study shame.

Reflexivity

In keeping with the significance hermeneutics places on subjectivity,[23] we reflect on the experiences and perspectives we brought to the study. W.E.B. is an academic family medicine physician and residency program director; he brought his experiences of shame as a partner, father, trainee, and academic physician to the study. L.V. is a PhD qualitative researcher who brought her experiences of shame as a partner, mother, and academic to the study. P.T. is a practicing obstetrician and gynecologist and medical education researcher who brought his experiences of shame as a partner, father, trainee, and academic physician to the study. Additionally, all 3 authors bought insights developed through previous studies of shame in medical education.[2,17]

Participant recruitment

The study was publicized via email and in-person announcements as a qualitative exploration of shame at a private medical school in the United States. We enrolled 16 students and purposively sampled to achieve an equal balance of preclinical and clinical students. After interviewing these 16 students, we had developed a deep understanding of their shame experiences and ceased enrollment. Basic demographic factors are listed in Table 1.

Data collection

Data collection occurred from August to November 2018 and involved a single, 2-hour, 3-part interview process. First, we provided the participant a definition of shame from psychology (see Supplemental Digital Appendix 1 at http://links.lww.com/ACADMED/B150) and asked them to complete a 30-minute written reflection about a specific time in medical school when they felt shame. The interviewer (W.E.B.) then read the reflection, noted areas for further discussion, and engaged the participant in a 60-minute, semistructured interview about their shame experiences in medical school. W.E.B. used an interview guide

Table 1

Demographic Characteristics of 16 Participants Enrolled in a Qualitative Study of the Nature of Shame Experiences in Medical Students at a Single U.S. Medical School, 2021

Demographic	Percentage (n)
Level of training	
Completed preclinical year only	50 (8)
Completed preclinical and clinical years	50 (8)
Reported gender identity	
Female	69 (11)
Male	31 (5)
Age	
Mean	24.9 years (SD 1.2 years)
Range	23–27 years

Abbreviation: SD, standard deviation.

informed by the psychology of shame—including Tracy and Robins' theory of self-conscious emotion[24]—and by previous studies of shame in medical education[2,17] (see Supplemental Digital Appendix 2 at http://links.lww.com/ACADMED/B150). In the third part, W.E.B. thanked the participant for their contributions, inquired about distress that may have occurred because of the interview, and provided resources for same-day or routine psychological support.

Data analysis

Interviews were recorded, transcribed verbatim, anonymized, and loaded into NVivo software (version 12.5, QSR International, Melbourne, Australia) to facilitate data management. As in previous studies,[2,17] we analyzed the data according to Ajjawi and Higgs's 6 steps of hermeneutic analysis: immersion, understanding, abstraction, synthesis, illumination, and integration.[23] We have previously reported the detailed activities undertaken at each step.[22] Throughout the analysis, we adhered to 3 tenets of hermeneutic phenomenology.[21,23,25] We (1) repeatedly moved between the parts of students' shame experiences, which we label "component parts," and the whole, or the global themes giving meaning to these experiences. We (2) used cycles of writing, reflecting, recognizing, and rewriting to deepen our understanding of students' experiences of shame; these cycles led to the development of metaphors and visual depictions that helped express the meaning of these experiences. We (3) achieved reflexivity and adhered to the hermeneutic method by explicitly discussing our own shame experiences throughout the analytic process. The product of this process is a rich description of the nature and meaning of medical students' shame experiences.

The participating institution's institutional review board approved this study.

Results

We identified specific component parts of participants' lived experiences with shame including: affective feelings (e.g., fear, anxiety), cognitive processes (e.g., difficulty focusing, rumination), physical manifestations (e.g., tachycardia, nausea), action tendencies (e.g., hiding, avoidance), and perceived effects of shame (e.g., social isolation, emotional distress). An overview of the component parts shared by our participants is listed in Table 2.

These component parts were present to varying degrees in each participant's unique shame experiences. In analyzing the entirety of these experiences—including the relationships among the component parts—the *destabilizing nature of shame* emerged as an overarching theme across the dataset. Marked by physical discomfort, ego instability, cognitive dissonance, and/or emotional volatility, shame frequently entailed a precarious state of imbalance. One participant described this imbalance as a sense of "… holding a glass ball that I can't let go, [like] it's going to shatter any minute" (P9). Another participant described feeling like "I'm in a weird sub tier being held up by intermittent drafts from the momentum of [first year]. I don't feel like I'm precipitously plummeting, but I don't feel safe anymore" (P14).

With this destabilizing nature of shame as the central focus of our analysis, we identified 3 broader phenomenological structures that gave shape and imbued meaning to participants' shame experiences: (1) shame patterns, (2) precarious self-evaluative processes, and (3) destabilizing effects.

Shame patterns

We identified specific shame patterns—defined as recurrent relationships among the component parts of shame—that characterize its destabilizing nature.

Acute shame and affective upswells. The destabilization caused by shame often started as a significant upswell of affective feeling and physical discomfort following a triggering event (e.g., being mistreated or performing poorly on an exam). Participants described "disabling" (P3) and "visceral" (P14, P16) shame marked by acute anxiety, fear, and fight-or-flight symptoms. This deeply uncomfortable and unstable state often prompted outward displays of emotion such as "starting to cry and rushing to the bathroom" (P2) or "turning red and trying not to burst into tears" (P11). Coupled with the intense urge to hide

Table 2

Component Parts of Medical Students' Experiences of Shame, From a Qualitative Exploration of the Nature of Shame in Medical Students at a Single U.S. Medical School, 2021

Affective feelings	Physical manifestations	Cognitive processes	Action tendencies	Effects
Anxiety	**Sympathetic activation**	Altered sense of time	Avoiding	Impaired sense of belonging
Embarrassment	Lightheadedness	Automated negative thoughts	Hiding	Impaired social interaction
Fear	Nausea	Battling voices	Withdrawing	Inability to function
Frustration	Sweating	Difficulty focusing	Desiring to quit	Loss of self-care
Helplessness	Tachycardia	Disorganization	Disengaging	Physical and emotional distress
Regret	Chest tightness	Distractibility	Escaping	Altered professional identity formation
Panic	Tunnel vision	Flashbacks	Overworking self	
Vulnerability	Vasovagal sensation	Inability to prioritize	Resisting help	
Insecurity	**Physical instability**	Ruminations	Seeking validation	
Worthlessness	Drifting			
	Shell-shocked			
	Exposed			
	Tearfulness			
	Stature changes			
	Small			
	Heavy			
	Swollen head			

it from others, this emotional upswell frequently provided the initial (but often not the last) impetus to retreat:

> I felt so inadequate when I left the room … and I found myself trying to find a place where no one would see that I was upset. I didn't feel like anyone could see me feeling like I don't know enough. (P3)

Ruminations. The aftermath of an acute shame experience regularly included persistent, intrusive ruminations about the triggering event. Participants described how they mulled over the experience, "Playing the conversation [that triggered my shame] over and over in my head like rapid fire" (P16). These ruminations made it difficult to concentrate, interfered with accurate self-assessment, and impaired recovery from the shame event:

> If I'm really ruminating on that thing and feeling really flawed or deficient because of that one thing, it's hard for me to go to the next thing or go back to the broader picture. (P3)

Flashbacks. Shame flashbacks—which occurred following recovery from the initial shame event and reestablishment of stable, rational, self-evaluative processes—could infuse a renewed and jarring sense of ego instability. One participant described shame flashbacks as "a very spiking thing and then a gloomy, flat pall" (P4) and another recalled "slipping back into that shame feeling" (P15). Simply crossing paths with a resident whose mistreatment led to profound shame caused renewed distress for one participant:

> Even now, I see him when we're both running near my apartment, and I still feel ashamed. When I see him in the hospital, I feel the same shame and embarrassment, feeling small and incapable. (P16)

Chronic shame. Some participants reported relatively constant, chronic levels of baseline shame that drove persistent feelings of instability, even in the absence of an acute trigger. Perceived underperformance, repeated mistreatment, and being underrepresented in the learning environment were commonly associated with chronic shame. For example, 2 students from underrepresented backgrounds recalled "a feeling of shame since I arrived at medical school" (P5) and "a more insidious feeling of shame" (P6). A participant who struggled academically described chronic shame, saying:

> The question of "Will I be a failure as a doctor?" does linger for a long time. Frankly, I think that that kind of exists almost all the time as a med student…. It's like you can feel the shadow [of shame] even if it's not there. (P13)

Self-evaluative processes

For many participants, the waning of the affective upswell and more visceral shame gave way to deeper, sometimes intrusive self-evaluation that more directly implicated a global sense of self. In others, unsettling self-evaluation existed throughout a shame reaction, especially in the setting of chronic shame. Within this state of contemplative self-evaluation, we identified specific, destabilizing cognitive processes including: highly emotional self-assessment, battling voices, skewed frames of reference, and shame spirals.

Emotional versus rational self-assessment. Central to multiple participants' experiences of shame was an imbalance between highly emotional, uncontrolled cognitive processing and more logical, rational processing. Participants described shame as an "emotional block" (P3) that is "all consuming" (P12), the effect of which led one participant to "know I'm a decently rational, intelligent human being, [but] in those situations … [the shame] is everything you can think about, and it's just horrible" (P12). Another reflected:

> I think if you asked me, "Are you smart?" I would [say], "Yes, I am very smart. I attend a top-10 medical school, I excel with standardized tests, and I have a brain that functions well for me." But I think if you asked me, "Do you feel smart?" the answer would be "Rarely." (P14)

Battling voices. During a shame reaction, multiple participants described a cognitive process consisting of 2 battling and opposing internal voices—a phenomenon one participant described as "a conversation back-and-forth with myself" (P13). While one voice offered affirming self-assessment and validation (e.g., "We can do this. You just need to work at it" [P15]), the other voice tendered criticism, self-doubt, and exasperation (e.g., "You're never gonna be good at this" [P15]). One participant reflected:

> It's just a constant battle in my own head of feeling down on myself, and then reminding myself that I don't have to feel that way about myself and that that experience does not define me. (P6)

The relative balance of these 2 voices seemed to characterize the nature of a participant's self-evaluation and emotional state. When feeling acute shame, one participant reported "[The 2 voices] are definitely imbalanced. It's almost like the protective voices aren't even there" (P13), and another recalled a day on which "the shame voice won" (P15). In addition to influencing their emotional state, the dominating voice could directly influence a participant's action tendencies and sense of identity:

> There were these 2 identities that I had. I had this very competent, confident, clinically gifted person, and then I had just this really weak-minded, stupid sort of person … and on any given day, one of them would be winning. (P14)

Skewed frames of reference. Whether during the affective upswell or the self-contemplation that followed, being in a shame state frequently impaired participants' ability to rationally and objectively self-evaluate. We labeled this phenomenon the *skewed frame of reference*. Self-evaluating through these distorted frames magnified participants' negative characteristics and failures and minimized—or completely opacified—their positive characteristics and achievements:

> It seemed like everything else was dampened by the one thing that couldn't be accomplished. The one thing just outweighed everything else that could make you worthwhile or good. (P15)

The skewed frame of reference was not just an intrapersonal phenomenon; participants also assessed other people through distorted filters when feeling shame. These off-kilter filters focused participants' attention on the observable characteristics of others (i.e., how well they presented on rounds, scores on an exam), which in turn became standards against which they self-assessed. This tendency was described by one participant as "comparing what you see externally of other people to what you feel internally [about yourself]" (P3), and it could lead participants to maintain different, harsher standards for themselves than for the people around them:

> There were 8 other students at my retake exam, meaning 8 of my classmates failed the same exam I did. I did not think one negative thing of [them]. I did not think of them as failures or frauds or incapable. I just thought they needed more time to show their competency in anatomy. I was not able to extend the same courtesy, space, and understanding to myself. (P9)

Shame spirals. Contributing to the destabilizing nature of shame—and fueled by battling voices and skewed frames of reference—was its potential to manifest in cascading, spiraling fashion: shame sparked by a single trigger (e.g., being mistreated) could rapidly engulf the individual's entire sense of self. Participants described shame spirals as "a negative cycle" (P8) consisting of a "running out of control thought pattern" (P13) that felt like "falling down a rabbit hole" (P8) or "being stuck" (P9). One participant, after a public learning struggle, recalled wondering, "If you miss an easy question like this, what does that mean for everything?" (P13). Affective surges of emotion and isolation often amplified spiraling shame:

> And then the failures happened. I was anxious about this shame and stress that I was feeling. It was a layered effect. One triggered the other, like this negative cycle of shame, stress, and anxiety.… And then I withdrew, and it just made it worse. (P8)

Perceived effects of shame

The destabilizing nature of shame—characterized by the patterns and self-evaluative processes described above—could prompt behaviors and lead to outcomes that significantly affected the individual experiencing it. Driven by loss of control and ego instability, participants who expressed significant shame described experiencing emotional and physical distress, withdrawal, isolation, and altered professional identity formation.

Emotional and physical distress. Shame triggers that undermined a participant's sense of self (e.g., poor academic performance, being mistreated) often caused a spiraling, self-perceived loss of control followed by compensatory behaviors to regain it, including overworking, seeking validation from others, and neglecting priorities. These behaviors could fuel feelings of burnout, depression, and apathy. For example, one participant experienced profound shame when she was repeatedly ignored by a resident on the rotation of her desired specialty. She attempted to compensate by groveling for the resident's attention and studying late into the night to secure a good grade on the end-of-rotation exam. The energy this superfluous work required—coupled with the emotional effects of her shame—caused her to stop sleeping, eating healthy food, and exercising; she began to feel "physically exhausted and destroyed" (P12). Worse, directing time and energy to pleasing the resident and earning a high score removed her from actively caring for patients, further compounding her shame and distress:

> I felt so rewarded if [the resident] looked at me, and I lost sight of the patient. I was really miserable. It's really hard to wake up at 4 in the morning when it's a game of whether someone will even look you in the eye. (P12)

Hiding and withdrawal. Ego instability and loss of control placed participants in a highly vulnerable state, which prompted attempts to retreat and hide. Participants concealed their feelings, hid their failures and mistakes, lied about their struggles, and studied in secret. One participant recalled "my shame telling me 'It's not gonna get better. Just run away from it, don't confront it, don't face it. There's nothing we can do about it'" (P15). This prompted her to "want to hide in the back of the group … talk quieter … and withdraw from the situation" (P15). Efforts to hide and avoid shame fueled apathy, drove social disengagement, and strained relationships: participants recalled "feeling worthless" (P7), "walking on eggshells around people" (P13), "shutting myself off … with classmates" (P10), and "just wanting to lay on the couch and dwell on how poorly I had done that day, which is not great for relationships" (P15).

Impaired belonging. An overarching effect of many participants' shame was the strong sense that they did not belong in medical school. Impaired belonging was particularly acute and troublesome for students whose backgrounds and/or demographics were underrepresented in the learning environment. This manifested as feeling "genuinely concerned about [whether] I should be here" (P11), like "an outsider in the common experience [within the profession]" (P5), and like I shouldn't be in this short white coat or on this path" (P2). One student noted:

> As a medical student, shame has taken on a different meaning. No longer is it "you do not deserve to be forgiven," but rather, "you are a burden, and you do not belong here." (P2)

Altered professional identity formation. Shame could negatively impact participants' professional identity formation. For example, a queer participant who experienced recurrent shame related to homophobic treatment by patients considered changing specialty choices: "I kind of started to sink into the feeling [that] maybe I'll have to go into a specialty where I don't really talk to patients that much" (P4). Another participant, chronically shamed by derogatory treatment from peers about his chosen specialty, questioned his belonging and growth in the profession as a whole:

> Once I found myself to be … a failure and unworthy, I removed myself from the situation … by walking into another room. But I'm still in the process of becoming a doctor, and like the feeling of wanting to remove yourself from the room, wanting to remove yourself from becoming a doctor is kind of the equivalent. (P13)

Discussion

In this study, we used hermeneutic phenomenology to characterize the nature of shame experiences in medical students. Our study points to component parts of this experience, including associated feelings, thought processes, physical manifestations, and effects. These component parts form phenomenological structures (e.g., acute emotional upswells, ruminations and flashbacks, skewed frames of reference) that characterize the nature of shame in medical students.

How the phenomenological structures expand our understanding of shame

These findings expand the body of literature on the phenomenology of shame in psychology. Kim et al[26] draw upon existing studies in psychology to elucidate action tendencies, accompanying emotions, and physical manifestations of shame; our data overlap many of these

structures (i.e., anxiety, feeling exposed, wanting to hide) and highlight others (i.e., sympathetic activation, overworking one's self, seeking validation). Furthermore, we identified significant overlap between the phenomenological structures in our study and those characterizing the response to trauma. Immediate and delayed reactions to trauma include emotional manifestations (e.g., anger, anxiety, depression), physical manifestations (e.g., nausea, sweating, fatigue, depersonalization), cognitive reactions (e.g., difficulty concentrating, ruminating thoughts, flashbacks, self-blame), and behavioral responses (e.g., sleep disturbance, withdrawal, avoidance, diminished activity level).[27] Shame itself is a common characteristic of post-traumatic stress disorder and response to trauma.[27,28]

These overlapping data suggest that medical students' shame may be linked to trauma experienced in medical learning environments. Psychologist Lee-Anne Gray defines *educational trauma* as "the cyclical and systemic harm inadvertently perpetrated and perpetuated" in educational settings that promotes abuse, discrimination, oppression, and marginalization.[29] Many of the shame triggers from our research meet the definition of educational trauma.[2,17] While such trauma may be associated with well-intentioned, albeit misguided, pedagogy, it may also result from efforts to reinforce hierarchies, discharge unresolved shame, or maintain a "transgenerational legacy" of mistreatment.[30] Educational trauma is not limited to maltreatment of learners, however. It also encompasses normal learning processes, including the use of standardized testing and grading to stratify individuals.[29] Our data provide support for this notion: events related to learning and assessment (e.g., low USLME Step 1 scores, receiving negative feedback) caused significant shame and characteristics of trauma response. This further supports the possibility that educational trauma is occurring in medical education and that shame is a prominent, damaging feature of the emotional response.

The essence of shame in medical students

Our hermeneutic analysis took us beyond simply identifying the structures of shame in medical students. In analyzing the relationships among these structures, a central essence of the phenomenon emerged: shame can be a *precarious and destabilizing emotion* in medical students, characterized by complex emotional patterns, self-evaluative processes, and distressing effects.

To further conceptualize the essence of shame as a destabilizing emotion, we constructed the metaphor of a large arrangement of dominoes placed meticulously—yet tenuously—next to one another in concentric circles. The totality of the arrangement represents an individual's identity as a whole, and each domino represents a specific aspect of that identity. Our analysis suggests that, for many learners, these dominoes frequently rest on unsteady ground: aspects of their identities—and perhaps the composition as a whole—risk falling. This fragility appears to be especially salient during educational transition periods, in psychologically unsafe learning environments, and for learners who feel they don't belong.[2,17] In the presence of a shame trigger (e.g., being mistreated), one of the dominoes—representing a unique aspect of the learner's identity (e.g., their social prowess)—may fall. If a shame reaction follows (i.e., the individual blames a flawed self for the mistreatment), additional dominoes may subsequently topple, setting in motion a cascade that threatens the entire arrangement (i.e., the individual's global sense of self).

The rapidity and extent to which the dominoes fall is influenced, according to our data, by the individual's affective feelings, cognitive processes, and action tendencies, and by the environment's response. These phenomenological forces—including major upswells of emotion, skewed frames of reference, and battling voices—act like gusts of wind that directly affect how quickly, and to what extent, the dominoes fall. Importantly, these intrinsic phenomenological processes do not act alone. Our previous research points to individual characteristics (e.g., performance-based self-esteem, frequently comparing with others), environmental forces (e.g., lack of psychological safety, low levels of diversity), and interpersonal dynamics (e.g., being mistreated, perceiving judgment)[17] that can add to the gale, fuel spiraling shame, and threaten to consume a learner's overall sense of self.

Implications

That shame can lead to outcomes such as depressive feelings, burnout, isolation, unprofessional behavior, and impaired empathy in medical learners[2] creates a sense of urgency to address its role in medical education. We contend that identifying and supporting medical students who are experiencing shame—whether acute, spiraling, or chronic—should be a core responsibility of educators and leaders in medical education. However, it is difficult to identify or understand an experience we cannot recognize and whose complexity we may not fully comprehend. Further, rushing to create solutions to "medicine's shame problem"[11] before we more fully understand its nature may actually impair efforts to build resilience in the face of this challenging emotion.[13]

Our study contributes to the foundational understanding of shame needed for a measured and thoughtful approach to its role in medical education. Knowledge of the phenomenological structures we have presented will aid in earlier recognition of shame in medical students, and appreciation for the complexity of the associated cognitive processes, emotional upswells, and action tendencies will enable development of nuanced and individualized support resources. Many such resources, especially those delivered by trained, licensed professionals, already exist. For example, cognitive behavioral therapy (CBT), through a focus on identifying and shifting negative automated thoughts and self-beliefs,[31] can help "unskew" a shamed learner's frame of reference and quite a dominant, internal voice of self-blame. Dialectical behavioral therapy, a form of CBT that uses adaptive behavior change, can help identify maladaptive action tendencies linked with shame (e.g., reflexive withdrawal) and then elicit and reinforce opposite behaviors (e.g., deliberately asking questions).[32] Given the established efficacy of such resources, medical schools should fully support students' efforts to seek professional treatment. This will require schools to mitigate barriers to help seeking by: addressing the stigma associated with help seeking; making counseling resources maximally

available and incorporating opt-out counseling for all students; and ensuring safe, accessible, and confidential ways for students to report emotional struggle, including shame.[33–35]

Given the significant negative outcomes associated with trauma and the profound shame that can result—plus the likelihood that some educational trauma is intentionally *induced* during medical training—we call on leaders in medical education to assess their learning environments for its presence. Indeed, we are not the first to raise the concern that significant trauma is occurring during medical training: a chorus of authors have drawn attention to the presence and experience of such trauma before and during medical training.[36–38] Implementing "trauma-informed medical education"[36,37] may help advance trauma-informed curricular development and delivery, educational contexts, self-care techniques, and learning environments in medical education,[37] all of which are likely to meaningfully address the risk, occurrence, and effects of shame as well.

The potential to meaningfully support a shamed learner is not limited to trained psychologists or curriculum committees. All of us in medical education should consider our role in mitigating the destructive potential of shame in our community. Our data reveal that dynamic, complex, and powerful emotions and self-evaluative processes occur as students learn medicine. How attune are we to these processes, the emotions they fuel, and outcomes they drive? How do our individual actions and institutional cultures influence these processes? In other words, what effect are we having on the arrangements of dominos our learners have constructed? Do our actions and cultures add or remove stability to that arrangement? Do they trigger the initial domino that falls or impact on the speed of the resulting cascade? Our data reveal a sobering reality in medical education: our actions as individuals and the institutional cultures we maintain *do* have the potential to infuse ego instability, trigger emotional distress, and drive identity dissonance in medical trainees.

And yet, as individuals and institutions, we also possess great potential to instill the opposite: ego stability, emotional health, and identity growth in medical trainees. As we consider our role in this effort, we should acknowledge trainees' inherent ability to develop their own resources and resilience to shame and ensure learning environments that facilitate this resilience development. Being effective allies in this process will require us to grapple with—and heal from—our own unresolved shame, reflect on whether we are contributing to our learners' shame experiences, express vulnerability in sharing our own shame stories, and provide active and sustained support well beyond emotional displays that can be observed.

In other words, we should *partner* with learners experiencing shame to facilitate a mutually engaged and authentic process of identity renewal and growth.

Limitations

Our study has several limitations. First, the findings from this single-institution, qualitative study are not statistically generalizable,[39] nor do we intend them to be. While they provide deep insights about how shame *can be* experienced by medical students, they must be applied with attention to the unique characteristics and individuals within a given learning environment. Second, it is possible that some participants focused on their most intense shame experiences and that others withheld them. Thus, our depiction of medical student shame is incomplete and likely does not represent the full spectrum of shame experiences occurring in medical training. Further research is needed to examine this spectrum and to further characterize shame in diverse environments and among diverse medical learners. Third, in presenting the destabilizing nature of shame in this study, we do not imply that it is a central feature of all shame experiences. Finally, in adhering to our research question (i.e., how students experience shame), we did not analyze how our participants maintained or regained this stability (i.e., how students are resilient to shame). This will be a topic of future study.

Conclusion

In this study, we sought to characterize the nature and meaning of medical students' experiences of shame. The component parts and phenomenological structures we identified give shape to these experiences, and the emergence of an overall theme—the destabilizing nature of shame—highlights its essence as a significant emotion in medical learning. Our analysis did not include the myriad ways that medical students constructively engage with and overcome their shame experiences. Given the potential for shame recovery to enhance an individual's sense of self, ego stability, and emotional resilience,[40,41] how this recovery occurs is an important topic for future study. Alongside this inquiry, educators, colleagues, and leaders in medical education should (1) become more attune to the presence of shame in medical learning environments, (2) deeply consider the role they may play in propagating its presence, and (3) reflect on the role they *can* play in mitigating its damaging potential.

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