"Rising to the Level of Your Incompetence": What Physicians' Self-Assessment of Their Performance Reveals About the Imposter Syndrome in Medicine

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Abstract

Purpose
Mistakes are ubiquitous in medicine; when confronted by error, physicians may experience anxiety, guilt, and self-doubt. Feedback may be useful for navigating these feelings, but only if it matches a physician's self-assessment; self-doubt and the imposter syndrome are examples of inaccurate self-assessments that may affect receptivity to feedback. The impact of real or imagined underperformance on seemingly competent physicians is poorly understood. This study aimed to develop a deeper understanding to identify strategies to support all physicians who struggle.

Method
In 2015, 28 physicians were interviewed about their experiences with underperformance. Early in the data collection process, participants spontaneously identified the imposter syndrome as a feature of their experiences; questions about the imposter syndrome were probed in subsequent interviews.

Results
Many participants—even those at advanced career stages—questioned the validity of their achievements; progressive independence and career advancement were variably experienced as "rising to the level of your incompetence." Not all participants identified as imposters; the imposter syndrome occurred at the extreme end of a spectrum of self-doubt. Even positive feedback could not buffer participants' insecurities, which participants rarely shared with their colleagues.

Conclusions
Self-doubt variably affects clinicians at all career stages. Frequent transitions may cause a resurgence of self-doubt that may affect feedback credibility. Medical educators must recognize that it is not just the underperforming or failing learners who struggle and require support, and medical culture must create space for physicians to share their struggles.

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High-quality patient care relies on physicians' high standards and attention to detail.[1] When errors occur, physicians may be plagued by guilt, anxiety, and self-doubt[1,2]—struggles that many perceive they either cannot, or should not, share with others.[3–5] Recurrent feelings of inadequacy can contribute to burnout.[6,7] While much attention is heaped on helping "unconsciously incompetent"[8] physicians—or those who lack awareness about their deficits—we have limited understanding about the impact of underperformance on apparently competent physicians' learning, practice, and wellness. These "unconsciously competent"[8] physicians may also suffer, yet their needs may not be visible in a culture assumed to discourage disclosure.[3–5] A deeper understanding about underperformance, both real and imagined, may identify strategies to support *all* physicians who struggle.

Feedback can be a "powerful reality check"[9] critical for navigating underperformance, failure, or self-doubt. But to be valuable, feedback must reconcile with an individual's self-assessment.[10] Physicians' insight into their performance is fluid and contextual,[8] however, rendering self-assessment notoriously inaccurate.[8,11–15] The "imposter syndrome" is one form of inaccurate self-assessment that afflicts those who, "despite their earned degrees, scholastic honors, high achievement on standardized tests, praise and professional recognition from colleagues and respected authorities … do not experience an internal sense of success."[16] The imposter syndrome is linked with perfectionism,[17] is triggered by excessive anxiety and self-doubt,[18] and is prevalent in the high-stakes, evaluative culture of medicine.[19] Findings from previous studies show that of participants surveyed, approximately 30% of family medicine residents (n = 175)[20] and 44% of internal medicine residents (n = 48)[21] feel like imposters. The imposter syndrome is a strong predictor of psychological distress[22]; it can make physicians feel unprepared for clinical practice,[20] and it can negatively affect their career advancement.[23] We do not know what, if any, impact the imposter syndrome has on academic physicians' ability to both teach and support struggling learners.

The medical profession neither sufficiently prepares physicians to grapple with mistakes[24] nor adequately supports them to share their insecurities.[3–5] With limited support, physicians wrestling with errors and self-doubt may become immobilized by fear.[25] Successful individuals presumably find ways to manage these struggles effectively, and

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they may even reflect back on navigating these difficulties as critical steps in the development of their professional competence.[26] To identify support strategies, we explored the experiences of faculty physicians who perceived that they had successfully maneuvered mistakes, failures, or perceptions of underperformance during their training and subsequent careers.

Method

We used constructivist grounded theory (CGT)—a qualitative research methodology that explores how a basic social process unfolds over time[27]—to inform the iterative data collection and analysis process. As constructivists, we are mindful that we collect and interpret data through lenses colored by our experiences. All three investigators are PhD-trained medical education researchers; C.W. and S.G. are also clinicians in neurology and respirology/internal medicine, respectively. K.L. is developing a program of study to uncover hidden experiences in medical education; she came to this research during a transitional point in her career. C.W.'s research attends to the individual and sociocultural influences that affect feedback exchange in clinical settings; in his role as an associate dean, he regularly counsels struggling learners. S.G. has extensively studied professionalism in medical education; in her clinical and administrative roles she has frequently interacted with struggling learners and faculty.

Recruitment

Because we explored sensitive topics, we neither purposefully recruited specific physicians nor theoretically sampled[27] individuals on the basis of either their career stage or discipline. Rather, we e-mailed all physician faculty (n ≈ 1,000) at one Canadian academic institution (kept unnamed because of the sensitive topics explored) to invite them to participate in individual interviews. Twenty-eight faculty members willing to speak candidly about their own perceived underperformance or failure consented (Table 1).

Data collection and analysis

During semistructured interviews lasting approximately 60 minutes, we asked participants to share both their failures and their perceptions about their performance, to discuss how they recognized and navigated performance or learning struggles, and to explain how their experiences shaped their interactions with learners (Supplemental Digital Appendix 1, http://links.lww.com/ACADMED/A507). All interviews were conducted by K.L., audio-recorded, and transcribed verbatim. During a three-staged coding process, we used constant comparative analysis to identify themes. First, K.L. and C.W. independently read the first two transcripts to identify initial codes. Next, K.L. and C.W. consolidated initial codes into preliminary themes that were applied to the next two to three transcripts. A final list of themes and categories was developed by consensus and used to recode each transcript. At each stage of the analysis, we consulted with S.G. to interpret the initial analysis and to refine the interview guide to probe analytical insights. For instance, the imposter syndrome was introduced by a few participants early in data collection. Because it seemed to resonate with how others described their perceptions about their performance, we adjusted our interview guide to probe around it. Theoretically sampling questions about the imposter syndrome aligns with the iterative and emergent nature of CGT methodology.[27]

Table 1

Demographic Characteristics of 28 Participants, From a Qualitative Study of Physicians' Self-Assessment and Perceived Underperformance at One Canadian Academic Institution, 2015

Characteristic	Number
Gender	
Female	10
Male	18
Career stage	
Early to mid (1–10 years in practice)	5
Mid (11–25 years in practice)	12
Mid to late (26+ years in practice)	11
Specialty	
Pediatrics	6
Neurology	5
Emergency medicine	3
Radiology	3
Surgery	3
Geriatrics	2
Internal medicine	1
Psychiatry	1
Radiation oncology	1
Ophthalmology	1
Nephrology	1
Pathology	1

We interviewed participants from July to October 2015. We ceased recruitment when we determined that participants' stories seemed sufficient for exploring faculty physicians' experiences with underperformance and failure.[28] This does not mean that we would not have gained additional understanding from new participants; rather, it means that our data sufficiently satisfied our exploratory research question.[29] Because writing is integral to the CGT analytical process, we continued to refine our analysis as we prepared findings for dissemination.[30] The Western University Research Ethics Board approved all study procedures.

Results

Characteristics of the 28 participating physicians are reported in Table 1, including career stage (early, mid, late) and medical specialty. While some participants' experiences with underperformance and failure included tangible examples of poor academic or patient outcomes, participants more commonly described recurrent feelings of self-doubt—or *perceptions* that they were underperforming or failing. Not all participants identified as imposters. Instead, we perceived that the imposter syndrome occurred at the extreme end of a spectrum of self-doubt. Regardless, for many, success, positive feedback, and accolades did not buffer their feelings of inadequacy in training, in clinical situations, in academic endeavors, and in leadership positions. Instead, some participants—including those at advanced career stages—frequently questioned either their knowledge or the validity of their achievements.

A spectrum of self-doubt

Participants described medicine as a profession that demanded competence and confidence; confidence was, however, fragile and sometimes fleeting. For some, moments of self-doubt were reported as rare. For instance:

> Quite honestly, I think I performed extremely well during residency. I cannot recall a time when I thought I was underperforming as a resident. (P3)

At the other end of the spectrum were participants for whom self-doubt seemed unusually persistent and prominent:

> Many of my colleagues and I often talk about the imposter syndrome and we feel like someone's really going to find out that I have absolutely no idea what I'm doing. I still think someone is going to send me a letter saying "actually it was a mistake. You weren't supposed to get into medical school, therefore, we're taking it all away." And yet you go on and you pass all your exams with flying colors, but it's this "who am I and am I really capable of doing this?" (P7)

Most participants fell somewhere in the middle, experiencing fluctuating moments of self-doubt:

> I still vacillate to this day about those kinds of things. Some days you feel, oh yeah, I'm doing pretty good. I would say most of the time I feel that I'm not doing as good as I should or as good as I could. Probably other people would not have that impression at all, but that's an internal thing. (P20)

Some perceived that gender influenced feelings of, and responses to, self-doubt or the imposter syndrome:

> As women, we socialize very differently around confidence and incompetence. I think among fellow women residents, I see that they often aren't as confident until they're quite skilled, where male residents often are too confident before they actually have the skills. (P26)

Participants were unsure if women were more prone to feelings of self-doubt, or if they were simply more willing to share them:

> In my experience the men don't speak about it as much, at least with me, and the females do seem to benefit from the sharing of the insecurities or the self-doubts, and I think the reassurance of the shared experience that comes from that. (P28)

Recurring moments of self-doubt

Self-doubt was exacerbated in situations where confidence must be shown, but is not felt; transitions or new professional challenges were common triggers. And because frequent transitions are a common feature of a medical career, participants described self-doubt as recurring rather than continuous. Consequently, while the constituents of self-doubt evolved with each new career stage, the feeling of wanting to impress—and to not "screw things up" (P5, P13)—lingered at all levels of training.

Participants characterized medicine as an elite profession populated by high achievers; entering medical school was often participants' first experience with adversity or self-doubt:

> People are obviously selected from the top of the top of the pile to get into medical school. They don't have a history of failure. They come from a socioeconomic group, by and large, that doesn't know failure. Their families have been successful. *They* have been successful. (P18)

For some participants, starting medical school rattled their identity and sense of belonging. Others were confident that they belonged in medicine, albeit with a pervasive worry that they were on the average end of an elite spectrum of performers. And when confidence wavered, feelings of self-doubt sometimes took hold:

> You sort of realize there are a lot of really smart people here, and they are smarter than I am so then how do you value yourself for your whole? (P1)

During their residency training, participants described that they were constantly braced for critique. For participants struggling to strike a balance between overconfidence and insecurity, a paucity of feedback could tip the scales toward self-doubt. Participants perceived that extensive feedback was typically reserved for learners who were underperforming or failing:

> When I think about people who got feedback, they were either slow, or they were not up-to-speed competency-wise. Otherwise, people didn't get a whole lot of feedback. (P9)

Lack of helpful feedback was a problem at all career stages. For some, the absence of feedback was taken to mean that they were performing well. For others, lack of feedback created doubts about their competence that affected their confidence:

> I just assumed … I was stupid or not as smart as the others and you just kind of felt like you were flailing a bit and there was no one to tell you you were doing a good job. So I assumed … clearly I'm not doing well, which wasn't actually the case, but that's how you felt. (P21)

Once they entered practice, participants viewed a career in academic medicine as a seemingly endless series of experiences that shook their confidence. For instance, bad clinical outcomes, patient complaints, poor teaching evaluations, and rejected grants and manuscripts were fodder for insecurity:

> You have to have a very thick skin to be in this business, as your papers get rejected, your grants get rejected, somebody critiques your work … so that's just as hard, I think, in different ways than the failures you have as a clinician. (P28)

Sometimes, even success had a downside; progressive independence and career advancement were variably experienced as "rising to the level of your incompetence" (P1, P3). Despite evidence to the contrary, many participants described that: "Every time I took on a new role I felt as an imposter" (P22). One participant in particular echoed this sentiment:

> The feedback was "you're the one everyone wants to be the division chair." I said, "What? I'm not a leader." What do they see in me that I don't see in myself? (P1)

Once in practice, participants rarely received constructive feedback about their performance in their nonclinical roles. When feedback was provided, it was perceived as a double-edged sword. For participants who endorsed feeling like imposters, even positive feedback about their performance did not erase their self-doubt:

> I would look at myself from what I knew of myself versus the feedback I was getting from other people. So, I'm going to call that imposter syndrome number one, when I felt that I didn't match the feedback that I was getting. But I would say that, for me, the imposter syndrome number two was, I think, even at those stages, recognizing that I had put on a suit of clothes that wasn't mine. I was something I wasn't supposed to be. (P18)

Managing self-doubt

Self-doubt could be emotionally distressing. One participant also indicated that it could make faculty reluctant to embark on new professional challenges:

> At junctures when I have taken on new responsibilities … I am worried about, "will I be able to do this task or take on this responsibility?" And then, I might lose sleep.… Over time, it becomes less of an issue as you just understand, okay,

> this is just part of the natural way I react to things. Of course, I am going to feel anxious about taking this on because I always do. And then, you just shorten that period of adaptation. But the first few times it happens, it can be pretty traumatic. (P12)

Participants identified a number of strategies for managing their insecurities. During residency, some assuaged their self-doubt by:

> Being thorough, being careful, being attentive to the patient, the issues. I may not have done the best possible job, but as far as I knew I was doing the best job that I could do, and that was enough for me. (P6)

Managing was, however, challenging because aspects of medical culture seemed to perpetuate, even to train, feelings of insecurity. For instance, showmanship was described as a widespread cultural value. Performing confidently was perceived to be as, if not more, important than possessing actual medical knowledge or procedural skill:

> Exams really are about knowing how to act and behave. It is a real skill. Knowledge, I think honestly, comes second, but it's the showmanship. (P7)

The notion of medicine as performance art was also widely endorsed; the white coat was perceived as the requisite costume for playing the part of the confident physician:

> A lot of patients … like to see that image of the white coat. I think it maybe gives them confidence about competence of the individual. It shouts professionalism. (P20)

For several participants, however, the white coat evoked feelings of fraudulence:

> I remember reading this book … called the Cloak of Confidence and how people would wear the white coat and become someone else.… I hated wearing that coat … I felt like such an imposter. (P7)

Regardless, for some participants, acting the part of the confident clinician became critical for hiding pervasive feelings of self-doubt. However, participants understood that too much showmanship could be dangerous. That is, while medical culture values confidence, it abhors arrogance. Self-doubt or the imposter syndrome was, therefore, perceived to be a protective mechanism against inappropriate overconfidence—a useful feature of a risk-averse profession. In other words, these feelings could be "what you need to keep a little bit humble" (P10).

Despite identifying coping strategies, feelings of inadequacy persisted for several participants; medicine was perceived to be a culture with few opportunities to share these struggles. Participants described that self-doubt and the imposter syndrome were taboo subjects; confiding or seeking help for these feelings equated to "an admission of perceived weakness" (P20). Even consultant participants who had found it "very helpful, and probably validating" (P28) for a senior colleague to speak openly about these feelings often did not share their experiences with their colleagues or with their learners:

> I don't know that it would have occurred to me to raise it as an issue, but … it's probably on people's minds. (P28)

Discussion

Most physicians, successful or not, make mistakes and experience moments of self-doubt. Our participants situated themselves in a spectrum of self-doubt bookended by two extremes: unquestioned confidence and the imposter syndrome. And while educators would hope to see insecurities about performance lessen with experience and career progression,[21] our findings show that self-doubt variably affects clinicians at all career stages and that physicians experiencing the imposter syndrome may be affected by lingering, career-long unconscious competence with detrimental effects.[31]

Participants' experiences across their career trajectories seem to suggest that the triggers for self-doubt may be different for learners than for experienced, practicing physicians. That is, we speculate that during residency, participants' feelings of self-doubt revolved around a pervasive concern that their medical skills and knowledge were not as good as *they* thought they were. As consultants, participants' insecurities suggested a fear that they were not as good as *others* thought they were. Our findings make several contributions to the literature. First, we found that even outstanding performers struggle, albeit with fewer avenues for support than those who fail or underperform. Second, we identified factors that can trigger a resurgence of self-doubt, and we add a new dimension to the challenge of navigating the transitions ubiquitous to medical practice. Finally, we propose that medical culture perpetuates feelings of inadequacy because of an incorrect assumption that those who are doing well *know* that they are doing well, and because "needing help does not fit with the self-image of young doctors."[11]

Participants' tendencies to share their insecurities about their performance—rather than actual instances of their mistakes or failures—may reflect a well-described reluctance to disclose errors.[3–5] Regardless, their experiences caution that transitions, challenges, and increased responsibilities are notable culprits for triggering self-doubt.[16,21] We need to be mindful that transitions are constant along the continuum of an academic medical career,[32,33] and that both learners and faculty physicians may underperform as they adjust to the demands of new learning and work environments, clinical teams, and professional roles.[34] However, our findings add evidence that physicians' *perceived competence* may not rebound once they have achieved *actual competence* in their new roles. We need to understand whether the promotion or exacerbation of self-doubt is an unanticipated risk of ever-present professional challenges and of near-constant transitions. We should also carefully examine whether such frequent transitions are necessary,[35,36] or consider how we might mitigate their impact by providing a degree of consistency through mentorship or coaching. In the meantime, we should anticipate and attend to these feelings as part of trying to smooth transitions. Clinician educators might also consider whether confidence-based assessments[37]—in which learners simultaneously answer skill questions and self-assess their confidence in their response—might be a useful approach for mitigating performance insecurities.

We also suggest that self-doubt may influence—or be influenced by—our routine approaches to clinical training in medicine. For instance, when direct observation and feedback are not part of learners' everyday clinical work, their sudden appearance may create, or even perpetuate, feelings of self-doubt. In

previous research, we learned that in the presence of an observer, residents replaced their usual approach to patient care with one that exemplified a textbook or checklist approach[38,39]; practicing physicians in the present study also described the need to put on a show, and to act the part of a confident, competent physician. Staging a performance feels fraudulent and can make learners question the credibility of feedback[26] based on what they perceived to be an inauthentic performance.[38]

Insecurities about performance may also affect the credibility and educational impact of feedback; that is, for physicians experiencing the imposter syndrome, feedback in *any* form may be ignored at best, and detrimental at worst. For individuals lacking in confidence, external critiques may create significant emotional distress, reinforcing an internal sense that they are not good enough. Even positive feedback lacks credibility; imposters discount positive feedback that portrays them as more competent than they feel. While attention has focused on the effect when corrective feedback is ignored,[40] we rarely consider the impact when positive feedback is discarded.

Despite recurrent self-doubt, our participants seemed to develop ways to function, even to excel. However, on the basis of previous research exploring the imposter syndrome in medicine,[19–22,31] we suspect that those who have difficulty overcoming these feelings may incur significant costs to their personal wellness, to their learning, and to their careers.[23] Identifying and supporting physicians struggling with self-doubt is challenging because, to others, they are generally perceived as performing quite well. And, as our data support, they may be reluctant to reveal themselves.[23] Yet sharing these feelings with mentors and colleagues may be an important aspect of coping.[41] The challenge for medical educators, therefore, is to develop an awareness and understanding that these insecurities are common and recurrent, that features of the medical culture may foster self-doubt, and that it is critical to develop opportunities for practitioners to safely acknowledge and share their feelings. In other words, medical culture requires a "growth mindset."[42] Rather than ignoring or "punishing" mistakes, medicine needs to cultivate safe spaces to share struggle, and to develop opportunities that transform failure into a teaching tool.[31]

Limitations

Because this is a study of perceptions, and because we know that physicians inaccurately self-assess their performance, it is impossible to know if participants' feelings of self-doubt or of the imposter syndrome illustrate a lack of awareness, or if they are accurate and appropriate reflections of individuals' strengths and weaknesses. For instance, while it is possible that those who do not endorse self-doubt or the imposter syndrome are inappropriately overconfident, it may also be true that these individuals have appropriate insight into their limits, and that they have developed effective strategies for learning and for improving their performance. It is also possible that there is a cultural bias toward self-deprecation that might not quite reflect participants' internal reality, and could lead to participants' overreporting feelings of self-doubt to appear appropriately humble. Regardless, for faculty member participants whose self-assessments did not match the praise of peers and mentors, imposter syndrome *felt* real and of personal consequence. Finally, we did not purposefully sample participants on the basis of gender, socioeconomic, or cultural factors; however, because previous research suggests that these factors may contribute to the imposter syndrome,[21] they are important considerations for future research.

Conclusions

Medical training—indeed medical careers—may both foster insecurities and limit efforts to recognize and support those struggling with them. We speculate that recurrent self-doubt may be one explanation for why some educators have difficulty counseling struggling learners. That is, if clinician educators worry that they are failing or underperforming in aspects of their own career, they may worry that they have little wisdom or support to offer learners. Continued efforts are required to better understand how and why self-doubt develops, how it is sustained, and how physicians can develop resilient management strategies to address it. In the meantime, medical educators must recognize that it is not just the underperforming or failing learners who struggle and require support, and medical culture must create space for clinicians to share their struggles.

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