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"Playing in the Big Leagues Now": Exploring Feedback Receptivity During the Transition to Residency

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Abstract

Purpose: Learners' perceptions of feedback can significantly undermine its impact. Consequently, some feedback has been known to fall on deaf ears. At times when stress is heightened, however, feedback may hold value for both learning purposes and reassurance. Because stress and uncertainty are intensified during the steep transition from medical school to residency, we aimed to explore new residents' receptivity to feedback and the characteristics of feedback that could optimise it at this stage in their training.

Method: Nine residents who were two to three months along in a residency program were recruited through voluntary sampling, then met individually for a semi-structured interview. Qualitative analysis of these interviews was conducted to explore new residents' perception of their new context and their experiences with feedback, using a constructivist approach. Emerging themes and categories were developed inductively.

Results: Insights gained from our participants' perspectives suggest that common circumstantial factors prompt novice residents to seek more guidance through feedback. In this study, novice residents were most receptive to feedback when its content was practical and aligned with residents' personal objectives, when it was coherent with previous feedback and when it was discussed one-on-one in a setting which the resident considered safe. Participants expressed a need for more feedback on specific topics such as medical knowledge, clinical reasoning, prescribing, prioritizing, managing critically ill patients and dealing with increased anxiety.

Discussion: Medical teachers should be mindful of learners' increased anxiety and uncertainty during the transition from medical school to postgraduate training, because more guidance may be needed during this period, including through feedback. Future research is needed to determine how this teaching momentum can best be utilized.

Keywords: Feedback receptivity; Family medicine; Postgraduate training; Transition period

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1. Introduction

The last two decades have seen a shift in medical education toward competency-based education, whereby training completion is no longer defined by training duration but by the achievement of the desired outcome of training.[1] This achievement, as well as every step of training toward this goal, is primarily assessed by direct observation of performance in authentic situations. Because performance is generally acknowledged to be learnt and improved through guided practice, the iterative performance-feedback-performance loop aided by an external observer is central to a competency-based approach.[2,3]

Boud[4] has defined feedback as a process where "learners obtain information about their work", in order to "generate improved work". This aim can be adapted to any objective set out by the learner-teacher dyad, depending on context. While the improvement of performance consistent with these objectives may be the overarching goal of feedback, it cannot be assumed that improvement will necessarily follow feedback interventions. In fact, Kluger and DeNisi[5] have shown, through a meta-analysis of decades of literature on feedback, that over a third of feedback interventions (38%) were followed by weaker performances. More recently, van de Ridder et al.[6] demonstrated that simply framing feedback positively or negatively could lead to different performance outcomes.

Various hypotheses have been put forward since then in attempts to predict and influence how feedback will affect future performances. Notably, it has been found that the reframing of feedback interventions by learners alters their receptivity to feedback,[7] and that learners' perceptions can significantly affect feedback interventions' outcome and usefulness.[8,9] Bing-You and Paterson[10] have stated that feedback might be "falling on deaf ears" by the end of residency, reporting that residents were increasingly dismissive of feedback as they progressed through their training. Since then, other studies have confirmed that certain feedback interventions were associated with a lack of perceived usefulness in the eyes of medical trainees.[11,12]

At times when stress is heightened during training, however, residents have been known to be more receptive to feedback. Feedback interventions in such contexts seem to hold value in learners' eyes both for learning purposes and for its psychological effect of reassurance.[5,13] Transitions represent one prominent example of periods characterized by heightened stress.[14,15] The transition from medical student to resident in particular has been described as the most crucial transition during medical training; it can be abrupt, associated with cognitive overload and with high levels of anxiety.[16] For all these reasons, feedback during this period could either have the detrimental effect of increasing learners' cognitive overload or be useful to help alleviate the uncertainties faced by novice residents.[16] In both cases, more data is needed to establish the best approach to help novice residents benefit from this transition period as a learning opportunity.[15]

Thus, we set out to explore Family Medicine residents' receptivity to feedback during their first months of postgraduate training, in order to deepen our understanding of the factors that influence receptivity at this stage. The Family Medicine setting was chosen because it has been suggested that generalist teachers may be more learner-centered in their approach to feedback[17] and include more direct observations than teachers in other specialties,[18] partly because personal development, reflection and feedback on experience are important aspects of generalist training.[19] In this context, we sought to explore new residents' receptivity to feedback and the characteristics that could optimise it at this stage in their training.

2. Material and methods

2.1. Context

The Université de Sherbrooke in Quebec offers a Family Medicine residency program across eleven sites, including in Moncton, New Brunswick. Family Medicine is a two-year postgraduate program, begun after completing clinical clerkships, passing a national certification exam and obtaining a medical doctorate. At the point of entry into a residency program, trainees are qualified to practice medicine under supervision, but further vocational training is required before independent practice. Participants in this study were interviewed after two to three months into their Family Medicine postgraduate training.

2.2. Participants and recruitment

All Year 1 residents (PGY-1) based at the Moncton Family Medicine unit at the time of the study (Academic year 2013–2014), were invited to participate. Voluntary recruitment took place during a mandatory orientation week in July. Residents were invited to leave their contact information for interviews to take place between mid-August and mid-September. They were only excluded if they had received prior

Table 1
Interview guide.

1) Tell me about your residency up to now.
2) If I say « feedback », what comes to your mind?
3) Now I want you to think of a feedback experience you have had since the beginning of your residency.
a) What do you see/hear? What do you say?
b) What goes on in your mind?
c) How do you feel?
d) Now with hindsight, how do you perceive this experience?
4) Now I want you to think of a feedback experience that went well/did not go as well.
a) What do you see/hear? What do you say?
b) What goes on in your mind?
c) How do you feel?
d) Now with hindsight, how do you perceive this experience?

training on feedback, as workshops on feedback are periodically offered by the university. Participating residents received a 20$CAD coffee shop gift card.

Nine out of fifteen eligible residents participated (identified as P1 to P9), among which were five women and four men. At the time of the study, all participants were following their own patients on an out-patient basis at their Family Medicine unit. Six participants had completed a rotation at the Family Medicine Inpatient Unit and had completed 24-h calls, both in this unit and on an Obstetrics ward, while three participants had completed specialty rotations and been on-call in Cardiology and Psychiatry.

2.3. Data collection

Participants were met individually and written informed consent was obtained. Semi-structured interviews were conducted by one author (MTL) as per the interview guide presented in Table 1. Care was taken to minimize interruptions of participants to allow for a more in-depth gathering of participants' experiences with feedback. The interviewing author's understanding of the data was validated with each participant before completing each interview. The interviews lasted 25–50 min. Because interviews were conducted in French, excerpts have been translated for the purpose of this article.

2.4. Data analysis

The interviews were audio-recorded and transcribed verbatim; identifying information was removed prior to analysis. The collected data was analysed using a social constructivist approach. This research paradigm aims "to understand the complex world view of lived experience from the point of view of those who live it", but "does not [claim to] result in a definitive capture of reality" (Mertens[20], p. 18–19). This specific research approach aims for in-depth data in order to develop transferable knowledge. It contends however that there exist as many perspectives as there are individuals and that these perspectives themselves are continually evolving. In this light, data can never be exhaustive and this research approach does not aim for data saturation.[20]

A thematic coding framework was first developed by all members of the research team, based on the themes explored during the initial interviews. The coding framework was further developed by two of the authors (EB, CSTO), with categories emerging inductively through thematic coding and analysis of the initial transcripts. The final coding framework included definitions and examples for every category, which were then applied to all transcripts by the first author (EB), using the qualitative data analysis software NVivo 11. The research team met periodically, so that analysis and final interpretations were agreed to by shared construction, understanding and consensus.

3. Results

Participants' narrations of their feedback experiences revolved around the new challenges they faced – setting up a context which made them more eager for feedback – and around their perceptions of feedback and the inherent characteristics of the feedback received that made them more or less receptive to its content.

3.1. New challenges

The new challenges that residents reported provided the context in which they received feedback during their first months of residency. This particular context is reported here because of its significant impact on trainees' receptivity to feedback. Residents' descriptions of the new challenges they faced were generally intertwined with expressions of their vulnerability toward them and of the anxiety that they created.

3.1.1. New responsibilities and autonomy in decision making

The overnight change of status from student to resident on July 1st had been unsettling for participants.

When you start on July 2nd*, you tell yourself: 'What happened during the night?' Overnight, you're a resident… It's a whole new world, you're playing in the big leagues now.*" (P1)

Anxiety was most often brought about by realizing that they now had to make decisions that had actual consequences on patients.

"*You're more in charge of what happens next, so if anything happens, anything wrong, there are more consequences and it's on you.*" (P6)

This increased autonomy occurred at a stage where residents still felt uncertain, generally sensing that they still lacked the necessary knowledge to make the most enlightened decisions.

"*I'm very often paged for prescriptions… You have to think quickly: 'Ok, what is that medication?', 'What else does the patient take?'…I'm constantly getting called about patients I don't know!*" (P2)

This new level of responsibility and autonomy sometimes triggered greater fears.

"*The first time that you increase medication from 15 mg to 30 mg, you ask yourself: 'Am I going to kill the patient?'*" (P1)

"*Every morning when my call ends, I'll ask the nurse: 'The patient you called me about… is he still alive?'*" (P2)

3.1.2. Higher expectations

There was a general understanding among residents that faculty now had higher expectations of them, expectations which were perceived as "pretty high and burdensome" (P9). For some, the challenge also lay in gauging exactly what the expectations were.

"*You wonder at times what expectations are; some make it clear, but with others, it's not obvious. We're left to wonder 'As a PGY-1, am I supposed to do this or not?" It's not always easy to gauge, and expectations vary from one attending to the next.*" (P7)

3.1.3. New environments

Five participants faced the additional challenge of having to adapt to a new work environment, or even a new living environment. One resident had moved from another province, while two had moved from a different region.

Such adaptations raised concrete logistical concerns, but also increased stress related to clinical efficiency.

Table 2
Characteristics of optimal feedback according to residents in this study.

Factors related to…	
Content	Practical recommendations Relevance to resident's objectives Specific topics • Theoretical knowledge • Clinical reasoning • Prescribing • Prioritizing and managing simultaneous demands • Managing critically ill patients • Dealing with anxiety
Context	Timeliness In private Physicians' credibility as teachers
Coherence	With self-assessment With feedback from other supervisors
Climate	Safe learning environment Dialogue Acknowledging progress A known supervisor

One participant even felt that having to adapt to his new work environment undermined his credibility in the eyes of the medical students he supervised.

"*I knew nothing of how it worked here. That stressed me out… When you're not from here, you waste so much time for the slightest details. My first three days at the hospital unit were hell: I had to ask for help for every single task… When you have to ask a student you supervise, 'Hey… how do you do this?', it takes a toll on your confidence.*" (P3)

3.1.4. Being reachable 24/7

Participants reported a sense that their new tasks were never really over. Moreover, they felt that they rarely rested properly, due to longer working hours, pagers and frequently being on-call.

"*When I'm on call, I really don't sleep well. And I'm constantly, every minute, checking my pager to see if it rang and I missed it…*" (P2)

"*I work an emergency shift, then I'm at the walk-in clinic, then I'm on call in obstetrics, I'm back in the emergency, then again a walk-in clinic in the evening… Of course, we're tired.*" *(P4)*

All in all, the anxiety, fear, uncertainty and strain triggered by the new challenges that novice residents had to face put them in a more vulnerable state, which

in turn could make them more receptive to external guidance.

3.2. New residents' perception of feedback

In this context, an overwhelmingly positive, and at times idealistic, view of feedback did emerge among these newly appointed residents.

> "*Feedback is a good thing, I see it very positively.*" (P2)

> "*[Feedback is] going over how you're doing, giving you pointers… To be honest, I don't see any negative side to feedback, because everyone is here to help us improve*." (P7)

They reported seeking feedback because it helped them improve in a role that was still unfamiliar to them.

> "*I see feedback as anything that helps me improve… If it's negative, it just means, 'Ok, I have to work on this!' I'll review it… I use feedback to guide me.*" (P3)

Participants reported that feedback increased their motivation:

> "*When you get feedback, it's encouraging. You work so hard during the day, and you feel as though no one notices. But if a teacher mentions it, you're more motivated to go on.*" (P6)

> "*When you first start out, you're uncomfortable taking initiatives. But the more*
>
> *you do, the more feedback you get – positive or negative. And the more you seek to improve*." (P8)

Although certain characteristics of specific feedback interventions could cause them to be less well received, as described in the next section, no participant in this study expressed an overall negative perception of feedback.

3.3. Characteristics of optimal feedback

When seeking guidance in their new tasks, residents depicted four main aspects of feedback which made them more – or less – receptive to its content (summarized in Table 2). The characteristics of optimal feedback for participants in this study pertained to four categories: feedback content, context, coherence and climate.

3.3.1. Content

3.3.1.1. Practical recommendations. Novice residents' receptivity to feedback seemed proportional to its capacity to help them improve concretely. In order to achieve this, the feedback exchange had to let them know *how* to improve. Many felt that the same message could either have a positive or a negative impact, depending on whether the focus was put on what was wrong or on what could be done better next time.

> "*Negative feedback corrects something you've done wrong. But constructive feedback says 'You could do it this way, try it that way next time', it offers tips.*" (P1)

Because it facilitated such specific feedback, interventions which followed direct observation were especially valued by residents.

3.3.1.2. Relevance to resident's objectives. Residents were most receptive to feedback that took their own objectives into account. In contrast, feedback that residents could not link to their personal objectives or to their future professional tasks could be perceived negatively.

> "*If I get feedback that is completely unrelated to my present or future job, I'll wonder 'Why are you telling me this? It won't change what I do.'*" (P8)

3.3.1.3. Specific topics. Some residents felt that it was now taken for granted that they had integrated theoretical knowledge and that the feedback they received only focused on competencies, such as communication skills or professionalism. They wished that feedback would still incorporate medical knowledge now that they were residents.

> "*At times I feel like all we work on is the doctor-patient relationship, or on technicalities… There is so much focus now on competencies, as opposed to medical knowledge. I wish we'd receive more theoretical feedback*" *(P4)*

New residents now have the authority to prescribe medication on their own. Participants were thankful for feedback on this topic.

> "*One attending said: 'You know about these medications, but what happens when you combine them? Which effects will you be monitoring?' She gave me small homework and it was very constructive.*" *(P2)*

Participants also seemed eager for feedback on their clinical reasoning. If they had not reached the same conclusion as their supervisors, they wished to know where their reasoning differed, and specifically where they might have made a mistake.

> "*I listed my differential diagnosis, and my supervisor said 'No!'. But he didn't say why. He didn't ask for the reasoning behind my answer. Was all my reasoning wrong? No one seems to tell you why your answers are wrong.*" *(P1)*

3.3.2. Context

3.3.2.1. Timeliness. Participants were more receptive to timely interventions. Conversely, they reacted negatively when they received feedback late after an event.

> "*I was only given feedback two weeks later, and what's more, during my evaluation. This changed my perception of the feedback I received.*" (P5)

3.3.2.2. In private. Feedback was perceived very negatively when it was given in front of others, be it patients, staff or peers.

> "*I couldn't answer a question so my attending said 'Don't stay here, go study!'…in front of everybody, the nurses, the medical students! I was humiliated. I left, but I couldn't study.*" (P3)

> "*The key words are 'one on one'…Once, I tried to explain something to a patient. My supervisor took my arm and said 'No'…in front of the patient! I was so uncomfortable, I wanted to disappear. I felt I had lost all credibility and I closed up.*" (P1)

3.3.2.3. Teachers' credibility. Participants' narratives never questioned their supervisors' clinical competence and credibility as clinicians. Only one participant mentioned his supervisor's credibility as a factor affecting his receptivity to feedback. Even then, only the physician's credibility as a teacher, and not as a clinician, was called into question.

> "*Some attendings have a certain reputation which makes you filter their feedback. If a physician evaluates everyone negatively, then you won't change your way of doing things if he tells you it's wrong… The opposite is also true.*" (P6)

3.3.3. Coherence

3.3.3.1. With self-assessment. Receptivity to feedback also seemed to be in direct relation to how well it aligned with residents' self-assessment of their own performance. As a consequence, negative feedback could still be perceived positively, as long as the resident agreed.

> "*The feedback reflected my own impressions, and this allowed me to add my own input. I didn't just stand there trying to process, we were really able to discuss*" (P5)

> "*If they tell me I shouldn't have done something and it's the opposite of what I think, it feels more like criticism. I get skeptical – and then I'm not willing to change.*" (P8)

3.3.3.2. With feedback from other supervisors. It was more difficult for participants to adhere to feedback if it diverged from that previously received from other supervisors.

> "*I just figured 'Ok, this is how he does it', because in my other rotations, I'd always received positive comments for doing things exactly that way. And then this supervisor tells me to do the opposite… everyone has a different approach, it's hard to gauge*" *(P1)*

3.3.4. Climate

3.3.4.1. A safe learning environment. In learning environments where residents felt allowed to make mistakes, feedback was much better received. Participants then felt that their supervisors truly wanted to help them and that they based their assessments on more accurate knowledge of what they could do.

> "*One teacher tells us 'When I was a student, this was difficult for me, and I did this.' It's very positive. She doesn't always say we did well, but she creates a good learning environment. I feel more comfortable asking her for help.*" (P5)

3.3.4.2. Feedback as a dialogue. Participants were more receptive when they were able to share their own perspective and not simply be told how an event had been perceived from the outside.

> "*What is sometimes lacking is teachers sitting down to discuss the feedback with you. They tell you quickly, on their way to doing something else…*'" (P6)

3.3.4.3. Acknowledging progress. Participants were much more prone to integrate feedback when the efforts they had already put in were recognized.

"*When you do what they've shown you…if they recognize that you're making an effort, if they notice, it reinforces their message.* » (P1)

3.3.4.4. A known supervisor. Feedback was more valuable to participants when the supervisor who delivered it knew them well, especially if they had been able to develop a mutual trust.

"*Feedback has more impact if it's given by someone you know… If you get feedback from someone you've often worked with, you'll truly get more out of it.*" (P6)

4. Discussion

In this study, the first months of residency were described as a turning point in participants' training, which was characterized by new challenges, both personal and professional. Participants' descriptions of these challenges were generally intertwined with expressions of their vulnerability toward them and of the anxiety that they created. As McConnell and Eva have brought to light, emotions can influence how learners interpret and act on information in learning situations, and can even alter the extent to which they seek out feedback interventions.[21] Our participants' narrations of their experiences and pre-eminently positive view of feedback do suggest that their receptivity might have been heightened during this period of transition.

Previous studies had found senior residents to become gradually dismissive of feedback.[10,11] In this study with new residents, however, participants seemed eager for feedback, partly because of the new challenges they faced. Rudland[22] has stressed that learners are mostly driven to change when they become aware of a gap between their own performance and that which they are aiming for. In this study, the gap between participants' previous functioning level and that which they felt was now expected of them appears to have been a driver for change, as reflected in the "New challenges" section of our results. Participants were very aware that their decisions had a genuine impact on patients, and furthermore, that their actions had the potential to be dangerous. As a result, these residents' wish to improve, and to find concrete ways to do so, was ubiquitous in their discourse. Such findings, if corroborated with larger samples, could indicate that the onset of residency represents a teaching momentum for clinical educators.

The optimistic view of feedback which emerged from our participants' candid statements that there was no "negative side to feedback" and that "everyone was here to help them improve" contrasted markedly with previous studies which had found that feedback could be made "meaningless" to learners[10,23]. One possible explanation is that relative indifference to feedback is a process which occurs over time, as residents gradually become more comfortable in their role and feel less need for guidance – a process which has not yet occurred during the first three months of postgraduate training.

A few inherent characteristics of feedback which increased novice residents' receptivity emerged from participants' narrations. These resonated with other studies on feedback where participants valued practical recommendations,[24] alignment with their goals[22,25] and being offered specific examples.[9,23] Our findings also align with studies which stress the importance of timely feedback[9,23] delivered in private,[10] of framing feedback as a dialogue[4,8] of and creating a safe, nonjudgmental environment.[22,23] Finally, our finding that receptivity is increased when feedback is coherent with previous feedback, or with learners' own perceptions of their performance, is consistent with Sargeant et al.[23]'s conceptual model of self-assessment, in which conflicting sources of feedback create tensions that lead learners to reject disconfirming feedback. Thus our study confirms these previous findings from studies which focused on learners at other stages of training. Our study validates these findings with an additional subgroup of learners: new residents. It should be stressed that these findings remained constant, and that the form in which feedback was conveyed still had an impact on learners' receptivity, in a context where they had expressed an acute need for more guidance and where they saw feedback in a particularly positive light.

One area where our participants differed from learners in previous studies, however, is in the high credibility that they assigned to their supervisors. Although there is no consensual definition of credibility, a high credibility source of feedback is generally perceived as more accurate and messages from this source are more easily accepted.[26] Participants in the current study were not questioned directly about their perception of their supervisors' credibility. Nevertheless, the interview guide provided opportunities for participants to comment on this and attendings' clinical competence and accuracy of supervisors was never questioned. Conversely, Bing-You and Paterson,[10] who studied receptivity to feedback with learners from various stages of training, concluded that the credibility

of the attending giving feedback, including in their role as clinicians, was the most important factor to temper residents' receptivity. Watling et al.[11] found that credibility judgments on the source of the feedback served as a filter to determine whether the feedback would be integrated by learners. In our study, however, it is possible that the credibility of the source of feedback did not play an important role in participants' perceptions of the feedback they received, as this factor was never spontaneously mentioned, in contrast to other factors. On the contrary, participants frequently referred to their attendings' vast experience, to which they wished to "gain access" through feedback.

The experiences reported in this study are a reminder of the increased support needed by learners during transition periods. To date, various studies have addressed ways to help fourth year medical students be better prepared to begin their postgraduate training. Senior medical student training in the form of elective rotations, courses or bootcamps, using simulated pages,[27,28] and addressing various topics such as prescriptions, advanced life support and technical skills,[29] managing acutely ill patients, teaching, communicating, and coping with stressors[30] have been studied with positive results. Moreover, core entrustable professional activities for entering residency have been released by the American Association of Medical Colleges in an effort to standardize competencies at this stage.[31] However, the literature on how to make this transition easier for learners who are already in their postgraduate program is much more limited, although wellness support services, resiliency training [32] and promotion of healthy lifestyle behaviours[33] have been suggested as ways to help first year residents. Information on how to better capitalize on this period in terms of clinical teaching and areas of focus for feedback is equally needed given the increased stress and uncertainty associated with this period, as highlighted in this study. Moreover, new postgraduate learners may not have completed their pregraduate training in the same institution, therefore not benefitting from the same fourth year initiatives. The specific topics on which participants in this study wished more feedback were theoretical knowledge, prescribing and clinical reasoning. Other useful topics could consist of support regarding participants' new challenges: ways to deal with increased anxiety, knowing how to prioritize and manage simultaneous demands, and being first responders for critically ill patients. The latter areas had also been identified in other studies as topics for which first year residents expressed a need to receive greater support.[34,35]

5. Limitations

This study had certain limitations, including a relatively small sample size. A sample size of nine participants is nonetheless consistent with a qualitative approach where a smaller sample size allows for a more in-depth analysis of participants' experiences. In addition, our study was conducted with participants from only one medical specialty, Family Medicine, yet feedback perceptions may differ by specialty[3].

It should also be noted that the interviews were conducted by a fellow albeit more senior resident, which could have had the effect of putting participants at ease, but may also have limited their disclosure of negative experiences. The extensiveness of participants' responses, however, suggests that the former occurred and that they felt able to respond freely.

Although our conclusions were drawn from one study representing one local context, we do believe that it can add a useful perspective to our knowledge of feedback at the onset of postgraduate training, given that, to our knowledge, no similar research had focused on this specific transition period.

6. Conclusion

The aim of this study was to explore novice residents' receptivity to feedback, and to explore the characteristics of feedback interventions that could optimize residents' receptivity during that period. Insights gained from our participants' perspectives suggest that common circumstantial factors prompt novice residents to seek guidance through feedback. In this study, novice residents were most receptive to feedback which was characterized by practical content aligned with residents' objectives, coherent with previous assessments and discussed one-on-one in a safe setting. Medical teachers should be mindful of learners' increased anxiety and uncertainty during the transition from medical school to postgraduate training, because more guidance may be needed during this period, including through feedback. Participants expressed a need for more feedback on specific topics such as medical knowledge, clinical reasoning, prescribing, prioritizing, managing critically ill patients and dealing with increased anxiety.

Future research should aim to confirm these findings with larger samples, including residents from other medical specialties. A longitudinal study on this subject would also be of interest in order to see how long this potentially heightened need for guidance may last. If corroborated, they could be taken as indication that the

onset of residency represents a teaching momentum for medical teachers and further studies should explore how medical teachers could capitalize on this period.

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Ethical approval

This study was approved by the Ethics Committee for Research, Education and Social Sciences at the University of Sherbrooke.

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