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# WEB PAPER Encouraging residents to seek feedback

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## Abstract

**Aim:** To explore resident and faculty perceptions of the feedback process, especially residents' feedback-seeking activities. **Methods:** We conducted focus groups of faculty and residents exploring experiences in giving and receiving feedback, feedback-seeking, and suggestions to support feedback-seeking. Using qualitative methods and an iterative process, all authors analyzed the transcribed audiotapes to identify and confirm themes.

**Results:** Emerging themes fit a framework situating resident feedback-seeking as dependent on four central factors: (1) learning/ workplace culture, (2) relationships, (3) purpose/quality of feedback, (4) emotional responses to feedback. Residents and faculty agreed on many supports and barriers to feedback-seeking. Strengthening the workplace/learning culture through longitudinal experiences, use of feedback forms and explicit expectations for residents to seek feedback, coupled with providing a sense of safety and adequate time for observation and providing feedback were suggested. Tensions between faculty and resident perceptions regarding feedback-seeking related to fear of being found deficient, the emotional costs related to corrective feedback and perceptions that completing clinical work is more valued than learning.

**Conclusion:** Resident feedback-seeking is influenced by multiple factors requiring attention to both faculty and learner roles. Further study of specific influences and strategies to mitigate the tensions will inform how best to support residents in seeking feedback.

I do not recall residents really coming forward and saying, 'Hey, listen, bow was I?'

## Background

The majority of learning in postgraduate medical education occurs through participation in clinical experiences in the workplace. Residents and their supervisors agree that feedback is a crucial component of this process and is essential for learning (Teunissen et al. 2009; Archer 2010; Watling et al. 2012b) It enables learners to monitor their progress, provides direction for improvement and informs learners' self-assessments (Archer 2010). Without feedback, learners may be unclear as to how well or how poorly they are performing, and the most expedient actions they should undertake for improvement (Rees & Shepherd 2005). Self-assessment alone is unreliable; and feedback from external sources is essential to confirm or disconfirm self-perceptions (Archer 2010; Sargeant et al. 2010, 2011). Residents are in the process of developing self-assessment and self-monitoring skills that will serve them throughout their professional lives and feedback enables this process.

Studies consistently show that medical students and residents feel they do not receive enough effective feedback while faculty perceive that they provide feedback that may be

## **Practice points**

- The feedback exchange model between clinical supervisors and learners has shifted to include the role of the learner in seeking and accepting feedback
- The feedback exchange process and resident feedbackseeking are influenced by multiple factors Both faculty and learner roles require attention
- Resident feedback-seeking activities appear to be dependent on four central factors: 1. learning/workplace culture/climate, 2. relationships, 3. purpose and quality of feedback, 4. emotional responses to feedback
- Further research is needed to determine how to reduce the tensions between faculty and learner perceptions of the feedback exchange process and how to encourage residents to take an active role in seeking feedback from their clinical supervisors

under-recognized by learners (Archer 2010; Jensen et al. 2012). This is an important gap. Moreover, medical education has generally viewed feedback as information created and transmitted by a teacher or supervisor to a learner, with the focus on the supervisor. Hence, research and education

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initiatives have addressed strategies for improving the feedback message and the supervisor's ability to provide feedback effectively. Less attention has been given to the learner's role in seeking feedback.

Recent attention in postgraduate medical education has shifted to a more learner-focused model with increased attention to the role of the learner in the feedback exchange (Hattie & Timperley 2007; Boor et al. 2008; Watling et al. 2008; Watling & Lingard 2010; Bing-You & Trowbridge 2009; Goldman 2009; Teunissen et al. 2009, 2007; Krackov 2011; Milan et al. 2011). An effective feedback exchange requires learners to be active recipients and seekers of feedback (Teunissen et al. 2007). Developing a "culture of feedback" in which learner self-assessment is informed by feedback, feedback is embedded in all activities, and trainees feed back to teachers as well as teachers to students has been promoted (Cantillon & Sargeant 2008; Archer 2010).

Multiple factors influence whether learners will seek feedback as needed in clinical settings including external factors such as supervisors' receptivity to learners, learner – supervisor relationships, the learning culture, and internal factors such as the learner's confidence and beliefs about one's competence (Stewart 2008; Archer 2010; Bindal et al. 2011; Sargeant et al. 2011). The acceptability and impact of feedback can be increased if it relates to personally meaningful goals set by the recipient (Goldman 2009; Archer 2010).

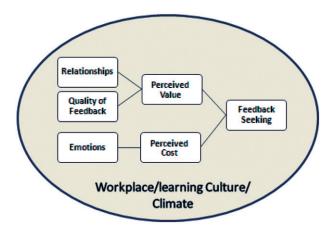
## Purpose

In this qualitative study, we explored senior residents' and faculty's perceptions of residents' feedback-seeking activities, with the goal of developing strategies to support meaningful feedback exchange.

## Methods

Using an exploratory qualitative approach, we conducted focus groups with residents and faculty at Dalhousie University regarding their perceptions of residents' feedback-seeking activities. Focus groups enable participants to describe their perceptions and experiences, hear the reactions and perceptions of others, and through discussion explore both shared and disparate views, potentially adding to understanding (Liamputtong 2009).

We invited senior residents in specialty programs and faculty in these programs by e-mail to participate in the study. Senior residents have more experience with clinical feedback to draw upon to provide suggestions for supporting feedback-seeking. To guide the data collection, we developed a semi-structured interview guide addressing residents' experiences in seeking and receiving feedback, and faculty experiences in providing feedback and encouraging feedback-seeking, barriers or concerns perceived in the feedback exchange from their respective perspectives, and suggestions for supporting feedback-seeking. Two trained facilitators conducted the focus groups. One, KL, was consistent for all groups and the second was a clinical member of the research team from a specialty not represented by the focus group participants. This was undertaken to prevent potential bias by the interviewer.



**Figure 1.** Model of interaction of themes influencing resident feedback-seeking behaviours.

Focus groups lasted one hour. The facilitators explained the purpose of the study, obtained consent, and informed participants that no identifying data would be included in the transcriptions. In addition to addressing the semi-structured questions, the facilitators explored related topics as they arose during the conversation. The focus groups were audiotaped and transcribed. The study was approved by the Research Ethics Board of Dalhousie University.

#### Analysis

We conducted the analysis using an iterative interpretive process (Miles & Huberman 1994). Team members initially read the transcripts to develop coding and categories and identify emerging themes, and then reread and discussed either the faculty (DD, CL, KM, SM) or resident transcripts (JH, PAB, KL, JS) in detail to confirm the codes and proposed themes. Groups met several times for this purpose. Finally, the groups compared findings across faculty and residents and developed a concept map (MindManager 2010) to clarify common themes and differences between the faculty and resident groups (Figure 1). Differences in interpretation were resolved through discussion and returning to the data.

#### Results

We conducted two focus groups each for faculty and residents. Participants included 10 senior residents (PGY3-5), eight female, two male; six in Internal Medicine, four in Pathology; and eight faculty, four female, four male; five in Internal Medicine, and one each for Surgery, Pathology, and Pediatrics.

Focus group participants confirmed many concerns regarding effective feedback reported in the literature such as the need for timely, specific feedback that is validated by observation. Importantly, new findings emerged regarding feedback-seeking. Themes included four central factors: culture or workplace/learning climate, relationships between learners and supervisors, quality of feedback and emotional responses to feedback. Subthemes were identified and illustrative quotes including similarities and differences Table 1. Quotes illustrating similarities and differences between perceptions of faculty (F) and residents (R) with respect to Influences upon residents' feedback-seeking activities.

1. Culture/climate	Subtheme	Agreement	Differences in perceptions leading to tensions
		R1: "I think there just needs to be a culture shift. Flight?)we are at a teaching institution. Teaching should be built into the job. And as part of teaching, you need to let people know how they are doing." F2:" I think that if there was a culture of okay, at the end of the day today, I want	R1: "I find too when you get kind of used to not getting feedback ever, you stop looking for it." F1: "but the residents in general don't seem to grasp the fact that evaluation is
	Safety	to know one thing that I can improve on." R2: "We don't want to have our worst fears of inadequacy realized by anybody."	very much their responsibility." R1:"there is the whole sense of safety too in evaluation, right?if you're actually looking for informal feedback on how to be better, there's still that, I find, that desire to conquer that ITER and to do well "
		F1:" or whatever. I don't know Don't ask, don't tell. Now, maybe some of them feel, "Geez, I don't want to hear any bad news.	F2: "there are groups, in my experience, who are anxious to have very constructive feedback and don't find that threatening And other times where it would seem there is a real defensiveness about any kind of constructive feedback."
	Time	F 1: "So for both the learner who is trying to get to their clinic, and for the teacher who is trying to get somewhere else, the time pressures are huge."	R2:'' the person that was evaluating me had spent very little time with me."
		R1: "they have their own things to do, and they are too busy with their own stuff, or trying to deal with the rest of the residents, to deal with you."	F1: "But the resident needs to bring that to your attention because if it's a busy clinic, you're going to forget."
	Structure	R1: "I've noticed that, residents on a service in their own specialty are more likely to look for feedback than people who are just trying to get in and get outSo I think there is a difference between whether there's an ownership to your own service or not."	
		F1: "I find with our core program trainees, it's easier because we have more of a longitudinal relationship with them."	
2. Relationships		R1: "I like the feedback that I get when I feel it's personalized and the person who I worked with really understood what I was doing, what I was trying to achieve, and how much time and effort I put into it."	R2: "Like they honestly don't care about the off-service residents that are just there for bodies."
	Comfort	R1:"If you feel really comfortable with the staff then there's no hesitancy. If it's somebody that, I don't know, you're more intimidated by, there's less of an inclination to do that."	R1: "I've never tried to seek out feedback because I feel I'd be this liftle puppy or this liftle kid going, "Did I do a good job? Are you watching me?' And I just feel like that's not the type of person I want to be. You want to portray this confidence."
		R1:"it seems that a lot of residents all get comfortable with the same couple of staff."	
3. Quality of Feedback		F2: "So it will be interesting from the resident's side to see how comfortable they feel and how approachable they feel that staff are as teachers for them to ask those kind of things."	R2 "But in terms of meeting with that person who might be intimidating,, I'm not sure I'm any better at it 6 years later."
<b>.</b>	Contact	F1: "You are working with a resident every single day. Then you have a better opportunity of seeing how they work and working with them and giving them some feedback"	R2: If I've gone and done 1,000 physical exams on patients, and my staff hadn't seen me do one of them, I don't think that their feedback is going to be helpful.
		F1." it's much more difficult when you're just dropped in somewhere for that 4 week rotationsomething could easily get left behind." R2: 'it has to happen around a specific circumstance. It needs to be direct, timely."	2
4. Emotional Response: a barrier		R2:''I would say that probably 80% of the evaluations that I had in my rotating year were from staff that spent little time with me. And it's not useful.'' It's probably hard for him to tell me, and for me to take it at the time. I was completely mortified. But in retrospect, I was glad.''	

Theme: Influences       Agreement       Agreement         Dependences       Agreement       Agreement         Dependences       E2: "And so I thought, wow, she just totally took that as a personal attack. And time are a lot of it was my method but also her servings and that is I'm sure a lot of it was my method but also her serving. The understand that it's and und to fit the small megative things go."       Differences in perceptions leading to tensions         E2: "And so I thought, wow, she just totally took that as a personal attack. And time are a lot of it was my method but also her serving. And of that is I'm sure a lot of it was method but also her serving a lot of it was method but also her serving and of let the small megative things go."       Differences in perceptions leading to tensions leading to tensions leading to tensions leading to tensions leading to the serving serving to method but also be worked on         R1: "To understand that it's a natural first response to feet really defensive But just to kind of first it leades until you can seek out the wisdom.       R2. When you are constantly trying to meet a standard and you get told that you are constantly trying to meet a standard and you get told that you are constantly trying to meet a standard and you get told that you are constantly trying to meet a standard and you get told that you are constantly trying to meet a standard and you get told that you are constantly trying to meet a standard and you get told that you	-1628		Table 1. Continued.	
<ul> <li>F2: "And so I thought, wow, she just totally took that as a personal attack. And I'm sure a lot of that is I'm sure a lot of it was my method but also her sensitivity. And so I think both of those things could be worked on."</li> <li>F2: "And it's easy to give positive freedback. It's easier to kind of let the small negative things go."</li> <li>F1: "To understand that it's a natural first response to feel really defensive But just to kind of try to take and process it and let it percolate for a couple of days or whatever it takes until you can seek out the wisdom.</li> <li>R2. When you are constantly trying to meet a standard and you get told that you are not there, it stings</li> </ul>		Subtheme		sions
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between faculty and resident perceptions were highlighted (see Table 1).

#### Learning climate/culture

Participants in both faculty and resident groups agreed that a culture or learning climate that normalizes and encourages feedback would open residents to seeking feedback. Faculty suggested that residents must be expected to take responsibility for seeking feedback. Meanwhile residents suggested that infrequent or the lack of useful feedback discouraged feedback seeking. In addition, the tension between formative feedback and summative evaluation (such as In-training evaluation reports, ITERS) was expressed as a barrier to seeking feedback by residents although faculty did not share the resident concern that poor formative feedback may affect the final assessment. A prominent theme for faculty was perceived time pressure. Residents recognized time as a barrier to approaching busy faculty but felt that faculty did not spend enough time observing or working with them to provide meaningful feedback. Both residents and faculty suggested that "core rotation" residents, i.e. those working in their specialty program were more likely to seek feedback than residents on short placements. Structural changes such as the requirement to have evaluation forms completed prior to promotion supported residents in seeking feedback. Another structural trend that seemed to support regular feedback and feedback seeking was the "daily feedback" form that was being used in the emergency department. This strategy was being introduced in other programs. Faculty members had differing views on the burden of completing daily forms but agreed that the information helped them to complete final evaluations.

#### Relationships

Relationships with supervisors influenced residents' feedbackseeking activities. Residents were sensitive to whether supervisors were interested in helping them learn and dismissed supervisors whom they perceived only valued them for providing service. Strongly associated with the relationship theme was the theme of comfort. Residents were more comfortable with some faculty members than others, sometimes related to proximity in experience but also to how open and supportive versus intimidating they perceived the faculty member. In contrast, faculty were curious about whom the residents would approach and did not seem to know what behaviours might encourage feedback-seeking.

Discussions regarding the quality of feedback centered on the degree of contact. Residents were adamant that lack of observation diminished the credibility of the feedback provided, as well as its specificity and usefulness. Faculty agreed that more time spent with the resident helped them provide more specific, individualized feedback. Increased contact allowed faculty to witness residency performance improvement as a result of the feedback exchange and to identify learners in difficulty at an earlier stage. Residents reported that increased contact enhanced their comfort and willingness to seek feedback.

#### Emotional response

Both residents and faculty agreed that emotional responses to feedback were a barrier for residents seeking feedback and for faculty in providing constructive feedback. Residents identified a number of fears, such as fear of receiving "bad" feedback, not appearing competent, giving the appearance that they lacked confidence or the impression they were seeking praise. Residents in both focus groups suggested that asking for feedback might "shine a light" on their performance that might then be found lacking. Hence seeking feedback was often perceived as a risky undertaking. Faculty were uncomfortable with providing corrective feedback and the defensive reactions it might engender.

## Discussion

Efforts to support life-long learning require learners to reflect on their performance and to seek evidence that informs their self-perceptions and guides learning. Seeking feedback in the clinical setting from supervisors, colleagues and others can guide professional development, particularly if areas for improvement are identified. In this study we explored faculty and residents' perceptions of feedback and factors that influence resident feedback- seeking. Results reveal a number of influences upon feedback-seeking: the learning climate/culture (contextual), relationships with supervisors, quality of feedback, and emotional response to feedback. Residents provided rich insights into their perspectives and, while faculty had similar insights, they expressed concerns about time pressures and beliefs that feedback is a shared responsibility. Hence, the four influences appear to interact to support or discourage feedback-seeking (see Figure 1).

Importantly, tensions appeared in response to feedbackseeking arising from both the residents' perceptions and those of faculty. Residents appeared to perceive feedback-seeking as a risk and mediated this risk by balancing the costs and benefits of feedback, a finding similar to that of Teunissen et al. (2009) and VandeWalle et al. (2000). While Teunissen et al. (2009) also identified the quality of the feedback, relationships and emotion as moderators, the current study also identified the learning or workplace climate and culture as a compelling influence on feedback-seeking. In our qualitative exploration, residents indicated that the workplace culture/climate strongly influences their willingness to seek feedback. Residents expect regular feedback as part of the educational process but were unlikely to seek it in a setting that seemed to value clinical work over learning. They expressed frustration that it was either rare to receive helpful feedback or it was provided only at summative evaluations when it could not be used to correct deficiencies. Faculty perceived that the institutional culture did not support teaching, and time pressures for patient care interfered with providing feedback. In the complex environment of clinical teaching, effective structures that support longitudinal relationships between learners and teachers and frequent yet efficient and effective feedback such as daily feedback reports might assist with more effective and balanced coaching of learners.

Such cultural and structural changes might also assist with building the relationships for effective feedback. Residents were more comfortable seeking feedback in their core program or with more intensive exposure with peers such as senior residents. Adequate exposure was also important for supervisors to provide meaningful evaluations and faculty seemed to feel more responsibility for learners in their own programs. Faculty expressed frustration with expectations to evaluate learners on short placements and residents agreed that evaluations by faculty who had not worked closely with them were discounted.

Watling and colleagues (2012a) propose that feedback from supervisors is judged by residents for credibility much more critically than feedback gained through clinical experience or from patients. The perceived value of feedback is influenced by the belief that it is based on accurate observation. Feedback is enhanced not only by the perception of expertise but also by the continuity of the relationship (Irby 2007). The residents were unlikely to seek feedback that they felt was vague, not based on observation and did not help them to overcome their deficiencies. They tended to seek out faculty who they felt took an interest in their learning and gave specific constructive feedback. Faculty expressed uncertainty regarding their effectiveness in providing feedback and were frustrated in not receiving feedback from learners on whether their feedback was helpful. Learners were wary of providing feedback to faculty, for fear of repercussions.

The costs or barriers to feedback seeking were strongly influenced by the emotional aspects of the feedback process. For some there was discomfort in receiving any assessment, "good or bad". Both faculty and residents referred to the emotional costs of "negative" or disconfirming feedback. For residents fear of negative feedback was a barrier to feedbackseeking, and faculty admitted they often avoided the discomfort in providing corrective feedback. The residents recommended that they should be taught to expect the emotional aspects of feedback and how to self-regulate the ego costs by both expecting and processing it (Trope & Neter 1994; Nussbaum & Dweck 2008).

Learning about goal orientation may be a useful approach to assisting residents in developing an approach to seeking feedback. Goal orientations are described as either "developing" or "demonstrating" one's ability. In a learning orientation, the learner's goal is to develop competence by acquiring new skills and mastering new situations, thus being open to seeking feedback. Alternatively, the goal of performance orientation is to demonstrate and validate the adequacy of one's competence and thus, the learner is less inclined to seek feedback unless it confirms the self-perception of competence (VandeWalle & Cummings 1997; VandeWalle et al. 2000; Ashford et al. 2003).

In this study we saw evidence of residents with a performance orientation ("flying under the radar") who seemed inhibited in seeking feedback if their self-perceptions may be challenged or the final evaluation may be affected. Alternatively, there was evidence of residents with a learning orientation who appeared eager for feedback ("either positive or negative, anything!")

#### Limitations

This study took place in one institution and involved senior specialty residents which may limit generalizability to other settings or other training programs. We conducted two focus groups each for faculty and residents. We believe we reached saturation by this method as focus groups allow consensus or disagreement of topics and subsequent deeper exploration of themes. Although our study is unique in exploring perspectives from both groups in the feedback exchange process, we did not bring residents and faculty together to discuss conflicting perceptions such as the tension between formative feedback and summative evaluations. We believed residents were more likely to be open among their peers. A focus group or educational session that brings residents and faculty together may be more effective in developing shared understanding of the constraints and possible solutions to improving the feedback exchange. Finally, the interaction of the factors associated with feedback is likely more complex than we have indicated in Figure 1. The experience of the feedback exchange may influence both the relationships and the perceived quality of the feedback, just as relationships affect the culture and the culture affects the relationships.

## Conclusion

We sought to understand resident and faculty perceptions of resident feedback-seeking behaviour. We have found that attention only to the skill of providing feedback is inadequate to support a culture of feedback in clinical settings. The workplace/learning culture can be strengthened by structural changes such as longitudinal experiences, use of feedback forms and expectations for residents to seek feedback, coupled with providing a sense of safety and adequate time for observation and provision of feedback. Attention to the relationships and emotional response to feedback is necessary to ensure that both residents and faculty do not avoid providing meaningful feedback. Each of these elements interacts to support or discourage residents in seeking feedback, an activity which they perceive as being fraught with risk.

Further study of the cost/benefit of feedback seeking may result in learning models to facilitate effective feedback exchange, and cultivate a more effective learning environment.

## Notes on Contributors

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### Glossary

**Feedback**: Specific information about the comparison between a trainee's observed performance and a standard, given with the intent to improve the trainee's performance. van de Ridder JM, Stokking KM, McGaghie WC, ten Cate OT. (2008) What is feedback in clinical education? Medical Education. 42(2):189–197

## References

- Archer JC. 2010. State of the science in health professional education: Effective feedback. Med Educ vol. 44(1):101–108.
- Ashford SJ, Blatt R, VandeWalle D. 2003. Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. J Manage 29(6):773–799.
- Bindal T, Wall D, Goodyear HM. 2011. "Trainee doctors" views on workplace-based assessments: Are they just a tick box exercise? Med Teacher 33(11):919–927.
- Bing-You RG, Trowbridge RL. 2009. Why medical educators may be failing at feedback. J Am Med Assoc 3029(12):1330–1331.
- Boor K, Teunissen PW, Scherpbier AJ, van der Vleuten CP, van de Lande J, Scheele F. 2008. Residents' perceptions of the ideal clinical teacher–a qualitative study. Eur J Obstet Gynecol Reprod Biol 140(2):152–157.
- Cantillon P, Sargeant J. 2008. Giving feedback in clinical settings. Br Med J (Clinical research ed.) 337:a1961.
- Goldman S. 2009. The Educational Kanban: Promoting effective selfdirected adult learning in medical education. Acad Med: J Assoc Am Med Coll 84(7):927–934.
- Hattie J, Timperley H. 2007. The power of feedback. Rev Educ Res 77(3):81–112.
- Irby DM. 2007. Educational continuity in clinical clerkships. New Engl J Med 356(8):856–857.
- Jensen AR, Wright AS, Kim S, Horvath KD, Calhoun KE. 2012. Educational feedback in the operating room: A gap between resident and faculty perceptions. Am J Surgery 204(2):248–255.

- Krackov SK. 2011. Expanding the horizon for feedback. Medical Teacher 33(11):873–874.
- Liamputtong P. 2009. Qualitative research methods. 3rd ed. Melbourne: Oxford University Press.
- Lu KM, Pan SY, Cheng JW. 2011. Examination of a perceived cost model of employees' negative feedback-seeking behavior. J Psychol 145(6):573–594.
- Milan FB, Dyche L, Fletcher J. 2011. "How am I doing?" Teaching medical students to elicit feedback during their clerkships. Medical Teacher 33(11):904–910.
- Miles MB, Huberman AM. 1994. Qulatiative Data Analysis. 2nd ed. Thousand Oaks, CA: Sage Publications.

MindJet 2010, MindManager, viewed April 12, 2012, http://www.mindjet.com.

- Nussbaum AD, Dweck CS. 2008. Defensiveness versus remediation: Selftheories and modes of self-esteem maintenance. Personal Soc Psychol Bull 34(5):599–612.
- Rees C, Shepherd M. 2005. Students' and assessors' attitudes towards students' self-assessment of their personal and professional behaviours. Med Educ 39(1):30–39.
- Sargeant J, Armson H, Chesluk B, Dornan T, Eva K, Holmboe E, Lockyer J, Loney E, Mann K, van der Vleuten C. 2010. The processes and dimensions of informed self-assessment: A conceptual model. Acad Med: J Assoc Am Med Coll 85(7):1212–1220.
- Sargeant J, Eva KW, Armson H, Chesluk B, Dornan T, Holmboe E, Lockyer JM, Loney E, Mann KV, van der Vleuten CP. 2011. Features of assessment learners use to make informed self-assessments of clinical performance. Med Educ 45(6):636–647.
- Stewart J. 2008. To call or not to call: A judgement of risk by pre-registration house officers. Med Educ 42(9):938–944.

- Teunissen PW, Scheele F, Scherpbier AJ, van der Vleuten CP, Boor K, van Luijk SJ, van Diemen-Steenvoorde JA. 2007. How residents learn: Qualitative evidence for the pivotal role of clinical activities. Med Educ 41(8):763–770.
- Teunissen PW, Stapel DA, van der Vleuten C, Scherpbier A, Boor K, Scheele F. 2009. Who wants feedback? An investigation of the variables influencing residents' feedback-seeking behavior in relation to night shifts. Acad Med: J Assoc Am Med Coll 84(7):910–917.
- Trope Y, Neter E. 1994. Reconciling competing motives in self-evaluation: The role of self-control in feedback seeking. J Pers Soc Psychol 66(4):646–657.
- VandeWalle D, Cummings LL. 1997. A test of the influence of goal orientation on the feedback-seeking process. J Appl Psychol 82(3):390–400.
- VandeWalle D, Ganesan S, Challagalla GN, Brown SP. 2000. An integrated model of feedback-seeking behavior: Disposition, context, and cognition. J Appl Psychol 85(6):996–1003.
- Watling C, Driessen E, van der Vleuten CP, Lingard L. 2012a. Learning from clinical work: The roles of learning cues and credibility judgements. Med Educ 46(2):192–200.
- Watling C, Driessen E, van der Vleuten CP, Vanstone M, Lingard L. 2012b. Understanding responses to feedback: The potential and limitations of regulatory focus theory. Med Educ 46(6):593–603.
- Watling CJ, Kenyon CF, Zibrowski EM, Schulz V, Goldszmidt MA, Singh I, Maddocks HL, Lingard L. 2008. Rules of engagement: Residents' perceptions of the in-training evaluation process. Acad Med: J Assoc Am Med Coll 83(10):S97–100.
- Watling CJ, Lingard L. 2010. Toward meaningful evaluation of medical trainees: The influence of participants' perceptions of the process. Adv Health Sci Educ: Theory Pract 17(2):183–194.