Supported Independence: The Role of Supervision to Help Trainees Manage Uncertainty

Supported Independence: The Role of Supervision to Help Trainees Manage Uncertainty

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Abstract

Purpose

Safe and effective supervised practice requires a negotiated partnership between trainees and their supervisors. Substantial work has explored how supervisors make judgments about trainees' readiness to safely engage in critical professional activities, yet less is known about how trainees leverage the support of supervisors when they perceive themselves to be at the limits of their abilities. The purpose of this study is to explore how trainees use supervisory support to navigate experiences of clinical uncertainty.

Method

Using a constructivist grounded theory approach, the authors explored how novice emergency medicine trainees conceptualized the role of their supervisors during experiences of clinical uncertainty. They employed a critical incident technique to elicit stories from participants immediately following clinical shifts between July and September 2020, and asked participants to describe their experiences of uncertainty within the context of supervised practice. Using constant comparison, 2 investigators coded line-by-line and organized these stories into focused codes. The relationships between these codes were discussed by the research team, and this enabled them to theorize about the relationships between the emergent themes.

Results

Participants reported a strong desire for supported independence, where predictable and accessible supervisory structures enabled them to work semiautonomously through challenging clinical situations. They described a process of borrowing their supervisors' comfort during moments of uncertainty and mechanisms to strategically broadcast their evolving understanding of a situation to implicitly invoke (the right level of) support from their supervisors. They also highlighted challenges they faced when they felt insufficiently supported.

Conclusions

By borrowing comfort from—or deliberately projecting their thinking to—supervisors, trainees aimed to strike the appropriate balance between independence for the purposes of learning and support to ensure safety. Understanding these strategic efforts could help educators to better support trainees in their growth toward self-regulation.

Trainees face a multitude of conflicting identities and paradoxes in the clinical workplace.[1] They are expected to "learn by doing"[2(p763)] and learn from mistakes[3,4] while simultaneously engaging in practices that ensure patient safety.[5–7] They are expected to function semiautonomously, while simultaneously aligning with the idiosyncratic expectations of their supervisors and other health professionals in their training ecosystem.[7–10] And they are expected to assume responsibility for patient care while often being the least experienced member of a health care team. Supervisors ultimately face the challenging task of helping trainees balance these competing tensions of experiential learning, patient safety, and professional identity formation.[11]

The notion of entrustment figures heavily into current constructions of how supervisors can provide graduated independence to trainees,[12,13] and substantial work has explored how supervisors make judgments about trainees' readiness to safely engage in critical professional activities.[2,6,8,10,14–17] One concept that appears central to supervisors' trustworthiness judgments is discernment, the notion trainees have the capacity to identify the limits of their knowledge and skills.[18(pS90)] If such discernment is possible, trainees could engage supervisors strategically when they need them most, signposting the borders of their cognitive space where—in the language of Vygotsky's "zone of proximal development"[19]—what they felt capable doing independently could be stretched toward new capabilities in conjunction with others' assistance.[20]

Yet, in past work exploring trainees' in-the-moment experiences with uncertainty in clinical practice,[21] we found that trainees expressed a pervasive distrust in their own acts of discernment. As they experienced uncertainty about how to make sense of and handle complex clinical cases, they also questioned whether this uncertainty was justified. This led them to question whether, in situations when they felt over their head, their discomfort represented expected experiences of learning or heralded threats to patient safety.[21] To cope with these difficult moments, trainees relied on cues from others in their environment, particularly their supervisors, to get a sense whether a situation was adequately under control. This raises interesting questions about how trainees understand the role of supervisors in supporting them when they perceive themselves to be at the limits of their abilities and how they can effectively leverage supervisory support when it is felt to be necessary. Therefore, the purpose of this study

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is to explore how supervision impacts trainees' experiences with uncertainty and how trainees perceive and balance the competing tensions of clinical independence, supervisory support, and patient safety.

Method

We used a constructivist grounded theory (CGT) approach for this study,[22] a qualitative methodology that uses inductive analyses to understand complex social and cognitive processes. Subjectivity is a central and valued component of the CGT orientation,[23] and we deliberately assembled a team of investigators with varied professional backgrounds to ensure a diversity of interpretations. Three members of the study team are clinicians who supervise trainees (J.S.I., P.W.T., J.S.)—each in unique practice environments in 3 different countries—and 2 of these investigators (J.S.I., J.S.) supervise trainees in the environments described in this dataset. The 2 remaining team members (A.B.H.dB., G.R.) have training in cognitive psychology.

Throughout the data collection and analytic processes, our team individually and collectively reflected upon the ways that our past experiences impacted how we made meaning from our participants' narratives.

Conceptual framework

This study was conducted as part of a larger program of research exploring physicians' experiences with uncertainty in clinical practice.[21,24–26] In past work, we found that clinicians used dynamic appraisals of comfort and discomfort in settings of uncertainty as a mechanism to understand, make predictions about, and monitor evolving clinical problems.[24,26] Yet when we explored this phenomenon in trainees, we found that their experiences were confounded by an inherent distrust in the legitimacy of their own such appraisals, leading these clinicians to rely on the implicit behaviors of others in their clinical environment as a means to make sure that they were on track.[21] This led us to consider the unique ways that Vygotsky's zone of proximal development[19] might help us to understand what is happening in the minds of trainees as they engage in workplace learning that is at the borders of their abilities. Further, it led us to wonder about how notions such as "shared regulation"—"situations in which students are unable to use a certain learning activity independently but are able to do so with the guidance of an expert"[20(p272)]—might manifest as trainees interact with supervisors during these moments. Our past results and their relation to these theories thus served as sensitizing concepts for how we understood and analyzed data in the current study.[27,28]

Population, setting, and sampling strategy

We enrolled first (PGY-1) or second (PGY-2) post graduate year emergency medicine trainees at McMaster University and the University of Washington. We purposefully sampled within this cohort of early trainees because their daily work was likely to be filled with uncertainty. In these 2 urban centers, junior residents cared for patients with a wide variety of acute, poorly differentiated medical problems. Further, in the relatively flat hierarchy of these training programs, junior residents are expected to interact directly with their supervisors to support safe and effective practice. Moreover, these trainees interact with a large number of clinical supervisors. We sampled across 2 training sites in Canada and the United States to see if training structures and institutional practices might instill important variance in these trainee–supervisor interactions. Of note, 2 members of the study team (J.S.I., J.S.) are practicing emergency physicians at these institutions, familiar with the training structures and practice settings. We enrolled participants between July and September 2020 using targeted emails that emphasized that their narratives would be deidentified before analysis and that their participation would have no bearing on their standing in their training program. Participants were reimbursed for their time with a $50 gift card. This study was reviewed and deemed to meet exempt status by the Hamilton Integrated Research Ethics Board and the Human Subjects Division at the University of Washington.

Procedures

The principal investigator (J.S.I.) interviewed participants immediately following a clinical shift and used a critical incident technique[29] to elicit stories that were illustrative of experiences of uncertainty within the confines of supervised practice. These hour-long, semistructured, one-on-one interviews were performed via videoconferencing software (Zoom Video Communications, Inc., San Jose, California), with settings that safeguarded the confidentiality of protected health information. Participants were given a brief orientation to the study and then asked to reflect independently on 2 scenarios from the preceding shift: (1) an instance where they felt challenged but able to "handle" a situation and (2) a situation that "made [them] sweat", when a problem felt over their head or when they needed to relinquish control of a problem to someone else. Borrowing from the rich picture methodology,[30,31] we gave participants approximately 10 minutes to draw pictorial representations of these situations, then asked them to describe these scenarios in the context of their drawings. We used probing questions to explore participants' uncertainties, how they appraised their comfort and discomfort, and how they perceived the role of their supervisors during these challenging moments. We used the remaining interview time to elucidate similar experiences during the prior and preceding shifts. Audio recordings were transcribed for analysis. We adapted our interview guide as the interviews progressed so as to gather data relevant to our evolving categories and themes, and consistent with the CGT methodology,[22] we were particularly attentive for instances that disconfirmed or challenged the concepts that emerged from our participants' narratives.

Analysis

Data collection and data analysis were performed concurrently using constant comparison.[32] While the drawing exercise was a useful means to stimulate participants to reflect upon important dimensions of their preceding clinical shift, the pictures themselves did not provide sufficient richness for independent analysis[31]; our analyses therefore focused entirely on the narrative reflections from our participants. Two investigators (J.S.I., A.B.H.dB.) used Dedoose (SocioCultural Research Consultants, Manhattan Beach, California) to code the transcripts line-by-line, organizing data into focused codes, conceptual

categories, and major themes. Our team of investigators met regularly to discuss the codes and categories as well as the interactions between the themes that emerged from the data. We kept notes of our data collection decisions to create an audit trail and used the memoing function within Dedoose throughout the analytic process to keep track of our evolving understanding of the data.[22] We found that our coding framework sufficiently represented our participants' stories and reflections after 9 interviews. We subsequently completed 4 additional interviews, and in finding no counterexamples or novel insights from these narratives, deemed our sample to be sufficient for the study purpose.[33]

Results

We enrolled 13 participants (9 female) with a mix of early clinical experience (5 PGY-1, 8 PGY-2) from 2 emergency medicine training programs (4 from McMaster University, 9 from the University of Washington). Participants discussed a range of 2–6 clinical cases per interview, with a total of 56 unique cases across the entire cohort. While analyzing these narratives, we came to interpret our participants' descriptions as a desire for "supported independence," where predictable and accessible supervisory structures enabled trainees to work semiautonomously through challenging situations. They offered examples of how supported independence was experienced as borrowed comfort during moments of uncertainty, described ways that they implicitly invoked (the right level of) support from their supervisors, and highlighted challenges they faced when they felt insufficiently supported.

Borrowing comfort

Within their experiences of uncertainty, our participants described several ways that supervisors reinforced the residents' sense of independence and safety. This began with a general sense that supervisors believed in their abilities, leading one participant to assume that "they trust me to do this. They wouldn't ask me to do this if they didn't think that I could" (Participant 4). Participants conceptualized supervision as a "safety net" (Participant 4) for workplace learning, particularly during evolving situations where errors or missteps remained quite possible. One participant—in the context of caring for a patient she felt might be quite sick—commented on the validation that her supervisor provided:

> It helped me because I felt like I had backup. So, if something were to go awry, I felt like she was really there to support me. It wasn't like, "Oh, I haven't seen my attending in an hour, and I'm worried about this guy, and what if something bad happens?" I felt like that gave a certain level of kind of reassurance. And also a kind of validation that she was also worried about him. (Participant 10)

Though they strived for independence during experiences of uncertainty, our participants seemed to generally acknowledge boundary conditions for when supervisory support was necessary. They lamented that asking for help sometimes meant that they would lose an opportunity to learn or try something new, but generally reflected that patient safety took precedent over their own experiential learning. One participant reflected:

> There's a point where, you know, the patient's interests always are going to outweigh mine…. I will, to the extent that I feel comfortable, go as far as I can. But there is a point where I'm not going to like force it beyond, especially because there are people who know so much more than me…. Why shouldn't I take advantage of that resource while I still can? (Participant 11)

Yet even when help was readily available, trainees sometimes struggled in the moment to decipher whether or not they had reached a point when support was needed, as was illustrated by one participant's experience placing a central line:

> It was something I don't do very often, it's a little bit above my level of training, and I had some hiccups there along the way.… I was just wondering if I'm going to get help, if I want help, and if I need help. (Participant 4)

In these circumstances, they relied on their supervisors to determine when and how much to step in. When trainees felt this timely and titrated supervisory support was available, it provided them with confidence that they could continue forward, reassured that their supervisors would provide strategic help when they got stuck. One participant reflected on how a senior resident helped him to sequence a variety of treatment decisions during an evolving resuscitation:

> It was just the right amount out of my comfort zone…. And I felt like the more next steps I know, the more comfortable I would feel…. I felt comfortable enough that I knew what was going on and felt confident enough to say it, but still had [the senior resident] kind of like helping me along a bit to know the specifics of the order and whatnot. So, it felt good to be able to say [instructions to the team], but [I was] still out of my comfort zone enough that I wasn't like quite as confident as I would've liked to be. (Participant 12)

These types of experiences, in which they were able to successfully confront complexity with timely and titrated support, instilled trainees with a sense that they could work with greater independence during subsequent situations:

> Even … [when] things started to get away from me a little bit towards the end, I felt like I could hang on … like hanging on to a mechanical bull, each time you can hold on a little longer. (Participant 12)

Finally, trainees described how supervisors provided critical reframing around whether discomfort they were experiencing with a given situation originated from deficiencies in their emerging knowledge and skills, or whether these were appropriate reactions to the case itself. Disentangling these influences of self versus situation seemed to be clearer in the minds of supervisors, who modeled how they handled cases at the borders (or beyond) their abilities. For example, in expressing hesitancy about how to make sense of a patient with vague neurologic symptoms, one trainee's supervisor highlighted that this case was outside the bounds of typical practice and proceeded to call a neurologist for help. The trainee reflected:

> Because [my supervisor] was so comfortable not knowing, it made me very comfortable. I'm like, okay, so maybe this is not something that should automatically be within the breath of my knowledge. Emergency medicine is so vast and there's so much to know. Rosen's [the definitive textbook] is a very big book, and I'm sure maybe in one of the chapters somewhere it's there, but it's not one of the chapters my staff remembers and nor have I read, so it's okay. (Participant 7)

Strategically invoking (the right level of) support

Despite the expectation that their supervisors would intervene when

necessary, participants also viewed the right level of support as something they had the ability (and responsibility) to actively negotiate. They negotiated the level of support strategically, invoking it when they felt themselves at the borders of their abilities while simultaneously aiming to maintain their roles as primary physician. To achieve this, our participants *broadcasted* their thinking or *pantomimed* their actions as deliberate efforts to strengthen their partnerships with their supervisors (as elaborated below). They adopted these approaches to proactively build trust and exert agency on their supervisory interactions in ways that enabled them to marshal support when it was needed most.

Broadcasting. Trainees in our study were strategic about how they shared their evolving understanding of a situation or their management approaches with their supervisors. Without prompting from their supervisors, they spontaneously verbalized their thoughts and feelings with the goal of making their current understanding of a situation and plans for next steps clear to their supervisors. These were strategic efforts to build supervisors' trust and to provide a structure whereby supervisors could provide timely corrections or targeted support. Trainees also used this strategy as a preemptive effort to convince supervisors that they were ready to do things that were at the borders of their abilities. One participant explained:

> [The supervisor] has to be extremely cautious with letting a first-year resident do something like this…. I just tried my best to just talk to every single thing that was going through my head that I knew could be right in order to make sure that she felt confident in me, but also so that I felt confident as I was going through things. And in case she had any corrections as well. (Participant 4)

Additionally, participants broadcasted their discomfort and uncertainties as a means to strategically engage their supervisor's attention when they needed it most. One participant noticed that his supervisor seemed to perk up when he told him "you have to help me here because I don't want to miss something" (Participant 12) and described how he used similar phrases strategically to garner help when cases were troubling him. These broadcasting activities were also used strategically to assuage some supervisors who seemed to want or expect more information from trainees before allowing them to proceed. One participant reflected:

> I think there are certain attendings that like you expect to be a bit more anxious and then you manage those expectations by overcalling things out. Which is not a bad thing, especially when we're training, because y'all can't read our minds. (Participant 7)

Pantomiming. When acting as leaders of their teams, trainees used deliberate, exaggerated actions in view of their supervisors to check and validate their decision making. Explicit, overstressed actions or statements made to the health care team within deliberate view of a supervisor during high-stakes patient care moments allowed an indirect check-in to ensure a care plan was on track. This performative strategy was elaborated by one participant who projected confidence to a nurse regarding her decision to not activate a code stroke for a patient with transient neurologic symptoms, while simultaneously looking to her attending to verify that her decision making was correct:

> I happened to be like standing right next to my attending and was like, "I think that when [patients] get better we don't call it code stroke" [while] looking at my attending…. It was me like explaining my reasoning why I didn't call a code stroke to the nurse, but also me simultaneously being like "Right? Right? Right? Back me up on this one!" Like I don't think this is code stroke, but I'll check with somebody who just happens to be here. (Participant 11)

Experiences of insufficient support

In contrast to the experiences and strategies above, participants described several instances where they found themselves needing to function independently without a sense of support. This was most salient to participants in instances where they directly asked for help and were, in their minds, denied support from their supervisors. This (unexplained) denial of support resulted in trainees having to interpret the supervisor's reasoning, and question whether the supervisor truly understood the resident's abilities in relation to the situation:

> I was like, okay, either [the supervisor] really thinks this is not an issue at all, and like I won't need help for this patient. Or she thinks that maybe I have more ability than I do. (Participant 6)

As a longer-term impact, these experiences left trainees with less confidence that the support would be there when they needed it in the future. This was evident in one trainee's efforts to get help with repairing a complex scalp laceration:

> It was extremely challenging. I had no idea where these edges went together…. I was like, I have no idea what I'm going to do for this. So I just went to get my staff and I was like, "Hey, I don't know what to do." And she goes "You should probably figure it out," and like went the other way. And I was like … "Oh sh#t! Maybe I'm a little bit more on my own in residency than I thought I was." (Participant 4)

When such situations led to a sense that support was generally insecure, participants described feeling tentative about embarking into new experiences:

> I think I would have felt more independent if I felt like the help was more available and more accessible … but I felt like I couldn't really have [independence] because my help didn't feel secure. (Participant 6)

Discussion

These findings highlight interesting complexities in trainees' conceptualizations of supervision that were manifest during their experiences of uncertainty. Our participants relied on their supervisors as a safety net to work confidently at the edges of their comfort. They looked to their supervisors to put borders around the scope of knowledge and practice that could be expected of them, counting on their supervisors to not put them in situations where they might cause irreparable harm. This confidence that supervisors would provide timely and titrated support enabled trainees to maintain ownership of these clinical cases even when they were feeling a bit over their heads. Trust was central to all of these supervisor–trainee interactions, and our participants described several ways that they themselves were agentic in shaping and reinforcing trust with their supervisors.

Viewing supervision through the eyes of trainees highlights the bidirectionality of trust in clinical training environments.[34] Past work has focused on the ways that supervisors assess trainees' readiness for entrustment around a variety of professional activities, conceptualizing these real-time judgments as

markers for when trainees are ready for independence.[10,12,14,17,18,35,36] Yet entrustment decisions fail to capture the formative processes by which trainees build confidence and independence around clinical tasks. Our results reinforce that trainees' trust in their supervisors was a necessary condition for them to feel safe, and therefore engage meaningfully with work that they perceived to be at the borders of their capabilities. These trust judgments spanned from general (e.g., Does this supervisor know what I can do? Will this supervisor be there when I need them?) to specific (e.g., Can this supervisor get me out of this situation?). Lacking trust in their supervisors, or trust in the reliability of their supervisors to step in when they get into trouble, trainees are likely to struggle to engage in safe and effective work within their zones of proximal development.[19,20]

Our participants' reflections on effective supervisory support offer insights that are distinct from traditional framings of supervision that focus on effective teaching and feedback in the workplace.[1] While supervisors' guidance around management decisions or procedural skills could be viewed within prior constructions or supervised work in practice, trainees in our study additionally described a clear desire for supported independence. They were seeking a sweet spot where they perceived that they could safely struggle through problems and maintain ownership of a situation[37] with the reassurance that help was available and accessible. These results add an interesting wrinkle to our understanding of the zone of proximal development,[19] which has historically been framed as a space where new problems could be solved through active collaboration with more capable supervisors. By gleaning implicit or explicit moral support from their supervisors (by borrowing comfort), our participants instead described a confidence to *try things* that they may not have otherwise tackled on their own. In this way, their zones of proximal development were extended not so much by direct help from their supervisors, but rather through the sense that they could confidently carry forward managing a situation through the comfort of their supervisors. Trainees may continue to struggle to recognize their own limitations[6,13] and to discern whether or not they need help.[11] But our results would suggest that effective supervision can still help trainees to confidently engage with new and challenging problems through the reassurance that their supervisor will step in if things go off track.

From the perspective of supervisors, viewing their role as a safety net for clinicians-in-training who are attempting to practice with as much autonomy as possible shifts expectations toward identifying moments when their input could empower trainees to continue to own a problem and intervening when patient safety might be at risk. However, our findings also have resonance with the kinds of agentic actions that students used in past work to influence the entrustment decision making of their supervisors[38] in that our participants were actively trying to manage the level of support from supervisors. Thus, supervisors can also support learner agency by recognizing the ways that trainees attempt to strategically marshal attention when they need it most; in doing so, supervisors can provide timely support and advocacy, particularly when trainees perceive that they might be going "against the grain" of others in their work environment.[39]

Trainees' appraisals of discomfort in this study echo those described by experienced physicians in prior work,[24,26] where discomfort signaled potential misalignments between their skills and the situation. Yet trainees in this study had a more tentative sense of what they *should* be able to do and struggled to distinguish the discomfort of learning (e.g., activities that would be safe with sufficient supervisory support) from discomfort signaling that problems were beyond their abilities or scope of practice (e.g., instances when their supervisors would feel discomfort too). We would expect that authentic clinical work within one's zone of proximal development *should* generate discomfort, and supervisors can recognize this in their trainees as a signal that they are working within problem spaces where growth and learning is possible. Yet reflections from trainees in this study suggest that they are actively seeking to borrow the comfort or discomfort of their supervisors in these moments to gauge whether or not they were safe to proceed. Past descriptions of "back-stage"[11(p1083)] or "hands off"[13(p1032)] oversight, where trainees are not directly aware of the support they are receiving, may help to ensure patient safety, but might also generate distress or confusion about one's own capabilities, as evident in our trainees' reflections. These learning moments can thus be enriched when supervisors explicitly reinforce that a situation is within a trainee's capabilities (e.g., "There is nothing you can do here that I can't get you out of"[6(p84)]), signposting how support is enacted (e.g., Here's when I'll step in; or, Here's how to reach me if you need help), and intervening strategically to support their autonomy.

Limitations

These findings were shaped by our methodological decisions and should be interpreted in the context of several limitations. First, because our participants were prompted to reflect on the influences of supervision as they navigated experiences of uncertainty, these narratives may not fully capture the role of supervisors when trainees are feeling more comfortable or more certain. That said, in past work, trainees expressed substantial skepticism about their own capacity to accurately appraise their comfort when they were feeling uncertain,[21] so we suspect that these insights about supervision can broadly reinforce trainees' abilities to self-regulate. Second, while our situated approach enabled our principal investigator to explore and probe the supervisory experiences of trainees in a practice environment well known to him, it is possible that his role as a supervisor at one of the sites limited participants' willingness to fully elaborate their experiences. Participants' reflections from the 2 sites echoed similar themes, so we suspect that this influence was minimal. Finally, these post hoc reflections from trainees without direct observation limit our interpretations about whether supervisory support was, or was not, appropriately enacted, and only reflect one side of these supervisor–trainee interactions.

Conclusions

Trainees exert agency in how they engage their supervisors' help during clinical experiences filled with uncertainty. By deliberately projecting their thinking to, and borrowing

comfort from, their supervisors, trainees aimed to strike the appropriate balance between independence (for learning) and support (for safety). Supported independence thus offers a useful means to understand how supervisors might strategically help trainees who are tackling problems at the borders of their capabilities.

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