*This is an Open Journal Systems article distributed under the terms of the Creative Commons Attribution License BY-NC-ND/4.0 (https://creativecommons.org/licenses/by-nc-nd/4.0/), which permits downloading and sharing for personal use only. Commercial use and changing the material in any way are prohibited and the original work must be cited properly.*

# Incivility and the effect on the learning environment within operating rooms

**Chelsea Duchscher**

**Address correspondence to:** Chelsea Duchscher, **chelseakernechuk@gmail.com**

## Abstract

*Incivility in the operating room (OR) is well documented, yet its effect on learning remains unclear. This narrative review explores how perioperative learners, including nursing, medical, anesthesia, and surgical technology students, experience incivility during OR clinical practicums and how it shapes the learning environment. Fourteen studies published from 2018–2025 were analyzed. Findings indicate that incivility contributes to anxiety, avoidance behaviours, reduced engagement, and weakened professional identity. The OR learning environment is further influenced by instructor support, the high-stress, high-risk nature of the setting, and the established OR culture. Gaps include the need for discipline-specific research, Canadian studies, and comparisons across healthcare systems. This study advocates for establishing a safe and supportive learning environment for learners in perioperative clinical practicums. This includes having consistent, supportive instructors; preparing students for the stressful operating room environment with timed simulations, cognitive rehearsals, and stress management training; and preventing the normalization and recurring cycle of incivility through clear policies and accessible reporting systems.*

*Keywords:* learner, student, incivility, operating room, learning environment

The operating room (OR) is a crucial setting for many learners to turn theoretical knowledge into practical skills (Zardosht et al., 2020). However, learners often encounter incivility in the OR, which can disrupt a supportive learning environment (Chrouser & Partin, 2019; Villafranca et al., 2019a). According to Abate and Greenberg (2023), "Incivility is a broader term that includes any [behaviour] within the field that negatively affects the individual, team, and/or institution" (p. 13). Clinical experiences in the OR are essential for all disciplines to practise hands-on skills, but feeling safe is a prerequisite for effective learning. As per Maslow's hierarchy of needs, safety is a fundamental need that must be met before psychological or self-fulfillment needs (Maslow, 1970). When learners face incivility, they perceive the environment as unsafe, shifting their focus from learning to self-preservation (Shen et al., 2020; Taylan & Özkan, 2022). While incivility in the OR is well documented, understanding its specific impact on learning provides valuable insights for improving teaching and learning practices. Therefore, this narrative literature review examines the effects of incivility on the learning environment in the OR.

**Suggested citation:** Duchscher, C. (2026). Incivility and the effect on the learning environment within operating rooms. *ORNAC Journal, 43*(1), 11–16. https://doi.org/10.5737/ornac18165

## Background

Clinical practicum offers learners a vital opportunity to turn theory into practice. It involves applying knowledge in a challenging, real-world environment that cannot be fully replaced by simulations or classroom learning (Nordquist et al., 2019). The OR provides essential clinical experience across different disciplines, enabling learners to connect complex theoretical concepts to actual patient cases. However, when learners feel unsafe, they tend to protect themselves by disengaging and hesitating to voice concerns for fear of retribution (Abate & Greenberg, 2023; Bruun et al., 2022; Chrouser & Partin, 2019). This need for a safer environment is particularly critical given the OR's well-documented culture of incivility (Villafranca et al., 2018). An international survey of 7,465 perioperative staff and students found that 98% experienced or observed incivility within a year (Villafranca et al., 2019a). Surgeons have been identified as the primary offenders, though nurses and anesthesiologists are also to blame (Villafranca et al., 2018). All learners reported encountering incivility to varying degrees during their OR training. For example, nursing students, including undergraduates and perioperative nursing students, reported a broad spectrum of uncivil behaviours, such as yelling, swearing, ridicule, and humiliation (Kolstad & Thyli, 2024; Shen et al., 2020; Taylan et al., 2024). Medical students also reported similar exposure to incivility, such as blaming others for mistakes, throwing instruments, and yelling (Chrouser & Partin, 2019).

### Definition of Incivility

A clear definition of incivility is difficult to establish because multiple terms overlap, creating confusion about what counts as incivility and what does not. Varying definitions of incivility include covert behaviour, lateral violence, bullying, harassment, workplace violence, abusive behaviour, and disruptive behaviour. Therefore, a continuum of behaviour from mild

to severe will define incivility (Abate & Greenberg, 2023; Eka & Chambers, 2019; Merola, 2024). The continuum does not include all examples of incivility, but shows types of behaviours and the progression from mild to severe. While one form may be labelled mild, it does not mean it is not damaging or does not cause significant emotional and physical distress. However, behaviour that goes up on the continuum would be considered more egregious, such as physical, psychological, and sexual abuse (Villafranca et al., 2019b). A visual representation of the incivility continuum was created for transparency, with examples of behaviours associated with the severity as shown in Figure 1. This paper will focus on the mild-to-moderate points on the continuum.

## Methodology

A transformative research paradigm guided this review, as learners in the OR occupy the lowest position within the OR hierarchy and experience power inequities that limit their influence over their learning and psychological safety, positioning them as a vulnerable group within this context (Ulz, 2023). A narrative literature review was conducted to understand current knowledge, identify themes, highlight recent research, and find gaps (Cronin et al., 2008). The review aims to analyze learners' experience with incivility in ORs and its impact on learning. Searches used the electronic databases CINAHL Plus Full Text, Scopus, Web of Science, Journal of Perioperative Nursing, PubMed, OVID Medline, AORN Journal, Nurse Education Today, and Nursing & Allied Health Database with keywords combining (student or nursing student or perioperative student or medical student or resident) AND (lateral violence or incivility or disruptive behaviour) AND (operating room) AND (learning environment). Included studies range from 2018–2025, using qualitative, quantitative, and mixed methods of perioperative learners, including nursing, medical, anesthesia, and surgical technology learners, who experienced incivility during OR clinical practicums. Articles were screened via title and abstract, then categorized as primary, secondary, or non-research literature. Using a systematic approach, each article was reviewed to identify main points, strengths, and weaknesses.

## Results

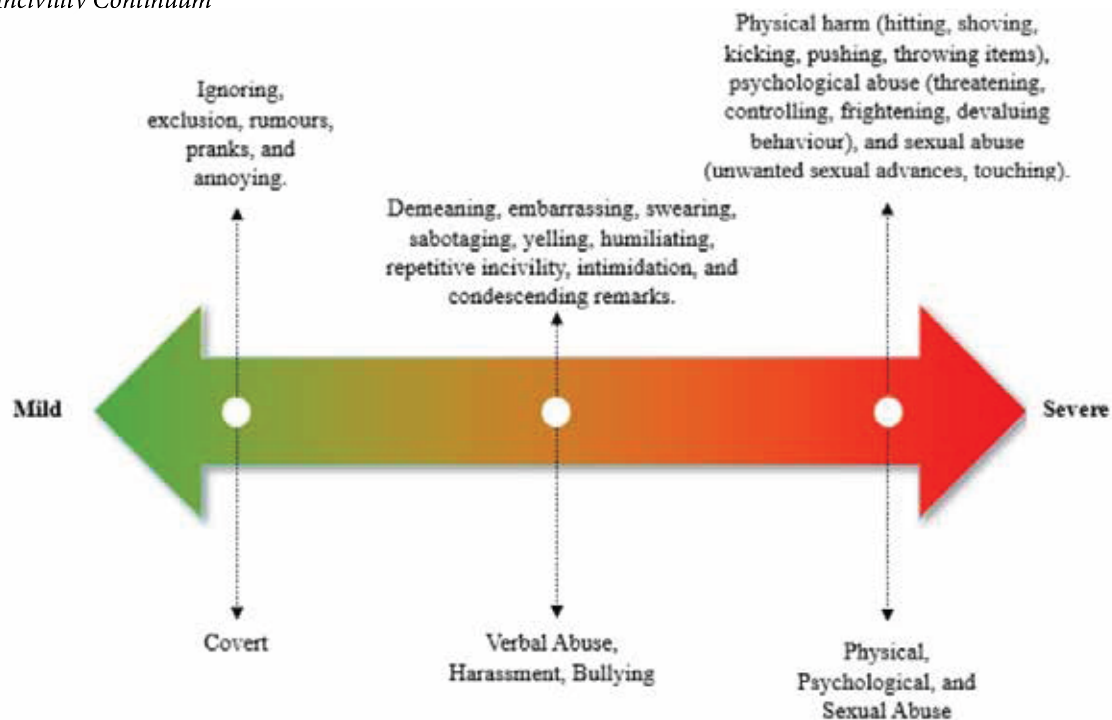
A thematic analysis of 14 articles met the inclusion criteria: nine used mixed methods; four were reviews; and one was a case study. Data collection included surveys, interviews, a residency interview, a narrative, and a focus group. Articles covered narrative, scoping, meta-synthesis, and integrative reviews. Two main themes emerged: the impact on learners and the influence of the OR learning environment.

### Impact on Learners

The first theme that emerged from the literature analysis was the impact of incivility on learners in the learning environment. It has been divided into three sub-themes: emotional and psychological effects, avoidance, and professional development.

**Figure 1**

*Incivility Continuum*



*Emotional and Psychological Effects*

The results show that learners who face incivility in the OR experience various emotional and psychological effects, such as anxiety, stress, anger, fear, loss of confidence, hopelessness, helplessness, and depression (Abate & Greenberg, 2023; Babchenko et al., 2020; Bruun et al., 2022; Kolstad & Thyli, 2024; Shen et al., 2020; Taylan et al., 2024; Taylan & Özkan, 2022). The learning environment was seen as hostile and unwelcoming, causing students to feel constantly on edge (Castillo-Angeles et al., 2020). Focused on self-preservation, learners struggled to concentrate and learn effectively, often feeling afraid to participate and overly wary of harsh criticism (Shen et al., 2020; Taylan & Özkan, 2022). Additionally, communication and teamwork suffered because learners did not feel safe asking questions or reporting errors, which impacted learning and patient safety (Hedlund et al., 2024; Merola, 2024; Taylan & Özkan, 2022; Villafranca et al., 2018).

*Avoidance*

Data show that learners often choose to 'do nothing' when witnessing or experiencing incivility (Shen et al., 2020; Taylan & Özkan, 2022). Even when learners believe the behaviour is wrong, fear of retribution from the aggressor discourages them from intervening (Shen et al., 2020; Taylan & Özkan, 2022). Learners felt powerless to effect change and preferred to observe rather than confront or report the behaviour (Abate & Greenberg, 2023). This avoidance also caused learners to limit their exposure to challenging and high-pressure situations, which are essential for growth and development (Shen et al., 2020; Taylan & Özkan, 2022).

*Professional Development*

Learners questioned their decision to continue pursuing their chosen career after experiencing incivility in the OR (Babchenko et al., 2020; Shen et al., 2020). Such behaviours also reinforce a hidden curriculum of accepted norms, values, and behaviours within the profession (Taylan et al., 2024; Villafranca et al., 2018, 2019a). Babchenko et al. (2020) found that learners who encounter incivility are more likely to internalize it and replicate it in their own careers, revealing the cyclical nature of incivility.

**Influence on the Learning Environment**

The influence on the learning environment was the second theme identified. Three subthemes that affected the learning environment included (1) the role of the instructors; (2) a high-stress and high-risk environment; and (3) the OR culture.

*Role of Instructors*

Instructors are crucial in shaping the learning environment, especially in the unique OR setting. In this review, instructors include formal instructors from educational institutions, preceptors, and informal mentors. The term 'instructors' will be used to cover this range of individuals. Data shows that learners rely heavily on instructors, whose support and communication significantly impact their experience (Bruun et al., 2022; Hedlund et al., 2024; Shen et al., 2020; Taylan & Özkan, 2022). Respectful instructors who address incivility foster a positive learning environment, while those engaging in incivility hinder learning (Babchenko et al., 2020; Shen et al., 2020). Learners emphasized the importance of instructor support and advocacy in navigating incivility (Merola, 2024; Zardosht et al., 2020).

*High-Stress and High-Risk Environment*

The OR is a demanding and fast-paced environment (Villafranca et al., 2019a). Stakes are high as patients wait extended periods for surgery and put their lives in the hands of the perioperative staff (Zardosht et al., 2020). Additionally, there are administrative demands to ensure patients receive their surgeries on time, as any delay may lead to cancellations and extended surgical wait times. Learners reported feeling excessive pressure due to the environment's high expectations for outcomes and efficiency (Bruun et al., 2022; Hedlund et al., 2024). The high expectations created a challenging learning environment in which mistakes were not allowed (Castillo-Angeles et al., 2020; Hedlund et al., 2024; Taylan & Özkan, 2022). A high-stress environment can impair cognitive function, making it difficult for learners to retain information and perform clinical tasks effectively (Shen et al., 2020; Taylan & Özkan, 2022).

*Operating Room Culture*

The OR is distinct from other hospital areas, with its own culture and norms (Castillo-Angeles et al., 2020; Taylan et al., 2024; Zardosht et al., 2020). The environment and the procedures are unique to the OR and not practised elsewhere. For example, perioperative nursing students reported difficulty applying prior experience when performing skills in the OR because it differs significantly from other units (Shen et al., 2020; Taylan & Özkan, 2022). When learners could not respond promptly to a healthcare provider's request in the OR, they were more prone to experiencing incivility (Shen et al., 2020). Additionally, the OR has a real and perceived hierarchical structure within a multidisciplinary team, which can affect the learning environment. Learners often felt at the bottom of this hierarchy and were unable to advocate for themselves (Bruun et al., 2022; Zardosht et al., 2020). Learner experience varied widely depending on how the surgical team chose to interact with them, either improving or deterring their training (Kolstad & Thyli, 2024; Zardosht et al., 2020). Finally, the OR culture often normalizes incivility. Staff and learners tend to ignore incivility, which perpetuates a hostile learning environment (Shen et al., 2020; Zardosht et al., 2020). Some healthcare providers would purposely be uncivil since they experienced incivility in their training; therefore, perioperative staff treated incivility as a rite of passage for learners to undergo (Babchenko et al., 2020).

## Conceptual Model

The conceptual model illustrated in Figure 2 proposes a cyclical relationship where incivility impacts learners and the learning environment. However, the impact on the learner can, in turn, perpetuate incivility and affect the learning environment, just as the learning environment can perpetuate incivility and affect the learner.

## Discussion

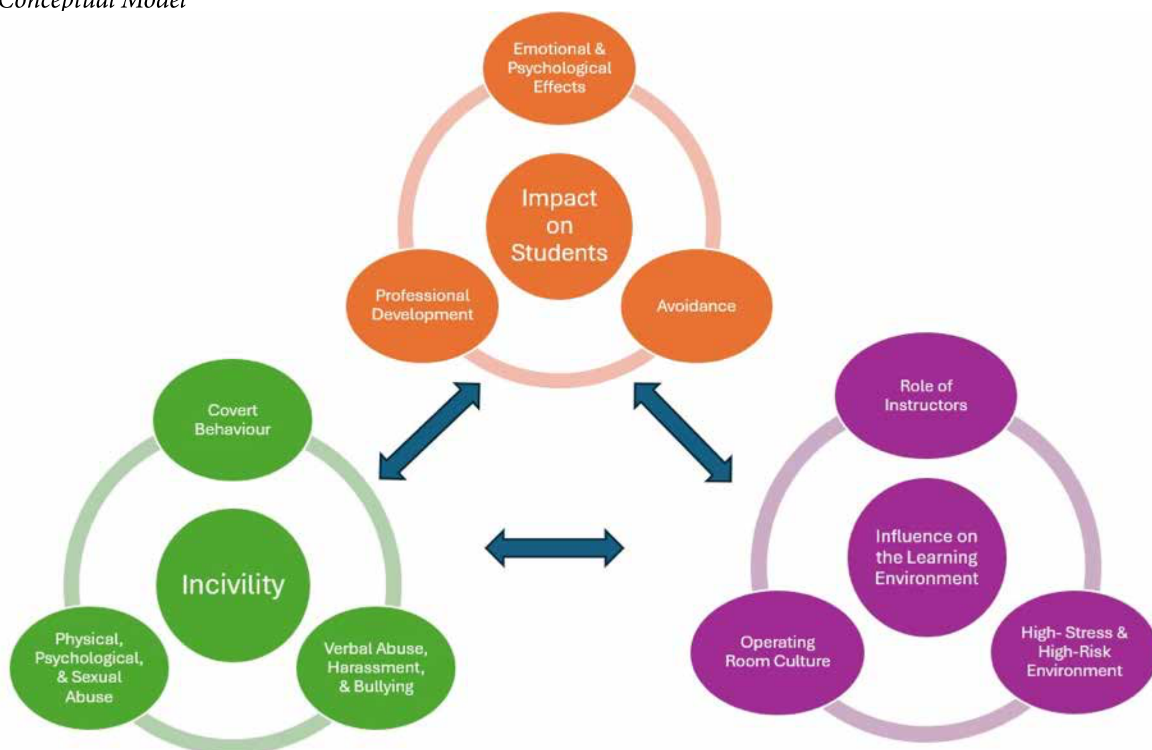
The findings of this review demonstrate that incivility in the OR undermines the psychological safety required for effective clinical learning. Learners who perceive the OR as a hostile environment experience heightened anxiety and impaired cognitive function, which limits their ability to process information, retain knowledge, and perform clinical tasks (Shen et al., 2020; Taylan & Özkan, 2022). When learners face fear, uncertainty, or humiliation, their focus shifts from learning to self-protection, hampering experiential learning required for OR clinical practicums (Torralba et al., 2020). Therefore, creating a safe learning environment is essential for reducing the toll of incivility.

The role of instructors is central in shaping a safe learning environment. Supportive instructors, who model calm responses to errors, intervene when incivility occurs, and communicate expectations clearly, help create a climate where learners feel safe to participate and ask questions (Shen et al., 2020; Taylan et al., 2024). To prepare for incivility, instructors can proactively take professional development courses in conflict resolution. Additionally, instructors should adopt a teaching philosophy that views mistakes as an expected and valuable component of clinical education, rather than a reason to punish learners. This stance counters high-pressure norms and actively models how to manage incivility in the OR (Chrouser & Partin, 2019; Villafranca et al., 2018). Furthermore, learners should be protected from known sources of incivility. For example, if a surgeon is known for yelling at staff, the instructor should avoid assigning that surgeon to learners, as it would likely hinder rather than foster learning.

A consistent instructor further strengthens a conducive learning environment. Because the OR differs substantially from other clinical areas, learners benefit from having a consistent instructor who understands their experience, monitors their progress, and offers developmentally appropriate learning opportunities (Hedlund et al., 2024; Taylan et al., 2024). Scaffolding learning increases confidence and allows learners to take on more challenging tasks. For instance, learners can participate in minor procedures before major open surgeries (Johnsson et al., 2023). This approach helps learners gain confidence in their skills and begin to view themselves as contributing members of the surgical team (Hedlund et al., 2024; Kolstad & Thyli, 2024). Increasing student confidence is intended to counteract the rigid hierarchies that often leave learners feeling marginalized at the bottom of the OR structure (Bruun et al., 2022; Zardosht et al., 2020).

**Figure 2**

*Conceptual Model*



Preparation before entering the OR is also vital to developing a supported learning environment. The fast-paced, high-risk nature of the OR can overwhelm novices, especially when combined with the fear of being judged (Chrouser & Partin, 2019; Zardosht et al., 2020). Timed simulation, cognitive rehearsal, and stress management training can help learners build tolerance to pressure and develop strategies to manage physiological stress responses (Bruun et al., 2022; Hedlund et al., 2024; Taylan et al., 2024). Even simple techniques, such as controlled breathing, can temper fight-or-flight reactions when learners feel threatened or scrutinized (Bruun et al., 2022). Learners equipped with these tools may be better able to cope with the unpredictable and demanding OR environment (Chrouser & Partin, 2019; Zardosht et al., 2020).

Finally, incivility must be addressed promptly to prevent normalization and transmission of a hidden curriculum that accepts it as routine (Shen et al., 2020; Villafranca et al., 2018). If avoidance becomes a default response, learners lose opportunities to build competence and confidence, and the cycle of silence sustains incivility within the OR culture. Additionally, when incivility is tolerated, learners internalize it as an acceptable professional norm, perpetuating cycles of incivility in future practice (Babchenko et al., 2020; Villafranca et al., 2019a). Research by Babchenko et al. (2020) suggests that clear behavioural expectations and consistent enforcement of these rules foster a safe, predictable environment that empowers action. Therefore, learners need to understand what constitutes incivility and how to report it (Shen et al., 2020). Furthermore, robust educational and hospital policies must provide clear pathways for addressing incivility when it occurs in the OR (Villafranca et al., 2019a). Learners need to know that instructors, their educational institution, and the hospital where they are doing their practicum will support them if they report an incident of incivility, and that they will not face punishment for doing so (Fast et al., 2020; Shen et al., 2020).

**Gaps in Research, Strengths, and Limitations**

This narrative literature review highlights gaps in research on the learning environment in ORs, particularly the need to examine how different learner disciplines experience incivility. While numerous studies examine incivility toward medical students in the perioperative environment, there is limited research on nursing students' experiences with incivility in the OR (Eka & Chambers, 2019; Hedlund et al., 2024). Furthermore, most existing research is international, with limited focus on Canada. Cultural norms and differences in healthcare systems, such as between the private and public sectors, likely influence the prevalence and impact of incivility (Canadian Centre for Occupational Health and Safety, 2025; Fast et al., 2020; Villafranca et al., 2019a).

This review is strengthened by the inclusion of diverse disciplinary populations of learners, which highlights that incivility is not a discipline-specific issue and increases the generalizability of the findings. However, a main limitation of the literature review is that the data rely on learners' self-reports of incivility. Incivility is chronically underreported due to fear of retribution and the normalization of incivility in the OR (Villafranca et al., 2019a). It is predicted that the number of incivility incidents is much higher than studies suggest (Fast et al., 2020). Therefore, a publication bias may result from an underrepresentation of the incivility that learners experience in the OR.

## Implications for Practice

Overall, this narrative literature review identified the need for a safe learning environment in perioperative clinical education. For learners to learn effectively, they cannot feel threatened or intimidated. Perioperative clinical learning environments are known for uncivil behaviour. Thus, educational institutions, healthcare facilities, and instructors must prepare for incivility and for fostering a culture of safety with their learners. Efforts must be made to educate both instructors and learners about incivility, provide conflict-resolution training, and prepare learners for the demanding OR environment through simulation before they attend OR clinical practicum placements (Bruun et al., 2022; Hedlund et al., 2024; Villafranca et al., 2018). Educational institutions and healthcare facilities must have robust reporting systems that are acces-sible and protect victims of incivility (Canadian Centre for Occupational Health and Safety, 2025; Fast et al., 2020).

## Conclusion

The complex learning environment of the OR can be mitigated by assigning consistent, supportive instructors and by providing scaffolding opportunities to encourage learner inde-pendence and confidence (Hedlund et al., 2024; Kolstad & Thyli, 2024; Taylan et al., 2024). Ensuring psychological safety in the OR is fundamental to safeguarding learner well-being and supporting their growth as future perioperative profes-sionals. Incivility erodes learning, discourages participation, and perpetuates a culture that fails both learners and patients. Meaningful change demands a collective commitment to fos-tering respectful, inclusive environments where every learner can learn and contribute safely.

## Author Notes

*Chelsea Duchscher, RN, BScN, Saskatchewan Polytechnic, Regina, Saskatchewan. Chelsea Duchscher is a nurse educator in Perioperative Nursing at Saskatchewan Polytechnic and is currently completing her Master of Health Professions Education at the University of Saskatchewan. She brings over 15 years of clinical experience in neurosciences,*

*perioperative nursing. Chelsea has taught in several programs, including Perioperative Nursing, Practical Nursing, Medical Device Reprocessing, and Orientation for Internationally Educated Nurses. Previously, Chelsea acted as an executive member of the Saskatchewan Operating Room Nurses Association. She now focuses her research on incivility in perioperative education and is committed to fostering healthy, respectful learning and work environments.*

## Conflicts of Interest

*None declared*

## Funding

*None declared*

**Manuscript submitted:** May 26, 2025
**Accepted for publication:** February 10, 2026

# REFERENCES

Abate, L. E., & Greenberg, L. (2023). Incivility in medical education: A scoping review. *BMC Medical Education*, *23*(1), 24. https://doi.org/10.1186/s12909-022-03988-2

Babchenko, O., Scott, K., Jung, S., Frank, S., Elmaraghi, S., Thiagarajasubramanian, S., Rendell, V., Poore, S. O., Bentz, M. L., & Garland, C. B. (2020). Resident perspectives on effective surgical training: Incivility, confidence, and mindset. *Journal of Surgical Education*, *77*(5), 1088–1096. https://doi.org/10.1016/j.jsurg.2020.04.002

Bruun, A. M. G., Valeberg, B., & Leonardsen, A.-C. L. (2022). Moral courage: Student registered nurse anesthetist experiences on the operating team. *AANA Journal*, *90*(2), 121–126.

Canadian Centre for Occupational Health and Safety, (2025, January 15). *CCOHS: Violence and harassment in the workplace*. Government of Canada. https://www.ccohs.ca/oshanswers/psychosocial/violence/violence. html

Castillo-Angeles, M., Calvillo-Ortiz, R., Barrows, C., Chaikof, E. L., & Kent, T. S. (2020). The learning environment in surgery clerkship: What are faculty perceptions? *Journal of Surgical Education*, *77*(1), 61–68. https://doi.org/10.1016/j.jsurg.2019.07.003

Chrouser, K. L., & Partin, M. R. (2019). Intraoperative disruptive behavior: The medical student's perspective. *Journal of Surgical Education*, *76*(5), 1231–1240. https://doi.org/10.1016/j.jsurg.2019.04.002

Cronin, P., Ryan, F., & Coughlan, M. (2008). Undertaking a literature review: A step-by-step approach. *British Journal of Nursing*, *17*(1), 38–43. https://doi.org/10.12968/bjon.2008.17.1.28059

Eka, N. G. A., & Chambers, D. (2019). Incivility in nursing education: A systematic literature review. *Nurse Education in Practice*, *39*, 45–54. https://doi.org/10.1016/j.nepr.2019.06.004

Fast, I., Villafranca, A., Henrichs, B., Kirby, M., Christodoulou, C., & Jacobsohn, E. (2020). Disruptive behaviour in the operating room is under-reported: An international survey. *Canadian Journal of Anesthesia*, *67*(2), 177–185. https://doi.org/10.1007/s12630-019-01540-3

Hedlund, J., Blomberg, K., Hjelmqvist, H., & Jaensson, M. (2024). Student nurse anesthetists' and supervisors' perspectives of learning in the operating room: An integrative review. *Journal of PeriAnesthesia Nursing*, *39*(2), 303–310.e8. https://doi.org/10.1016/j.jopan.2023.07.023

Johnsson, A., Månsson, J. S., & Pennbrant, S. (2023). Scaffolding for learning and establishing a professional identity: A qualitative descriptive study of nursing students' experiences of learning with a student-centered supervision model based on patient-oriented care during clinical placement. *Nordic Journal of Nursing Research*, *43*(3–4), 20571585231221257. https://doi.org/10.1177/20571585231221257

Kolstad, L. R., & Thyli, B. (2024). How do operating room nurse students experience the learning environment in the operating room? *Inspira: Journal of Anesthesia & Intensive Care / Tidsskrift for Anestesi- Og Intensivsykepleiere*, *19*(1), 36–46. https://doi.org/10.23865/inspira.v19.6318

Maslow, A. H. (1970). *Motivation and personality* (2nd ed). Harper & Row.

Merola, K. (2024). Incivility in the operating room: A student's experience. *International Student Journal of Nurse Anesthesia*, *23*(1), 19–22.

Nordquist, J., Hall, J., Caverzagie, K., Snell, L., Chan, M.-K., Thoma, B., Razack, S., & Philibert, I. (2019). The clinical learning environment. *Medical Teacher*, *41*(4), 366–372. https://doi.org/10.1080/0142159X.2019.1566601

Shen, H., Wang, H., Yan, L., Liu, W., Zhang, J., Zhou, F., Kong, S., & Deng, L. (2020). Incivility in nursing practice education in the operating room. *Nurse Education Today*, *88*, 104366. https://doi.org/10.1016/j.nedt.2020.104366

Taylan, S., & Özkan, İ. (2022). "I felt alienated in the operating room": A phenomenological qualitative study. *Journal of PeriAnesthesia Nursing*, *37*(1), 63–68. https://doi.org/10.1016/j.jopan.2020.11.005

Taylan, S., Özkan, İ., & Yavuz Van Giersbergen, M. (2024). Nursing students' operating room experiences: A qualitative metasynthesis. *Journal of PeriAnesthesia Nursing*, *39*(5), 892–901. https://doi.org/10.1016/j.jopan.2023.12.029

Torralba, K. D., Jose, D., & Byrne, J. (2020). Psychological safety, the hidden curriculum, and ambiguity in medicine. *Clinical Rheumatology*, *39*(3), 667–671. https://doi.org/10.1007/s10067-019-04889-4

Ulz, J. (2023, March 20). *What is a research paradigm? Types and examples*. https://researcher.life/blog/article/what-is-a-research-paradigm-types-examples/

Villafranca, A., Fast, I., & Jacobsohn, E. (2018). Disruptive behavior in the operating room: Prevalence, consequences, prevention, and management. *Current Opinion in Anaesthesiology*, *31*(3), 366–374. https://doi.org/10.1097/ACO.0000000000000592

Villafranca, A., Hiebert, B., Hamlin, C., Young, A., Parveen, D., Arora, R. C., Avidan, M., & Jacobsohn, E. (2019a). Prevalence and predictors of exposure to disruptive behaviour in the operating room. *Canadian Journal of Anesthesia*, *66*(7), 781–794. https://doi.org/10.1007/s12630-019-01333-8

Villafranca, A., Magid, K., Young, A., Fast, I., & Jacobsohn, E. (2019b). Abusive behaviour in Canadian and US operating rooms. *Canadian Journal of Anesthesia/Journal Canadien d'anesthésie*, *66*(7), 795–802. https://doi.org/10.1007/s12630-019-01334-7

Zardosht, R., Moonaghi, H. K., Razavi, M. E., & Ahmady, S. (2020). Educational concern of surgical technology students in the operating room: A grounded theory study. *Journal of Education and Health Promotion*, *9*(1), 58–58. https://doi.org/10.4103/jehp.jehp_348_19