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# Professional identities and organizational performance in the operating theater: a comparative study in French hospitals

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**Introduction:** Professional differentiation and identity differences (goal discordancy, competency separation, norm diversity, and work process dissonance and information opacity) in healthcare have been associated with poor coordination and decreased performance in operative suites (OS). As the major medical professional stakeholders involved in the management of OS, the aim of this study is to investigate the impact of surgeons' and anesthesiologists' professional identities (PI) on perceived performance.

**Methods:** This is a qualitative comparative case study using semi-structural interviews and observations conducted in OS of four hospitals (two teaching, one public non-teaching and one private). PI were analyzed and compared between surgeons ( $n = 13$ ) and anesthesiologists ( $n = 13$ ). Differences in perceived performance (as described by stakeholders) were compared across the four facilities according to variations in PI.

**Results:** The findings suggest that for-profit hospitals were associated with increased perceived performance. Moreover, differences in PI were associated with increased conflicts and differences in perceived performance. A lack of respect for shift end times for anesthesiologists in public hospitals and the need for additional operating shifts for surgeons were associated with lower perceived performance. However, these conflicts were often the result of organizational problems (human resources availability, optimization of operating shifts...etc.) rather than PI antagonism.

**Discussion:** Resolving PI antagonism between anesthesiologists and surgeons is unlikely to have any influence on perceived OS performance. Rather than acting on PI, improved performance would be better achieved by improving management and leadership skills to facilitate information and communication between professionals.

### KEYWORDS

anaesthesiologists, multi-team system, operating suites, organizational performance, professional identity, surgeon

## Introduction

Healthcare organizations include many highly specialized medical, allied health and support teams coordinating their efforts to provide care to patients (Schmutz et al., 2019). These teams respond to the definition of a multi-team system: a network of two or more interdependent teams pursuing one or multiple common objectives (de Vries et al., 2015; Luciano et al., 2015; Mathieu et al., 2001; Zaccaro et al., 2020). One illustrative example of a multi-team system is the Operating suite (OS), the most complex and costly unit within healthcare organizations (Görs et al., 2020; Grant et al., 2024). An OS combines highly specialized healthcare professionals, state of the art technological instruments and a certain degree of uncertainty in terms of necessary resources and therapeutic outcomes (Grant et al., 2024).

OS tend to be structured as hierarchical organizations. They usually combine several operating rooms (OR, the location of an individual patient's surgery) and their organization is usually under the supervision of an OS manager. The regulatory council (RC) is "operational" and dedicated to adapting the necessary resources (human, material, time) to specific procedures according to patients' health status and the OS schedule. The RC usually adjusts the OS schedule 1 or 2 weeks before planned surgical interventions. On the other hand, the operating suite council (OSC) is "strategic" and dedicated to initiating broader OS transformations and adaptations in response to organizational problems. While the OR and OS are care units that are coordinated during surgeries, the RC and OSC are purely regulatory and/or operational bodies, acting either upstream or downstream from care.

Two medical specialties are primarily involved in the activity and organization of OS. Surgeons or other physicians performing diagnostic or therapeutic procedures (such as endoscopic examination) in the OS represent the first category. Anesthesiologists represent the second category: these physicians allow the procedure to take place (providing a state of unconsciousness and analgesia) but are not usually directly involved in the therapeutic or diagnostic procedure. Surgeons and anesthesiologists work together during the intraoperative and postoperative periods to ensure patient care and are usually involved in the OS's organization. These two medical specialties are also known as potential sources of conflict within teams due to disagreements regarding the organization and planning of the OS (Cooper, 2018).

In a recent study (Dahmani et al., 2024), perceived performance in OS was found to be dependent on concepts related to coordination, especially: communication, developing shared mental models and transactive group memory between stakeholders. Items of differentiation (goal discordancy, competency separation, norm and ethical diversity, work process dissonance and informational opacity) and the consequences of this differentiation align with concepts relating to professional identity that have been previously developed in the literature (Fitzgerald, 2020; Lane and Roberts, 2020; Mount et al., 2022; Sarraf-Yazdi et al., 2021; Steffens et al., 2021). Professional identity has been characterized by the development of a specialized body of knowledge; a unique set of skills; the ability to make judgments with integrity in environments of uncertainty; a commitment to society; and a community of professionals who perform oversight

and monitoring of professional practice (Fitzgerald, 2020). These characteristics in turn define professionals' behaviors, values, beliefs, ethics, socialization, and group and personal identity.

Objectives of the current study were twofold:

1. To describe and characterize the professional identities of anesthesiologists and surgeons, including the key values, norms, and role perceptions that structure their professional practice.
2. To identify the elements related to professional identity that may influence teamwork and impact performance.

## Methods

This research was compliant with the Helsinki Declaration. The study was approved by the Institutional Review Board [IRB: Comité d'évaluation de l'éthique de la recherche de l'hôpital Robert Debré #2018-215 on June 12, 2018; and by the national committee for electronic data recording (CNIL)]. The requirement for written informed consent was waived by the IRB given the observational nature of the study and the implicit consent of participants during interviews. Consent for the study was obtained from all participants and observations were approved by hospital managers and responsible of operating suite council of studied facilities.

The study is an ancillary investigation performed in parallel to the primary goal of investigating coordination and performance in the OS (Dahmani et al., 2024). It used comparative analysis of data collected from four different facilities. Such a comparative analysis takes into consideration specific factors related to local work organizations as well as those reflected across all facilities. This paper provides a complementary analysis aiming to explore the role of professional identity on stakeholders' perceived performance of OS.

## Setting and calendar of the study

The study was conducted between September 2019 and December 2022. It took place across four facilities located in an urban setting (Table 1). The characteristics of the four facilities were: 2 teaching, 1 general and 1 private. This variety provided different contexts in which to analyze perceived performance and coordination between stakeholders. "Perceived performance" was determined according to (a) informants' perceptions of objectives achieved by the regulatory council and operating suite council and (b) repetitive conflicts over the same topic at all levels of analysis (Dahmani et al., 2024; Table 2).

## Data collection

Interviews and observations were performed in the OS of four hospitals and during organizational sessions of OS. Data collection combined semi-structured interviews, direct observations in the field and informal interviews with stakeholders. Interviews were performed with surgeons and anesthesiologists willing

TABLE 1 Description of facilities investigated.

Facility	Kind of facility	Number of beds	Number of operative rooms within each facility	Surgical activity
F1	Teaching hospital	391	11	Pediatrics and gynecology-obstetrics
F2	Teaching hospital	400	13	Orthopedics, neurosurgery, digestive, liver, oro-facial, gynecology-obstetrics
F3	General public hospital	769	11	Mixed adult and pediatric surgery, gynecology-obstetrics
F4	Private hospital	230	12	Mixed adult and pediatric surgery, gynecology-obstetrics

TABLE 2 Performance, conflicts and perceived organizational performance in regulatory council (RC) and operating suite council (OSC) of each level of the analysis.

Facility	RC	OSC
Perceived performance of RC and OSC		
F1	Partial	Partial
F2	Partial	Partial
F3	Yes	Yes
F4	Yes	Yes
Repetitive and unresolved conflicts		
	<ul style="list-style-type: none"> <li>Overuse of operative shifts</li> <li>Lack of operative shifts</li> </ul>	<ul style="list-style-type: none"> <li>Lack of resources (especially human)</li> <li>Lack of operative shifts</li> </ul>
F1	Frequent	Frequent
F2	Frequent	Frequent
F3	Infrequent	Infrequent
F4	Infrequent	Infrequent
Overall perceived performance		
F1	Performing less well	Performing less well
F2	Performing less well	Performing less well
F3	Performing	Performing
F4	Performing	Performing

to participate in the study and included academic physicians (professors), team managers, senior physicians (usually more than 4 years after graduation) and young physicians. The semi-structured interview guide and field observations were based on an initial goal of studying organizational coordination in relation with human interactions in operative suites. All interviews were digitally recorded and transcribed.

### Data analysis

Analysis focused on determining the components of professional identities and the organization of specific tasks for surgeons and anesthesiologists. Two main categories were used: (a) sense of belonging and (b) goals, work organization and

processes, organizational behaviors, ethics, norms and boundaries as described by Fitzgerald (2020):

- Actions and behaviors (the way of acting): such as the organization of surgical and anesthesiology activities (consultation, operative management and roles, postoperative follow-up) shaped by work processes, competencies and specific objectives and goals.
- Values, beliefs and ethics (what drives actions and non-acting behaviors): such as goals and professional norms.
- Context and socialization (the influence of the surrounding social environment): such as conflicts about differences in work processes and goals that influence the relation between professionals.
- Group and personal identity (how previous attributes develop and evolve in the personal social environment): such as definitions of their professional selves and their relations and perceived differences with other professionals especially regarding norms, goals processes and the knowledge (or lack of knowledge) about those items in other teams.

Sense of belonging was assessed using the direct question “when someone asks you about your job, how do you describe your tasks?” and then we added follow up questions about ethics, norms, work processes, tasks, boundaries and organizational behaviors. Information about other stakeholders was explored using the following items from interviews and observation:

- Objectives and goals of the activity for patients and any other objectives related to professional norms or recommendations specific to the specialty.
- Ethical considerations for patient care: direct and personal involvement or diffuse involvement of the team.
- Quality of work criteria: description of quality of work criteria in addition to patient care such as analyzing complications, review of mortality and morbidity, organization of care in emergency situations (during shifts) or during crisis situations (lack of human or material resources).
- Quality of life at work criteria: managing overtime activities.
- Duration of weekly work hours and shifts.
- Methods for patient scheduling and more broadly patient pathways specific to the specialty.

- Surgical program regulation and organization: organization of the surgical and anesthesiology activity and the role of operational and strategic structures in OS organization.
- Major concerns about OS organization (lack of resources, time allowed to intervention... etc.).
- Major conflicts (and their causes) with other physicians or other stakeholders.
- Perceived differences between stakeholders.

Data was categorized according to items related to professional identity (as displayed above) and entered into two database files (with one Excel sheet/item for each file): one for interviews and the second for field observations in operational or strategic OS organizational structures (the regulatory council and the operating suite council). This analysis was performed independently by each author for each interview, then analyses were compared and any discrepancies were resolved by consensus. Second, codes from this first analysis were merged into conceptual categories that were finally stabilized as: belonging, institutional differences (For-profit vs. non-profit activity), task organization and relations with patients.

Interview and observational data relating to conflicts were analyzed alongside perceived performance across the four cases. This comparative analysis of perceived performance led to the classification of regulatory and operating suite councils being rated as either “performing” (facilities 3 and 4) or “performing less well” (facility 1 and 2) as illustrated in [Table 2](#). This operationalization of perceived performance permitted it to fit within the multidimensional nature of performance, as defined in the literature ([Rosen and Dietz, 2017](#)) and took into account differences in perception between healthcare professionals. For example, nurses (who were interviewed for the broader research study), understood performance as individual knowledge and experience thus emphasizing the value of work processes, whereas supervisors and physicians understood it as efficiency in terms of production per time unit ([Arakelian et al., 2008](#)). Objective performance criteria exist and usually measure OS operative time and the percentage of this time devoted to care management. However, its utility depends on the nature of the facility (private facilities tend to increase available operating time while public facilities favor limiting OS operating times). Moreover, objective performance indicators neglect other important issues relating to performance, such as job satisfaction or quality of care. Finally, the ultimate step of the study consisted in crossing differences in professional identities according to the facility (Facilities 1 and 2 vs. Facilities 3 and 4).

## Data trustworthiness

The quality of data collection and analysis was ensured by applying the following approach: (a) traceability of data: by working from full transcriptions of interviews and observations; (b) precise field notes for all observations; (c) memos or notes taken during observations; (d) use of several data sources; (e) data triangulation and saturation; and (f) peer discussions and comments about findings.

The secondary analysis of the data for this paper was specifically adapted to this ancillary study. Weekly discussions of interview and field observation data were planned between the investigators. This allowed triangulation of results, especially between interviews and field observations, and a systematic comparison of the interview corpus with the data gathered from direct observations. These discussions also allowed us to discuss new information and define points of saturation for all conceptual categories.

Saturation of results was continuously monitored for all items coded and for defined categories and was defined as (a) interviews and observation notes no longer providing new elements to enrich or refine the emerging conceptual categories, (b) field observation notes no longer revealing novel behaviors, routines, or interactions relevant to our research question and (c) the consistency between categories following interview and observational analyses. Special attention was given to the consistency of categories according to each facility.

## Results

### General results and OS organization

For the purposes of this paper, interview data from 26 physicians were analyzed ([Supplementary File 1](#)): 13 surgeons and 13 anesthesiologists. The interviews ranged between 45 and 120 min. Details about the organization of regulatory and operating suite councils and the duration of field observations and informal interviews are displayed in [Supplementary Files 2, 3](#). Surgeons and anesthesiologists were found to be active members in the regulatory and operative suites councils and, apart from facility 3, anesthesiologists and surgeons led both of those organizational structures.

### Professional identity differences between surgeons and anesthesiologists

#### Belonging

All participants except one described their profession by relating directly to their specialty (anesthesiologists, orthopedic surgeons... etc.), even when their main task was strongly associated with leading the regulatory council and/or operating suite council. Only one surgeon in Facility 1 saw himself first as “a public servant” demonstrating his strong commitment to contributing to public service.

#### Institutional differences: for-profit vs. non-profit activity

Some differences were found between public and private facilities, with physicians in Facility 4 associating their activity with private practice and placing more weight and importance on activity and income ([Table 3: I.A: Q1](#)). Work hours depended on the number of patients expected rather than on a theoretical end

TABLE 3 Quotes of responders classified by definition items and specialty of responders.

Identity area	S (Surgeons)	A (Anaesthesiologists)
Workload organization and objectives/institutional differences	<p><b>Q1:</b> “we recruit patients; they come for a surgeon... I do care about my patients all along the course even if it costs me to get late in the hospital...” S2H3</p> <p><b>Q2:</b> “... we do not exchange our patients between surgeons, a patient comes to see a particular surgeon and our goal is to respond to patients need and one important thing is to be the one who will respond to this demand and not another one unless particular circumstances such as illness or absence.” S2F3</p>	<p><b>Q1:</b> “We have no choice, we finish the program, we are in a private clinic, we earn money through the activity, when we go on vacation we no longer have an entry and then it is written in our contract with the clinic, we have exclusivity of the activity, on the other hand we do everything to the extent that it is medically feasible, the quality of care is still a priority and in addition there are more and more medico-legal issues.” A2F4</p>
Concerns about the other speciality	<p><b>Q1:</b> “... The loss of time between patients is still something that we can't resolve, it drags on between two patients and we don't make any progress and in the end they come and tell you that we're not going to do the last patient.” S2F3.</p> <p><b>Q2:</b> “... there is a big problem with the time of entry into the room but we have to adapt to that. Seeing that there are no patients that you incise before 9:15, that drives me crazy... but I don't think that's going to change. Everyone is running after everyone else so I don't see how we're going to be able to solve this problem.” S4F1</p> <p><b>Q3:</b> “Depending on the anaesthesiologist, I know what time I'm going to start and what time I'm going to finish, even though I shouldn't. Same thing on the emergency list! We make a list and everyone sticks to it without discussion, regardless of the surgeon or the anesthesiologist. So the organization of the day is unpredictable; between patients, we could do things if there was a standardization, but here, it's impossible!! We have to wait for the patients to be anesthetized and this depends on the person who is going to put the patients to sleep. So I adapt and I make sure that when it's certain, I move the program forward and motivate people. I say that for the anesthesiologist but it's the same with the thinker I work with, depending on who I'm assigned to, I'm going to have to deal with it and adapt, speak differently and adapt my work pace. When things drag on her side, I go faster on mine.” S2F1</p> <p><b>Q4:</b> “... Anaesthesiologists have not this ethical pressure about patients they do all care for patients, the work can be more regular and less dependent upon postoperative events.” S2H3</p> <p><b>Q5:</b> “... no finally the care for the patient is not the main problem we work in a competent team and even when facing problems there are always help in solving.” S4F1</p>	<p><b>Q1:</b> “... we are tired is the cancellation of programs. The regulatory unit is not doing its job and we find ourselves canceling patients, that's what is not normal. The programs are poorly done and we know who is responsible. It is not all of them, but ultimately the trust between us is disappearing.” ANE3F1</p> <p><b>Q2:</b> “... it's true that if the programs were well done we would spend more time talking about patients, or not at all on that side, everyone knows their job” ANE1F2</p> <p><b>Q3:</b> “surgery is probably more stressful and competence is probably more difficult and long to acquire, sometimes having a trust and support between us might help each other especially when facing difficult tasks.” ANE2F2</p>
Values, ethics, norms	<p><b>Q1:</b> “It's not easy to say but I think we don't have the same pressures. We have the patients in front of us, they come to see us personally. For the anesthetists it's not the same. The anesthesia department as a whole shares the patients and the patient loses a bit of his personalism. This is not a criticism; it's a particular work organization that results in a particular and different relational pattern... In addition, we have the pressure from the hospital management, surgery is the source of incomes for the hospital.” S2F2</p> <p><b>Q2:</b> “A care pathway? It's a consultation, a schedule in on an operating shift, an intervention and then post-operative follow-up. It's quite simple... on the other hand, we take care of everything after the intervention and personally if there is a problem we are alerted and we take care of our patients, which means that the working hours are quite disorganized and erratic, but hey, that's the job and we love it.” S4F1</p> <p><b>Q3:</b> “We try to do everything to accommodate our patients and it's not very easy in these times of crisis so it's understandable when we cancel them... I understand that it's difficult on the schedules but we have a responsibility toward the patients... there is also from time to time bad faith from some of our colleagues who ultimately say to</p>	<p><b>Q1:</b> “Our goal? It's the quality of care. I think we all agree on this point. We have strong protocolized our work in order to allow everyone to care for all patient. The difference is perhaps in the organizational methods which are different and then it's true that we have a long history of defending the quality of work in anesthesia with union actions and demands from our specialties on working hours and insentives which are stronger than in other specialties... we were called lazy for many years and now we find ourselves with surgeons who are demanding the same thing.” ANE2F2</p> <p><b>Q2:</b> “We still spend 80% of our time in the operating room if we had to accept all the overruns we would have more life. The surgeons come once or twice to the operating room less often. Organizing in these circumstances is quite easy, you just have to tell yourself that someone else would go and get the children in the evening but we would have to find someone all the time for the children.” ANE3F1</p>

(Continued)

TABLE 3 (Continued)

Identity area	S (Surgeons)	A (Anaesthesiologists)
	<p>themselves why should it be up to me to give ground and not the others—why not the other one.” S2F2</p>	<p><b>Q3:</b> “usually in some circumstances were anaesthesiologists are lacking, we use extra-time payment in order to allow surgical programs to be done but that depends upon availability of colleagues, its not the final and sustained solution.”</p> <p><b>Q4:</b> “We work as a team, the patient is everyone’s patient and of course that protects us from a workload point of view but the counterpart is that we take responsibility for helping each other in order to get the work done. . .” ANE2F1</p> <p><b>Q5:</b> “the team organization and the absence of specific relation with patients mandatory a degree of standardization in task, this makes a great difference between us and surgeons, they responds in a different way and using different techniques according to the one who car for patients. . .” ANE2F2</p>
<p>Relationship and Conflicts in regulatory council and operating suite council in relation with identities</p>	<p><b>Q1:</b> “We have evolved in the role of the regulatory unit at the beginning it was essentially the cancellation of programs and then it is rather in the optimization that we do and we cancel the patients more because of the lack of personnel than because the operators program badly.” S2F3</p> <p><b>Q2:</b> “The major problem is that we don’t have enough shifts to operate and that’s what makes us overbooking shifts.” S1F1</p> <p><b>Q3:</b> “I think that if we agreed on a well-organized system, well people would get less tired! What I mean is that we agree once and for all on the rules, we leave a little flexibility and then, no more worries! We define the rules for surgeries, we put a responsible surgeon and a responsible doctor, the manager will make sure to plan the stewardship for the patients according to the medical indications and that’s it. . . we avoid all conflicts, wasted time. . . And all that would be written down and as we avoid the situation where the one who yells is the one who wins.” S3F2</p> <p><b>Q4:</b> “. . . I would say, no, I no longer have any preferences regarding the people I work with, I get along with everyone. It happens that I have to adapt my communication depending on the people and their experience but for me it doesn’t represent a problem and we manage to get along between us in the end.” S1F2</p>	<p><b>Q1:</b> “Yes, we know quite a few things, the number of rooms, human resources, equipment. . . we should actually respect the schedules and stop policing, agree on certain rules and the regulatory staff would become a little more focused on the patient and more on whether or not it will exceed. . . and then we would take care of identifying the patients who will require an adaptation of the programs for medical reasons or because we need intensive follow-up.” ANE3F2</p> <p><b>Q2:</b> “I think that in this regulatory council should be no action on the surgeons’ schedule by making their schedule every week. They should make their schedule and know how to respect their operating times. . . It’s not our role to police the operating schedule. Our role should be more medical and say, be careful, you’ve put two heavy patients and that’s going to lengthen the times or the sequences, we’re going to do them faster but not that we do the schedule because that’s what happens to each cell. Every time we put ‘be careful risk of overflow,’ the surgeons don’t care and what’s more, no one reads the report, this thing. There are more surgeons here but at the beginning they weren’t there so then we had to call them, change the patients, what’s more it’s Friday so we had to call the patients back and tell them that they’re canceled. . . well all that when the simplest thing is ultimately to respect the charter and stick to your operating time.” ANE2F2</p> <p><b>Q3:</b> “We have excellent relationships with each other, it has never happened that there is a problem and a surgeon is not understanding. In general, they are the first to be anxious about the situation when something is wrong. . . no, it is not when we take care of patients that there are problems, it is when we start talking about organization that conflicts arise.” ANE1F2</p>

Refer to [Supplementary File 1](#) for description of responders.

time (for both anesthesiologists and surgeons). This was consistent with physicians' goals that were described as financial stability and quality of care (Table 3: I.A: Q1). In contrast, in non-profit facilities where surgeons and anesthesiologists are salaried civil servants, working hours were pre-determined with less flexibility in terms of working overtime. Working overtime in non-profit facilities depended instead on many factors such as union pressures (which impeded on adding extra working time, see Table 3: III.A: Q1), the availability of staff accepting to work extra and/or financial resources available for financial incentives (Table 3: III.A: Q3). Given all those constraints, the duration of operating shifts was limited and adapted to the working hours of stakeholders. In these public facilities, goals differed across stakeholders and were described as: productivity in terms of increasing access to a larger population of patients (all physicians); quality of care (all physicians); quality of work life especially as it related to reliable end times of scheduled operating shifts (anesthesiologists), however it was not for the purposes of increasing their income (all physicians; Table 3: IV.S and IV.A).

## Tasks organization

Relations between surgeons and anesthesiologists in all four types of healthcare organizations were considered collaborative by both professions when it involved caring for patients (during the surgery, see Table 3: II.S: Q5, II.A: Q3). However, when questioned about work organization, both surgeons and anesthesiologists, especially in Facilities 1 and 2, expressed concerns about the other specialty. For example, surgeons were having to ask anesthesiologists to work later during operating shifts (to avoid canceling patients, see Table 3: II.S: Q3), or were reducing the time of anesthesia induction and recovery (to speed the turnover between patients, see Table 3: II.S: Q1 and II.S: Q2). The reasons proposed were the surgeons' ethical responsibility for patients to resolve their condition (Table 3: I.S: Q1) and the pressure from hospital management for productivity (Table 3: IV.S: Q1 and IV.S: Q3). Interestingly, some surgeons perceived certain anesthesiologists as flexible, regardless of their clinical competencies, when they accepted more patients during their shifts or increased the speed of transitions between patients thus allowing extra time during surgery.

By contrast, other anesthesiologists were considered inflexible when they were not sufficiently responsive to the necessity of increasing the pace during shifts (Table 3: II.S: Q3). In the same way, anesthesiologists expressed concerns about some surgeons whom they saw as overbooking shifts (Table 3: IV.A: Q1 and IV.A: Q2) resulting in either canceling patients or a later termination time. Reasons given by the anesthesiologists were that shift overbooking and surgeries that went overtime were mostly performed by the same surgeons, and by the OS manager who allowed interventions to go overtime (Table 3: II.A: Q1 and II.A: Q2).

In the regulatory and operating suite councils, the end time of operating shifts was the primary topic of repetitive and unresolved conflicts between surgeons and anesthesiologists, especially in Facilities 1 and 2 (Table 3: IV.S and IV.A). This was caused by

intense scheduling of patients by some surgeons (Table 3: IV.A: Q1 and IV.A: Q2) leading to potential late end times and the objection of anesthesiologists to complete the programs at the prescribed time, or at least the time agreed upon in the regulatory council (Table 3: II.A: Q1; II.A: Q2). Although similar conflicts were observed in Facility 3, especially during regulatory councils, they were resolved by the council manager by canceling surgeries when the operating schedule exceeded the allotted shift time (Table 3: IV.S: Q1; IV.S: Q3).

In contrast, the regulatory councils in Facilities 1 and 2 were not functional (Table 3: II.A: Q1; II.A: Q2). They were informative when it came to the risk of over-booking shifts, but without any changes made to the OR program and schedules to avoid the conflicts that inevitably occurred when any changes were attempted (despite this task being the main objective of this regulatory council). Consequently, cancelations by anesthesiologists often occurred on the day of the surgery leading to overt conflicts between surgeons and anesthesiologists (Table 3: II.A: Q1; II.A: Q2), both during the scheduled programs and during operating suite council meetings. Such conflicts were not observed in Facility 4 due to their consensual focus on productivity that led to an agreement regarding the fact that all scheduled patients undergoing anesthesia and surgery would be performed, even if this meant working overtime (Table 3: I.A: Q1).

## Relations with patients

While the relationship between physicians and patients was consistent across facilities, differences were found between anesthesiologists and surgeons in all facilities. Surgeons have a direct and exclusive relation with their patients during the entire perioperative period (including consultation, surgery and postoperative follow-up, see Table 3: I.S: Q1; I.S: Q2). Consequently, surgeons (or their assistants) were scheduling patients during a dedicated shift (usually on the same day or days during the week and in a dedicated operating room; Table 3: III.S: Q2). In contrast, the relationship between patients and anesthesiologists was less personalized. Apart from specific professional competencies according to their specialty and dependent on the internal organization of each facility (some anesthesiologists are more specialized in one field such as transplantation, for example), patients were under the responsibility of the "group" rather than one specific anesthesiologist (in other words, consultations, intraoperative management and postoperative follow-ups could be performed by different anesthesiologists in the group; Table 3: III.A: Q1; III.A: Q4). This translated into a more formalized and impersonal management by the anesthesiologists given that the involvement of many practitioners demanded more consistency and the routinization of tasks (Table 3: III.A: Q5). From the point of view of anesthesiologists, this was considered the main difference between the two specialties (Table 3: III.A: Q5).

Most surgeons expressed feeling a responsibility toward patients, arguing that there was strong ethical pressure to provide high quality care for all their patients in the shortest possible

time (Table 3: III.S: Q1 and III.S: Q3). This was considered so important for some that it superseded their concern for long working hours (Table 3: III.S: Q3; I.S: Q1). Quality of care was also an important goal for anesthesiologists (Table 3: III.A: Q1), however they all considered the indicated end time for surgeries as more important, especially in Facilities 1 and 2 (Table 3: III.A: Q1; IA: Q1; II.S: Q4). According to the anesthesiologists, the occurrence of overtime in OR programming was an organizational failing and a sign of a lack of anticipation by the regulatory council (Table 3: V.A: Q1 and V.A: Q2 and III.A: Q2). One reason provided was the percentage of time spent in the operating rooms. While operative suites are where anesthesiologists spend 80% of their workday, for surgeons it is only 20–40% (Table 3: III.A: Q2). This means that without any regulation of shift times, overtime might occur daily, thereby significantly impacting anesthesiologists' quality of work life (Table 3: III.A: Q1 and III.A: Q2).

## Crossing differences in professional identities with differences in perceived performance

A summary comparing professional identities between surgeons and anesthesiologists is displayed in Table 4. Crossing results of perceived performance across all facilities reveals that differences in professional identities could be observed in two main areas. The first difference was among for-profit physicians (both anesthesiologists and surgeons) who were associated with perceived improvement in performance (Facility 4). Physicians working in the private facility expressed perceiving better performance in comparison to those working in public facilities. The second difference, observed in Facilities 1 and 2 (and less in Facilities 3 and 4), related to the conflict between anesthesiologists and surgeons regarding OS organization. Anesthesiologists highlighted the importance of their quality of work life (especially the work schedules and the respect for the OR program times) while surgeons were more concerned about the timely delivery of care and the availability of operating times.

## Discussion

The most significant finding from this study can be summarized as follows: differences in professional identity between anesthesiologists and surgeons was associated with differences in perceived performance. Anesthesiologists argued for improvements in quality of work life (especially the respect of shift end times), while surgeons argued for the need for additional operating shifts (to allow an increase in quantity of care delivered). This difference was associated with lower perceived performance when needs were not met. In addition, institutional identity (hospitals with for-profit activity) was associated with increased perceived performance.

## Identity differences between surgeons and anesthesiologists

Professional identity traits associated with differences in perceived performance were found to relate to a high attachment to issues pertaining to quality of work life for anesthesiologists, compared with a higher consideration of surgeons toward the availability of operating slots for patients. Using the lens of identity traits to understand the reasons for these differences points to differences in work processes, the relationship each specialty has with patients (Cooper, 2018) and the difference in unionization between surgeons and anesthesiologists. Previous studies have identified surgical work, in contrast to medical work, as time-consuming because surgeons provide more comprehensive care to patients (Brenna and Das, 2020). The “manual work” of surgeons and the personalized relationship they develop with patients before and after surgery makes the presence of surgeons in the workplace more costly in time and unpredictable in character (Brenna and Das, 2020). For anesthesiologists, the relationship with patients is less individualized and the distribution of care among a team of anesthesiologists makes the workload less dependent on one specific member (Chin et al., 2024). The less personalized relationship between anesthesiologists and patients might lead to decreased rapport and consideration for patients compared with surgeons and thus might favor, in some instances, the decision by anesthesiologists to cancel a case rather than add extra-time to the OR schedule (Cooper, 2018). A similar phenomenon relating to the patient-physician relationship has been previously described when it comes to new patients. When patients are new to a physician, the latter will be less disposed to perform extra tasks or take extra-time compared with those with whom they have had more interactions and with whom they may be more emotionally involved (Chipidza et al., 2015).

Professional unions, especially the ones representing anesthesiologists in public facilities (National Syndicate of Public physician in Anesthesiology and Intensive Care), have been working for more than two decades to limit the number of hours worked so as to respect their quality of work life (resting, sleeping... etc.) and improve quality of care (Hassenteufel, 2019). In addition, this union advocacy had the objective of making this specialty more attractive to respond to the current shortage of anesthesiologists (Gafsou et al., 2021). This might explain why the anesthesiologists from the public sector had a greater attachment to quality of work life (and avoiding overtime) in comparison to surgeons who are less unionized (Hassenteufel, 2019). The same influence of healthcare professional unions on professional identity has been observed in other parts of the world and might shape values and behaviors, especially related to workload, and can facilitate negotiations and professional recognition (Bartram et al., 2023).

## The organizational impact on identity trait expression

It is worth noting that while the differences noted between surgeons and anesthesiologists (shift availability vs. shift end time,

TABLE 4 Differentiation between surgeons and anaesthesiologists.

Area of interest	Surgeons	Anaesthesiologists
Belonging	Speciality and sub-speciality (orthopedics, pediatric... etc.)	Speciality (anaesthesiologists)
Non-profit vs. non-profit	For-profit activity displayed in for-profit facility.	
Goals	Financial stability Quality of care Productivity (operating time availability)	Quality of care Productivity (operating time availability) Quality of work life
Relation with patient	Ethical responsibility for quality of care and the rapid management of patient Direct and personalized interaction with patient	Ethical responsibility for quality of care More diluted responsibility: a group responsibility and interaction
Standardization of care	Specific to each surgeon	More standardized care
Workload and quality of work life	Most time in consultation and patients follow-up: spending 20–40% of time in the operating rooms Specific attention to patient care and the rapidity to scheduling patient to the detriment of durations of shifts	Spending most the time in the operative room (80% of time) Specific attention to the time of termination of operating shift and the balance between working and personal life.

a more personal involvement of surgeons in patients' care... etc.) seem to suggest a difference in quality of care provided to patients, this is unlikely to be what is occurring here. Anesthesiology is a specialty that has had the most significant improvement in quality of care over the past three decades (Dahmani et al., 2019; Lienhart et al., 2006). Thus, arguing that a closer relation with patients (from individual relationships with surgeons to a collective relationship with a team of anesthesiologists) can influence the quality of care would be unjustified.

Instead, one could interpret these seemingly conflicting values from an organizational standpoint. Seeing as one might assume that all physicians aim to provide quality care for their patients, one might speculate on what would be necessary to improve perceived organizational performance, such as optimizing the OS organization to provide sufficient operating shifts or working on a more efficient regulation of the operating programs to avoid going overtime. This is highly supported by results from Facility 3 where communication between stakeholders and the optimization of the OS were both considered to be fluid.

Moreover, organizations can also act on limiting the intensity of identity-trait manifestations (McNeil et al., 2013), thus challenging the belief that identity is directly (and may be fully) responsible for performance variation (Steffens et al., 2021; Widiyanto et al., 2024). In fact, the demand for more operating time was more important in Facilities 1 and 2 in comparison to Facilities 3 and 4. This difference might be related to an organizational reinforcement of these identity traits (Ahuja, 2023; Greco et al., 2022; Hay et al., 2021; Koerner, 2013; Kyratsis et al., 2016; Petriglieri, 2015) in relation to the sense of personal involvement in patient care for surgeons. Divergence in this identity trait with a lack of operating shifts might induce an overbooking of operating shifts by surgeons (thus reinforcing the identity trait represented by a sense of personal involvement in patient care). This would result, in turn, in a cancellation of patients and/or later OR shift termination. The lack of OR shifts and subsequent cancellations represent threats for surgeons, as opposed to anesthesiologists, and acts as a vicious cycle increasing the conflicts between them regarding the end time of operating shifts and the pressure for

providing care to scheduled OR patients. In addition, professional identity conflicts can also be generated by organizational and managerial factors known as "faultlines" (McNeil et al., 2013). These faultlines have been categorized as differential treatments, differential values, assimilation, and insult or humiliating actions and have been shown to decrease organizational performance and productivity (McNeil et al., 2013). Our study identified two potential faultlines. First, the absence of regulation in some OS, as suggested by the decrease in perceived performance in regulation council and operating suites councils, especially in Facilities 1 and 2. This led to a lack of operating suite organization and a lack of optimization of operating time, thus inducing differential treatment between the two specialties. The results were an increase in working time and canceling of patients for anesthesiologists, and the overbooking of operating shifts and complaints about the lack of operating shifts for surgeons. The second faultline is represented by the productive pressures placed on surgeons by hospital management in public facilities following the switch to a pay-for-activity system (Simonet, 2013). Consequently, the work identity conflict described in our study could be the result of organizational problems (absence of organizational regulation in some OS, productive pressures on surgeons) rather than the result of real antagonism in values due to divergent professional identities. The impact of the organization, rather than work identities, on the conflicts observed is supported by our results in the for-profit Facility 4. The for-profit modality has previously been shown to significantly impact quality and performance. While the financial performance of for-profit organizations is higher, a previous study found them to negatively influence quality performance, with an increase in readmission at 30 days in for-profit facilities (Min et al., 2020). This clearly indicates that institutional values might influence organization and care practices with a resulting impact on quality of care (Fulop and Ramsay, 2019; Salvatore et al., 2018). This might be due to the use of specific criteria such as the duration of hospitalization that might encourage premature patient discharges or other perverse incentives that favor productivity over quality of care.

Moreover, organizational and managerial changes in healthcare systems (including France), such as new public management (Fulop and Ramsay, 2019; Martin et al., 2020; Simonet, 2013), have been shown to influence professional identities and their behaviors, especially when it comes to financial issues (Kennedy and Di Milia, 2006; Martin et al., 2020). Perceived performance is ultimately influenced by a shared common goal held by the multi-team system, leading to the emergence of mutual sense-making. This leads the healthcare team to work toward the same objective, thus making coordination and organization more efficient. The resulting perception of improved performance is often aligned with the organization's financial goal.

## Changing identities or changing organizations?

Given the strong relation between differentiation and identity, replacing the current discussion about differentiation and the professional identity of surgeons and anesthesiologists in the context of multi-team systems raises the question of how to decrease this differentiation. One option could be to shift from a focus on specific professional identities to a shared one: an identity attached to the multi-team system (for example, an OS identity). According to our results, it would seem that perceived performance is more dependent on institutional identity (for-profit vs. non-profit) and the optimal functioning of operating suites. It is when these malfunction that professional identities become more prominent and induce antagonistic behaviors leading to conflicts.

While belonging to a high-level professional identity (the multi-team system identity) might intuitively appear more relevant for the performance of the multi-team system (Marks et al., 2005; Zaccaro et al., 2020), a study has recently found that identification to one's disciplinary/specialty team rather than to the multi-team system team improved performance of the multi-team system (Porck et al., 2018). Moreover, this phenomenon increased with the complexity of tasks. The decrease in performance associated with identifying to a multi-system team was found to result from a depletion of cognitive resources associated with an increase in uncertainty given that professional identities allow a level of mitigation from uncertainty (McNeil et al., 2013). According to our results and literature, multi-team system performance, such as the ones represented in operating suites, is better achieved through shared knowledge and understanding of others' identities thus favoring communication and shared problem-solving rather than changing work identity.

## Limitations of the study

The current study has several limitations. First, the sample size was relatively small, and the number of institutions included was limited, especially concerning the for-profit institution. However, the methodology incorporated saturation and triangulation of results that allowed to determine that the sample size was adapted to the current study. Second, the study did not include

other operating room (OS) stakeholders, such as surgical nurses. Nonetheless, the primary objective of this research was to explore professional identity (PI) conflicts between two key groups of OS stakeholders—surgeons and anesthesiologists—who interact with one another. Finally, the study relied on perceived performance rather than on more objective performance measures. This approach allowed for the capture of performance in a manner consistent with its multidimensional nature as defined in the literature (Rosen and Dietz, 2017), and it accounted for variations in perception among healthcare professionals. Moreover, the findings suggest that OS performance metrics may themselves be a source of conflict between surgeons and anesthesiologists.

## Conclusion

Studying differentiation between surgeons and anesthesiologists through the lens of work identity theories can lead to some important conclusions. First, relational conflicts are often the result of organizational problems rather than antagonism between professional identities. Consequently, optimal management strategies to improve performance should not focus on shifting from individual specialized professional identities to a broader operating suite identity. Given that professional identity is associated with improved perceived performance, organizations should instead focus on improving management and leadership skills that facilitate information and communication between professionals.

## Data availability statement

The datasets presented in this article are not readily available because data are under the protection of Assistance Public Hôpitaux de Paris. Requests to access the datasets should be directed to [souhayl.dahmani@aphp.fr](mailto:souhayl.dahmani@aphp.fr).

## Ethics statement

The studies involving humans were approved by Comité d'évaluation de l'éthique de la recherche de l'hôpital Robert Debré #2018-215 on June 12, 2018; and by the national committee for electronic data recording. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

SD: Investigation, Resources, Formal analysis, Writing – review & editing, Writing – original draft, Methodology, Validation, Data curation, Visualization, Project administration, Conceptualization. MW: Validation, Data curation, Supervision, Project administration, Writing – review & editing, Visualization,

Methodology, OD: Supervision, Writing – review & editing, Formal analysis, Visualization, Data curation, Validation, Methodology.

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## Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Generative AI statement

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## Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/forgp.2026.1777865/full#supplementary-material>

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